Court of Appeal File No.: COA-26-CV-0897 and COA-26-CV-0836

COURT OF APPEAL FOR ONTARIO

BETWEEN:

THE ATTORNEY GENERAL OF ONTARIO

Appellant
(Intervener)

-AND-

THE REGIONAL MUNICIPALITY OF WATERLOO

Appellant
(Applicant)

-AND-

JOSEPHINA DUGAS, TERRA-LYNN WEBER, AVERY AMENT, AARON PRICE, JEREMY LINTON, JEREMY NICHOL, JAMES HAMMOND, JAKOB STUBBS, JAMES DAVIS, JASON PAUL, NOAH HELSBY, JOSEPH BRADLEY, JOSEPH SADLER, JULIE YOUNG, KYLE YORK, MEGAN LOPES, STEPHANIE MCMILLAN, JEFFREY COUTO, JORDAN CAMM, TERRANCE COLE, XANDER HARKER, CHARLES KOCHER, ALINE JEFFERY, MICHAEL JEFFERY , and PERSONS UNKNOWN AND TO BE ASCERTAINED

Respondents
(Respondents/Cross-Applicants)

EXHIBIT BOOK OF THE APPELLANTS (Vol. 11 of 15)

August 7, 2026

THE ATTORNEY GENERAL OF ONTARIO
Civil Law Division
Constitutional Law Branch
720 Bay Street, 4th Floor
Toronto, ON M7A 2S9

S. Zachary Green (LSUC # 48066K)

Tel.: 416 992.2327
Email: zachary.green@ontario.ca

Andrea Bolieiro (LSO # 60034I)
Tel: 437 551.6263
Email: andrea.bolieiro@ontario.ca

Sara Badawi (LSO # 87480W)
Tel: 647 825.2156
Email: sara.badawi@ontario.ca

Of Counsel for the Appellant/Intervener,
The Attorney General of Ontario

TO: **Paliare Roland Rosenberg Rothstein LLP**
155 Wellington Street West, 35th Floor
Toronto ON M5V 3H1
Tel: 416.646.4300

Gordon Capern (LSO # 32169H)
Tel: 416.646.4311
Email: gordon.capern@paliareroland.com

Andrew Lokan (LSO # 31629Q)
Tel: 416.646.4324
Email: andrew.lokan@paliareroland.com

Kartiga Thavaraj (LSO # 75291D)
Tel: 416.646.6317
Email: kartiga.thavaraj@paliareroland.com

Greta Hoaken (LSO # 87903I)
Tel: 416.646.6357
Email: greta.hoaken@paliareroland.com

Counsel for the Appellant/Applicant,
The Regional Municipality of Waterloo

AND TO: **Waterloo Region Community Legal Services**
450 Frederick Street, Unit 101
Kitchener, ON N2H 2P5

Ashley Schuitema (LSO # 68257G)
Tel: 519.743.0254 ext. 17
Email: ashley.schuitema@wrcls.clcj.ca

Joanna Mullen (LSO # 64535V)
Tel: 519.743.0254 ext. 15
Email: joanna.mullen@wrcls.clcj.ca

Shannon K. Down (LSO # 43894D)
Email: shannonkdown@gmail.com

Counsel for the Respondents/Respondents,
Persons Unknown and to be Ascertained

AND TO: **Perez Procope Leinveer LLP**
55 University Avenue, Suite 1100,
Toronto, ON M5J 2H7

Mercedes Perez (LSO # 48381L)
Tel: 416.320.1914
Email: mperez@pbplawyers.com

Swadron Associates
115 Berkeley Street
Toronto, ON M5A 2W8

Jen Danch (LSO # 74520I)
Tel: 416.362.1234
Email: jdanch@swadron.com

Karen A. Steward (LSO # 58758O)
Barrister & Solicitor
Tel: 416.270.0929
Email: karenannesteward@yahoo.ca

Amicus Curiae

I N D E X

Tab	Description
VOLUME 1 OF 15	
Application Record, dated June 16, 2025	
1.	Affidavit of Peter Sweeney, affirmed June 6, 2025
A	**Exhibit A** – Final PECH Report 2024
B	**Exhibit B** – By-law 25–021
C	**Exhibit C** – PDL-LEG-25-017 – 100 Victoria Street, North, Kitchener – Site Specific By-law
D	**Exhibit D** – 2021 PIT-Count-Infographic
E	**Exhibit E** – 2024 PIT-Count-Infographic
F	**Exhibit F** – AMO Municipalities Under Pressure – The Human and Financial Cost of Ontario's Homelessness Crisis
G	**Exhibit G** – Redacted 100 Victoria Street North Encampment – Major Incident Sudden Death Summary
H	**Exhibit H** – Redacted 100 Victoria Street North Encampment – Major Incident Fire Summary
I	**Exhibit I** – Redacted 100 Victoria Street North Encampment – Major Incident Physical Altercation Summary
J	**Exhibit J** – Sand Structure
K	**Exhibit K** – Redacted Incident Management Report System – Harassment and Violence
2.	Affidavit of Douglas John Spooner, affirmed June 6, 2025
A	**Exhibit A** – Transit Business Plan
B	**Exhibit B** – 2018 Transportation Master Plan
C	**Exhibit C** – 100 Victoria Street North, Kitchener – Parcel Register Search
D	**Exhibit D** – Aerial Map of the Property
E	**Exhibit E** – Waterloo EDC Article: “What is the Toronto–Waterloo Corridor?”

F	**Exhibit F** – Strategic Plan – 2023-2027
G	**Exhibit G** – Transfer Payment Agreement, May 7, 2018
H	**Exhibit H** – KCTH Amending Agreement #1, November 25, 2024
I	**Exhibit I** – Letter from Metrolinx, December 18, 2024
VOLUME 2 OF 15	
J	**Exhibit J** – Cost Sharing Agreement (MOU), May 2025
K	**Exhibit K** – Chart re 50 Victoria Sites
L	**Exhibit L** – Staging Considerations, November 1, 2024
Reply Application Record, dated July 31, 2025	
3.	Affidavit of Brent Wood, affirmed June 26, 2025
4.	2nd Affidavit of Peter Sweeney, affirmed July 2, 2025
A	**Exhibit A** – FightBack Instagram Post, dated May 1, 2025
B	**Exhibit B** – Code of Use By-law and Amendments
C	**Exhibit C** – Social Media Posts
D	**Exhibit D** – Counsel Email Exchange re Community Vehicle Parking, dated April 28–29, 2025
E	**Exhibit E** – WRCLS and Region Counsel Correspondence Exchange, dated May 2, 2025
5.	3rd Affidavit of Peter Sweeney, affirmed July 31, 2025
A	**Exhibit A** – “Homeless Encampments: Municipal Engagement Guidance” published by the National Working Group on Homeless Encampments
Supplementary Application Record, dated March 10, 2026	
6.	Expert Affidavit of Dr. Sharon Koivu, affirmed September 11, 2025
A	**Exhibit A** – CV of Dr. Sharon Koivu
B	**Exhibit B** – Acknowledgment of Expert’s Duty
C	**Exhibit C** – List of Works Cited
7.	4th Affidavit of Peter Sweeney, affirmed September 12, 2025

8.	Affidavit of Dilupneet Kang, affirmed January 9, 2026
A	**Exhibit A** – Amended By-law passed by Regional Council on January 9, 2026
B	**Exhibit B** – Report to Council: PDL-LEG-26-001
9.	Affidavit of Aaron Moss, affirmed January 16, 2026
A	**Exhibit A** – Redacted
B	**Exhibit B** – Photo taken December 18, 2025
C	**Exhibit C** – Photo taken January 6, 2026
10.	5th Affidavit of Peter Sweeney, affirmed February 27, 2026
A	**Exhibit A** – Fire #1 Incident Report
B	**Exhibit B** – Fire #1 Photos
C	**Exhibit C** – Fire #2 Incident Report
D	**Exhibit D** – Fire #3 Incident Report
E	**Exhibit E** – Fire #3 Photos
F	**Exhibit F** – A summary of the occupant report for the past five days as of February 20, 2026
11.	2nd Affidavit of Aaron Moss, affirmed April 8, 2026
A	**Exhibit A** – 100 Victoria Status Report - March 16-22, 2026
B	**Exhibit B** – 100 Victoria Status Report - March 23-29, 2026
C	**Exhibit C** – 100 Victoria Status Report - March 30 - April 5, 2026
***Responding Application Record*, dated July 9, 2025**	
12.	Affidavit of Aaron Price, sworn May 6, 2025
13.	Affidavit of Avery Ament, sworn June 23, 2025
14.	Affidavit of Calvin Sharpe, sworn May 30, 2025
15.	Affidavit of Jakob Stubbs, sworn June 23, 2025
16.	Affidavit of James Davis, sworn June 20, 2025
17.	Affidavit of James Hammond, sworn May 2, 2025

18.	Affidavit of Jason Paul, sworn June 16, 2025
19.	Affidavit of Jeremy Linton, sworn May 6, 2025
20.	Affidavit of Jeremy Nichol, sworn May 8, 2025
21.	Affidavit of Joseph Bradley, sworn May 9, 2025
22.	Affidavit of Joseph Sadler, sworn July 9, 2025
23.	Affidavit of Josephina Dugas, sworn May 7, 2025
24.	Affidavit of Julie Young, sworn June 13, 2025
A	**Exhibit A** – Julie Young C.V.
25.	Affidavit of Kyle York, sworn June 17, 2025
26.	Affidavit of Matthew Stefanc, sworn May 6, 2025
27.	Affidavit of Megan Lopes, sworn June 18, 2025
28.	Affidavit of Noah Helsby, sworn May 15, 2025
29.	Affidavit of Stephanie McMillan, sworn May 13, 2025
30.	Supplemental Affidavit of Stephanie McMillan, sworn June 17, 2025
31.	Affidavit of Terra-Lynn Weber, sworn May 6, 2025
32.	Affidavit of Warren Loppie, sworn July 9, 2025
33.	Affidavit of Aaron El Sabrout, sworn July 7, 2025
34.	Affidavit of Angela Allt, sworn June 20, 2025
35.	Affidavit of David Alton, sworn June 23, 2025
A	**Exhibit A** – PECH Final Report
VOLUME 3 OF 15	
B	**Exhibit B** – Appendix A - Final PECH Report
C	**Exhibit C** – Appendix C - Lived Expertise Final Prototyping Report
D	**Exhibit D** – UN Special Rapporteur: “A National Protocol for Homeless Encampments in Canada: A Human Rights Approach”
E	**Exhibit E** – Meeting Notes from the March 7, 2024 meeting

F	**Exhibit F** – The Record Article: “We’re getting left behind at the GO station”, dated June 16, 2025
G	**Exhibit G** – Email from David Alton, dated April 16, 2025, Re: Why are Police and Bobcats at 100 Victoria?
H	**Exhibit H** – Preliminary Interview Results from April 22, 2025
I	**Exhibit I** – Report PDL-LEG-25-017 with its Appendices A-C
J	**Exhibit J** – Appendix B - The Plan to End Chronic Homelessness: Consolidated List of Actions
36.	Affidavit of Emily “Eddy” Grignon, sworn May 12, 2025
37.	2nd Affidavit of Emily “Eddy” Grignon, sworn July 7, 2025
38.	Affidavit of Jacara Droog, sworn May 15, 2025
39.	2nd Affidavit of Jacara Droog, sworn June 4, 2025
A	**Exhibit A** – Photographs of vehicle’s headlights on a resident’s tent
40.	Affidavit of Julie Lukezic, sworn May 8, 2025
41.	Affidavit of Laura Pin, sworn July 9, 2025
A	**Exhibit A** – Laura Pin C.V.
B	**Exhibit B** – PECH All of Community Leadership Model prototype from the March 20, 2025 PECH Co-Creator Roundtable presentation
C	**Exhibit C** – Email chain between Jennifer Gordon, Laura Pin, and Erin Dej, dated April 14, 2025, Re: Can we chat ASAP
D	**Exhibit D** – Email from Laura Pin, dated April 16, 2025, Re: Why are Police and Bobcats at 100 Victoria?
E	**Exhibit E** – Email from Peter Sweeney, dated April 16, 2025, Re: Update on 100 Victoria Street
F	**Exhibit F** – Realizing the Right: Municipal Policy Responses to Encampments
G	**Exhibit G** – The Record Op-ed: “Don’t block the help: Restoring access and dignity to Kitchener encampment residents”, dated June 10, 2025
42.	Affidavit of Margaret Chee, sworn May 13, 2025
43.	Affidavit of Sara Escobar, sworn June 23, 2025

A	**Exhibit A** – 2024 Point in time Infographic
B	**Exhibit B** – The Record Article: “More desperation for homeless people as shelter, CTS site closes”, dated March 31, 2025
C	**Exhibit C** – The Record Article: “Cambridge warming centre ‘over capacity most nights’”, dated May 15, 2025
D	**Exhibit D** – CTV News Article: “Cambridge shelter’s healthcare facility needs a home”, dated May 22, 2025
44.	2nd Affidavit of Sara Escobar, sworn July 7, 2025
A	**Exhibit A** – Region’s Press Release: “Region to Provide Winter Warming Packages”, posted December 14, 2022
B	**Exhibit B** – Winter Warming Package
C	**Exhibit C** – Federal Housing Advocate’s report on Meaningful Engagement with Encampment Residents
45.	Affidavit of Sarah Magdalen Helwig, sworn July 2, 2025
A	**Exhibit A** – The Anglican Article: “City clears encampment outside church”, dated January 2, 2024
46.	Affidavit of Lynn Kubis, sworn July 7, 2025
A	**Exhibit A** – Excerpts from the Council Addendum Agenda, dated December 15, 2021
VOLUME 4 OF 15	
B	**Exhibit B** – Council Addedum Agenda, dated December 3, 2024
C	**Exhibit C** – Council Addedum Agenda, dated April 23, 2025
D	**Exhibit D** – Council Addedum Agenda, dated May 6, 2025
E	**Exhibit E** – The Trillium Article: “How Metrolinx’s plan to deliver European-style train service went off the rails”, dated June 10, 2025
F	**Exhibit F** – National Inquiry into Missing and Murdered Indigenous Women and Girls’ Final Report: “Reclaiming Power and Place”, dated June 3, 2019
G	**Exhibit G** – Federal Housing Advocate’ Final Report: “Upholding Dignity and Human Rights”, February 2024
H	**Exhibit H** – Letter from Peter Sweeney to The Honourable Paul Calandra, dated December 23, 2024

I	**Exhibit I** – Sanguen Health Centre Statement on the Impact of Encampment Evictions
47.	Amended Affidavit of James Davis affirmed June 20, 2025
Supplemental Responding Application Record, dated August 15, 2025	
48.	Affidavit of Lee Ann Hundt, sworn August 15, 2025
A	**Exhibit A** – 2021 Statistics Canada Data about Indigenous peoples in Ontario
B	**Exhibit B** – Region of Waterloo's 2024 Point in Time Count Findings
C	**Exhibit C** – CityNews Article: "First Indigenous temporary housing site coming to the region", dated August 9, 2023
D	**Exhibit D** – CBC Article: "Waterloo Indigenous-led transitional housing program being put on pause", dated January 17, 2025
E	**Exhibit E** – CTV News Article: "Program pause in Waterloo, Ont. leaves Indigenous people experiencing homelessness in limbo", dated March 31, 2025
F	**Exhibit F** – Region of Waterloo's Website: "Emergency Shelters and Transitional Housing"
G	**Exhibit G** – Mental Health Commission of Canada: "First Nations, Inuit, and Métis" excerpt
H	**Exhibit H** – Region of Waterloo's Website: "Kitchener Central Transit Hub Moves Forward"
49.	Affidavit of Dr. Stephen Hwang, sworn May 6, 2025
A	**Exhibit A** – Dr. Stephen Hwang C.V.
B	**Exhibit B** – Canadian Journal of Emergency Medicine: "Cold-related injuries among patients experiencing homelessness in Toronto: a descriptive analysis of emergency department visits", dated March 26, 2023
C	**Exhibit C** – Journal of the American College of Cardiology: "Cardiovascular Disease and Homelessness", dated June 5, 2018
D	**Exhibit D** – Journal of Head Trauma Rehabilitation: "Healthcare Utilization, Legal Incidents, and Victimization Following Traumatic Brain Injury in Homeless and Vulnerably Housed Individuals: A Prospective Cohort Study"
E	**Exhibit E** – The Lancet: "Traumatic brain injury in homeless and marginally housed individuals: a systematic review and meta-analysis"

VOLUME 5 OF 15	
F	**Exhibit F** – CDC, Emerging Infectious Diseaes: “Bed Bug Infestations in an Urban Environment”
G	**Exhibit G** – CDC, Emerging Infectious Diseaes: “Active Tuberculosis among Homeless Persons, Toronto, Ontario, Canada, 1998–2007”
H	**Exhibit H** – Canadian Medical Association Journal: “COVID-19 and people experiencing homelessness: challenges and mitigation strategies”
I	**Exhibit I** – International Journal of Public Health: “The health and housing in transition study: a longitudinal study of the health of homeless and vulnerably housed adults in three Canadian cities”
J	**Exhibit J** – SSM - Qualitative Research in Health: “Harms of encampment abatements on the health of unhoused people”
K	Acknowledgement of Expert’s Duty of Dr. Stephen Hwang, dated June 4, 2025
50.	Affidavit of Dr. Laura Pin, sworn July 9, 2025
A	**Exhibit A** – Dr. Laura Pin C.V.
B	**Exhibit B** – PECH All of Community Leadership Model prototype from the March 20, 2025 PECH Co-Creator Roundtable presentation
C	**Exhibit C** – Email from Jen Gordon to Dr. Laura Pin and Dr. Dej, dated April 14, 2025, Re: Can we chat ASAP
D	**Exhibit D** – Email from Dr. Laura Pin, dated April 16, 2025, Re: Why are Police and Bobcats at 100 Victoria?
E	**Exhibit E** – Email from Peter Sweeney, dated April 16, 2025, Re: Update on 100 Victoria Street
F	**Exhibit F** – Realizing the Right: Municipal Policy Responses to Encampments
G	**Exhibit G** – The Record Op-ed: “Don’t block the help: Restoring access and dignity to Kitchener encampment residents”, dated June 10, 2025
H	Acknowledgement of Expert’s Duty of Dr. Laura Pin, dated August 13, 2025
51.	Affidavit of Dr. Sahil Gupta, sworn August 15, 2025
A	**Exhibit A** – Dr. Sahil Gupta C.V.
B	**Exhibit B** – MARCO Brief Report: “Encampment Outreach Evaluation”, dated November 2021

C	Acknowledgement of Expert's Duty of Dr. Sahil Gupta, dated August 15, 2025
52.	Affidavit of Dr. Stephen Gaetz, sworn August 15, 2025
A	**Exhibit A** – Dr. Stephen Gaetz C.V.
B	**Exhibit B** – National Final Report of the CrossSite At Home/Chez Soi Project
C	**Exhibit C** – CBC News Article: "Manitoba plans to shut down homeless encampments one at a time", dated January 14, 2025
D	Acknowledgement of Expert's Duty of Dr. Stephen Gaetz, dated August 15, 2025
VOLUME 6 OF 15	
53.	Affidavit of Dr. Bernadette Pauly, sworn August 14, 2025
A	**Exhibit A** – Dr. Bernadette Pauly C.V.
B	**Exhibit B** – International Journal on Homelessness: "'Forced to Become a Community': Encampment Residents' Perspectives on Systemic Failures, Precarity, and Constrained Choice'"
C	Acknowledgement of Expert's Duty of Dr. Bernadette Pauly, dated August 14, 2025
54.	Affidavit of Dr. Kaitlin Schwan, sworn August 15, 2025
A	**Exhibit A** – Dr. Kaitlin Schwan C.V.
B	**Exhibit B** – Canadian Observatory on Homelessness: "The Pan-Canadian Women's Housing and Homelessness Survey"
C	**Exhibit C** – Project Willow Report: "Don't tell them you're homeless"
D	**Exhibit D** – Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context
E	**Exhibit E** – Marie-Eve Sylvestre and Celine Bellot: "Challenging Discriminatory and Punitive Responses to Homelessness in Canada"
VOLUME 7 OF 15	
F	**Exhibit F** – Quebec Commission des droits de la personne et des droits de la jeunesse: "The Judiciarization of the Homeless in Montréal: A Case of Social Profiling"
G	**Exhibit G** – Chapter 17 of the Report of the Canadian Human Right Act Review Panel

H	**Exhibit H** – “Social and Economic Condition” from the Ontario Human Rights Commission’s report “Human Rights and rental housing in Ontario: Background paper”
I	**Exhibit I** – CERA Report: “Sorry it’s Rented: Measuring Discrimination in Toronto’s Rental Market”
J	**Exhibit J** – Ontario Human Rights Commission’s Survey Overview: “Taking the Pulse: People’s opinions on human rights in Ontario”
K	**Exhibit K** – Institute for Research and Public Policy Report: “Canada’s Forgotten Poor? Putting Singles Living in Deep Poverty on the Policy Radar”
L	Acknowledgement of Expert’s Duty of Dr. Kaitlin Schwan, dated August 15, 2025
55.	Affidavit of Marie-Josee Houle, sworn August 15, 2025
A	**Exhibit A** – Marie-Josee Houle C.V.
B	**Exhibit B** – *National Housing Strategy Act*
C	**Exhibit C** – The Federal Housing Advocate’s 2024-2025 Annual Report to the Minister
D	**Exhibit D** – The Federal Housing Advocate’s 2023-2024 Annual Report to the Minister
E	**Exhibit E** – The Federal Housing Advocate’s 2022-2023 Annual Report to the Minister
F	**Exhibit F** – Canadian Human Rights Commission: “Overview of Encampments Across Canada: A Right to Housing Approach”
VOLUME 8 OF 15	
G	**Exhibit G** – The Federal Housing Advocate: “Guide to Meaningful Engagement and Integrating a Human Rights–based Approach into Encampment Responses”
H	**Exhibit H** – Canadian Human Rights Commission Final Report: “Upholding Dignity and Human Rights: The Federal Housing Advocate's Review of Homeless Encampments”
I	**Exhibit I** – Canadian Human Rights Commission Interim Report: “Upholding dignity and human rights: The Federal Housing Advocate's Review of Homeless Encampments”
J	**Exhibit J** – Canadian Human Rights Commission Statement: “Federal response to encampments is a step forward, and work must continue”

K	**Exhibit K** – Canadian Human Rights Commission: "Implementing the Federal Housing Advocate's report on homeless encampments: Upholding dignity and human rights – Recommendations for municipalities"
L	**Exhibit L** – UN Special Rapporteur: "A National Protocol for Homeless Encampments in Canada: A Human Rights Approach"
M	**Exhibit M** – The National Working Group on Homeless Encampments: "Homeless Encampments: Municipal Engagement Guidance"
N	Acknowledgement of Expert's Duty of Marie-Josee Houle, dated August 15, 2025
2nd Supplemental Responding Application Record, dated February 20, 2026	
56.	2nd Affidavit of Megan Lopes, sworn October 10, 2025
57.	Affidavit of Terrance Cole, sworn October 10, 2025
58.	Affidavit of Jordan Camm, sworn October 15, 2025
59.	Affidavit of Jeffrey Lima Couto, sworn October 15, 2025
60.	Affidavit of Xander Harker, sworn October 15, 2025
61.	Affidavit of Charles Kocher, sworn January 13, 2026
62.	Affidavit of Aline Jeffery, sworn January 21, 2026
63.	Affidavit of Michael Jeffery, sworn January 21, 2026
64.	Affidavit of Julie Kalbfleisch, sworn February 12, 2026
65.	Affidavit of Carine Lee Nind, sworn February 20, 2026
66.	3rd Affidavit of Sara Escobar, sworn February 20, 2026
A	**Exhibit A** – Homelessness Chronicity in Emergency Shelters data
B	**Exhibit B** – Region of Waterloo: HSS Data Update, November 2025
67.	2nd Affidavit of Laura Pin, sworn February 20, 2026
A	**Exhibit A** – Region of Waterloo: Guideliness for Public Engagement at the Region of Waterloo
B	**Exhibit B** – Poster for drop-in consultations
C	**Exhibit C** – Association of Municipalities of Ontario Report: "Municipalities Under Pressure One Year Later: An Update on the Human and Financial Cost of Ontario's Homelessness Crisis"

68.	2nd Affidavit of Aaron El Sabrout, affirmed April 8, 2026
Joint Transcript Brief, dated March 13, 2026	
69.	Transcript of the Cross-Examination of Aaron El Sabrout, held on July 14, 2025
70.	Transcript of the Cross-Examination of Angela Allt, held on July 14, 2025
VOLUME 9 OF 15	
71.	Transcript of the Cross-Examination of David Alton, held on July 10, 2025
A	**Exhibit A** – Regional Council Minutes, dated April 23, 2025
72.	Transcript of the Cross-Examination of Eddy Grignon, held on July 10, 2025
A	**Exhibit A** – Article: “Galt Hosts New Emergency Shelter”, dated December 9, 2024
73.	Transcript of the Cross-Examination of Jacara Droog, held on July 14, 2025
A	**Exhibit 1** – Document related to Fight Back log
B	**Exhibit 2** – Document related to Fight Back log
C	**Exhibit 3** – Jacara Droog LinkedIn Profile
D	**Exhibit 4** – The Record Opinion: “Don’t block the help: Restoring access and dignity to Kitchener encampment residents”, dated June 10, 2025
E	**Exhibit 5** – CTV News Article: “Maintenance workers blocked from accessing garbage bins at Kitchener ecnampment”, dated May 29, 2025
F	**Exhibit 6** – Article: “Surveillance, Fences, and $5000 Fines”, dated May 23, 2025
G	**Exhibit 7** – CTV News Article: “Legal clinic claims ambulance unable to access Kitchener encampment for medical call, region rejects allegation”
74.	Transcript of the Cross-Examination of Jakob Stubbs, held on July 10, 2025
75.	Transcript of the Cross-Examination of Sara Escobar, held on July 11, 2025
A	**Exhibit 1** – Sara Escobar LinkedIn Profile
B	**Exhibit 2** – CityNews Article: “A bylaw to clear Kitchener encampment may come with a silver lining”, dated April 24, 2025
C	**Exhibit 3** – The National Working Group on Homeless Encampments: “Homeless Encampments: Municipal Engagement Guidance”

76.	Transcript of the Cross-Examination of Dr. Stephen Hwang, held on July 11, 2025
A	**Exhibit 1** – Finding Home, Chapter 2.1: “The Relationship Between Homelessness and Health: An Overview of Research in Canada”
B	**Exhibit 2** – Handbook of Urban Health, Chapter 2: “Homeless People”
C	**Exhibit 3** – The Globe and Mail Article: “Toronto’s homeless population more than doubled between 2021 and 2024, survey says”, dated July 8, 2025
VOLUME 10 OF 15	
77.	Transcript of the Cross-Examination of Peter Sweeney, held on July 11, 2025
A	**Exhibit 1** – CBC Article: “Advocates call for more shelter beds as cold weather sets in, region says it knows there aren't enough”, dated December 13, 2024
B	**Exhibit 2** – Peter Sweeney LinkedIn Profile
C	**Exhibit A** – CBC Article: “Raised tracks and a new platform: What it will take to build Waterloo region's new transit hub”, dated April 17, 2025
D	**Exhibit B** – The Trillium Article: “How Metrolinx’s plan to deliver European-style train service went off the rails”, dated June 10, 2025
78.	Transcript of the Cross-Examination of Dr. Stephen Gaetz, held on December 2, 2025
A	**Exhibit 1** – Dr. Stephen Gaetz LinkedIn Profile
79.	Transcript of the Cross-Examination of Dr. Laura Pin, held on December 3, 2025
80.	Transcript of the Cross-Examination of Maggie Helwig, held on December 3, 2025
A	**Exhibit 1** – MaggieHelwig.com website
81.	Transcript of the Cross-Examination of Lee Ann Hundt, held on December 10, 2025
VOLUME 11 OF 15	
82.	Transcript of the Cross-Examination of Dr. Sharon Koivu, held on December 11, 2025
A	**Exhibit A** – *Heegsma et al. v. City of Hamilton* – Transcript of the Cross-Examination of Dr. Sharon Koivu
B	**Exhibit B** – CBC Article: “This Ontario town is on a mission to end homelessness by 2027. Here’s how it's going”, dated November 5, 2025
C	**Exhibit C** – *Black v. Alberta* – Transcript of the Cross-Examination of Dr Sharon Koivu

D	**Exhibit D** – Sanguen: “Our Waterloo Region Community Health Van”
E	**Exhibit 2** – JAMA Internal Medicine: “Mortality Among Unsheltered Homeless Adults in Boston, Massachusetts, 2000-2009”
F	**Exhibit 3** – Morbidity and Mortality Weekly Report: “Hepatitis A Virus Outbreaks Associated with Drug Use and Homelessness – California, Kentucky, Michigan, and Utah, 2017”
G	**Exhibit 4** – Journal of Gastroenterology and Hepatology: “Transmission of hepatitis C virus by needle-stick injury in community settings”
VOLUME 12 OF 15	
H	**Exhibit 5** – Epidemiology and Infection: “Communicable disease among people experiencing homelessness in California”
I	**Exhibit 6** – Canadian Paediatric Society: “Needle stick injuries in the community”
J	**Exhibit 7** – National Health Care for the Homeless Council: “Impact of Encampment Sweeps on People Experiencing Homelessness”
K	**Exhibit 8** – UN Special Rapporteur: “A National Protocol for Homeless Encampments in Canada: A Human Rights Approach”
L	**Exhibit 9** – Public Health In Practice: “Sheltered from the heat? How tents and shade covers may unintentionally increase air temperature exposures to unsheltered communities”
M	**Exhibit 10** – Global News Article: “’Frustrating and deadly’: How the extreme cold is hitting Canada’s homeless”, dated January 18, 2024
N	**Exhibit 11** – Invisible People Article: “Homeless People Face Hypothermia Every Winter. Here’s How You Can Help”, dated November 18, 2020
O	**Exhibit 12** – StatPearls, NCBI Bookshelf: “Trench Foot”
P	**Exhibit 13** – Journal of Health Disparities Research and Practice: “Chronic Phsyical Health Conditions Among Homeless”
83.	Transcript of the 2nd Cross-Examination of Peter Sweeney, held on December 11, 2025
A	**Exhibit A** – LinkedIn Post by Francisco Truong
B	**Exhibit B** – Region of Waterloo: “Region to Provide Winter Warming Packages”
84.	Transcript of the Continued 2nd Cross-Examination of Peter Sweeney, held on December 12, 2025

A	**Exhibit 1** – Region of Waterloo: HSS Data Update, November 2025
B	**Exhibit 2** – Region of Waterloo's 2024 Point in Time Count Findings
C	**Exhibit 3** – Email Jacara Droog to Peter Sweeney, dated September 18, 2026, Re: Urgent concerns regarding motel placements and security at 100 Vic
D	**Exhibit 4** – Individual Housing Plan
85.	Transcript of the Cross-Examination of Dr. Bernie Pauly, held on December 15, 2025
VOLUME 13 OF 15	
86.	Transcripts of the Cross-Examination of Dr. Sahil Gupta, held on January 7, 2026
A	**Exhibit A** – AJPM Focus: "Unsheltered Homelessness and Health: A Literature Review"
B	**Exhibit B** – Sheltered Versus Nonsheltered Homeless Women: "Differences in Health, Behaviour, Victimization, and Utilization"
87.	Transcripts of the Cross-Examination of Dr. Sahil Gupta, held on January 7, 2026 (Cross-Examination by Ms. Perez)
88.	Transcript of the Cross-Examination of Marie-Josee Houle, held on January 7, 2026
A	**Exhibit A** – The Federal Housing Advocate Webpage
B	**Exhibit B** – Biography of Marie-Josée Houle
C	**Exhibit C** – Ottawa Citizen Article: "Houle: Yes, you should be angry about homeless encampments", dated February 26, 2024
D	**Exhibit D** – Letter from Marie-Josée Houle to Karen Redman, dated July 16, 2025
89.	Transcript of the Cross-Examination of Dr. Kaitlin Schwan, held on January 9, 2026
90.	Transcript of the Cross-Examination of Aaron Moss, held on February 13, 2026
A	**Exhibit 1** – Aaron Moss LinkedIn Profile
91.	Transcript of the 2nd Cross-Examination of Sara Escobar, held on March 2, 2026
A	**Exhibit A** – CTV News Article: "Two fires reported at Kitchener encampment", dated February 12, 2026
92.	Transcript of the Cross-Examination of Julie Kalbfleisch, held on March 3, 2026
93.	Transcript of the 2nd Cross-Examination of Dr. Laura Pin, held on March 3, 2026

94.	Transcript of the Cross-Examination of Doug Spooner, held on March 6, 2026
A	**Exhibit 1** – Kitchener Central Transit Hub Update Report
VOLUME 14 OF 15	
95.	Transcript of the 3rd Cross-Examination of Peter Sweeney, held on March 6, 2026
A	**Exhibit 1** – Special Council Minutes, dated January 9, 2026
Applicant's Brief of Answers to Undertakings, dated March 31, 2026	
96.	Answers to Undertakings from the Cross-Examination of Peter Sweeney on July 11, 2025
97.	Answers to Undertakings from the 2nd and 3rd Cross-Examinations of Peter Sweeney on December 11 and 12, 2025 and March 6, 2026
98.	Answers to Undertakings from the Cross-Examination of Dr. Sharon Koivu on December 11, 2025
99.	Answers to Undertakings from the Cross-Examination of Aaron Moss on February 13, 2026
100.	Answers to Undertakings from the Cross-Examination of Doug Spooner on March 6, 2026
A	Appendix A – Answer to Undertaking #U2 - Emails re Project Date and Tendering Process - Final for Production
B	Appendix B – Answer to Under Advisement #UA2 - Emails with Project Sponsor - Final For Production
Applicant's Supplementary Brief of Answers to Undertakings, dated April 1, 2026	
101.	Updated Answers to Undertakings from the Cross-Examination of Doug Spooner on March 6, 2026
A	Appendix C – Answer to Undertaking #UA3 - Quarterly Reports from December 2024 to present - Final for Production
B	Appendix D – Answer to Under Advisement #UA4 - June 2025 Annual Report - Final for Production
C	Appendix E – Answer to Under Advisement #UA1 - Project Design Meeting Minutes - Final for Production

VOLUME 15 OF 15	
Respondents' Brief of Answers to Undertakings, dated April 14, 2026	
102.	Answers to Undertakings from the Cross-Examination of Jacara Droog on July 14, 2025
A	Emails to FightBackKW
B	Signal Messages to FightBackKW
C	Image of Notice re Bins
D	Emails with Region about Donations and Parking
103.	Answers to Undertakings from the Cross-Examination of Aaron El Sabrout on July 14, 2025
A	Signal Log Screenshots
104.	Answers to Undertakings from the Cross-Examination of Dr. Laura Pin on December 3, 2025
A	Appendix A Site-Specific Bylaw
105.	Answers to Undertakings from the Cross-Examination of Lee Ann Hundt on December 10, 2025
106.	Answers to Undertakings from the Cross-Examination of Dr. Sahil Gupta on January 7, 2026
A	MARCO Report
107.	Answers to Undertakings from the Cross-Examination of Marie-Josee Houle on January 7, 2026
A	Op eds
108.	Answers to Undertakings from the Cross-Examination of Julie Kalbfleisch on March 4, 2026
A	Email sent by Michelle Steingart on November 28, 2025

Court File No. CV-25-00000750-0000

ONTARIO

SUPERIOR COURT OF JUSTICE

BETWEEN:

THE REGIONAL MUNICIPALITY OF WATERLOO

Applicant

and

PERSONS UNKNOWN AND TO BE ASCERTAINED

Respondents

APPLICATION UNDER Rule 14.05 of the *Rules of Civil Procedure*

This is the Cross-Examination of **Dr. Sharon Koivu** on her affidavit dated September 11, 2025, taken via Zoom videoconference on consent of the parties on December 11, 2025.

APPEARANCES:

ANDREW LOKAN, Mr. GRETA HOAKEN, Ms.	Counsel for the Applicant
ASHLEY SCHIUTEMA, Ms. JOANNA MULLEN, Ms.	Counsel for the Respondents
CHARLOTTE CAHILL, Ms.	Student-at-Law
MERCEDES PEREZ, Ms.	Amicus Curiae

INDEX TO PROCEEDINGS

	PAGE NO.
DR. SHARON KOIVU, affirmed	
Cross-Examination by Ms. Schiutema	4 - 99
Cross-Examination by Ms. Perez	102 - 193
Re-examination by Mr. Lokan	193 - 195
Certification	197

INDEX TO EXHIBITS

EX. NO.	DESCRIPTION	PAGE NO.
A.	*Heegsma* transcript	19
B.	CBC article, Nov. 5/2025	31
C.	*Alberta vs. Black* transcript	46
D.	Sanguen Health website	68
2.	Roncarati study	104
3.	Foster study	113
4.	Haber study	119
5.	Liu study	123
6.	Moore, position statement	130
7.	Issue Brief, Dec. 2022	133
8.	Farha and Schwan document	141
9.	Karanja study	152
10.	Global News article, Jan. 18/2024 ...	162
11.	Article, Invisible People website ...	163
12.	Bush article on trench foot	171
13.	Nikoo study	187

INDEX TO UNDERTAKINGS

U/T NO.	DESCRIPTION	PAGE NO.
1.	Locate reference on hourly checks ...	60
2.	Review & reply re "factors that drive encampments"	138
3.	Review & reply re "types of harms identified as factors in encampment sweeps"	139
4.	Review & reply re reference cited in affidavit	148
5.	Provide copy of Cortez Baggett referenced article	148
6.	Provide reply re Liu study reference re homeless and rodent infection	181
7.	Provide reply re Roncarati study reference re homeless and rodent infection	181
8.	Provide reply re 2 news articles concerning rodents and encampments ...	182

1

DECEMBER 11, 2025

DR. SHARON KOIVU, AFFIRMED

CROSS-EXAMINATION BY MS. SCHUITEMA:

1. Q. So Dr. Koivu, my name is Ashley Schuitema, I am one of the lawyers that represents a number of residents that are living at an encampment in Kitchener, which is a subject of this litigation.

And I am going to be asking you some questions about an affidavit that you affirmed on September 11th, 2025. And I know that you've gone through this process before so you are aware. But your affidavit and a transcript that's created from this cross-examination is going to be put into evidence before the court.

And so it's really important that you tell the truth and I know that you've affirmed to do so. If you'd like me to repeat a question, you can just ask me to do that. And if you'd like a moment to collect your thoughts or think about an answer for a question, please take that time.

For the purposes of the transcript and to assist Barbara, it's best if try our best not to talk over one another, and if we do, we'll have to repeat what as said.

Can you confirm that you have only your affidavit and the exhibits in front of you today?

A. Yes, the only thing I have in front of me is my affidavit.

2. Q. Okay. And how would you like me to refer to you? Do you want me to call you Dr. Koivu?

A. That's fine.

3. Q. Okay, thanks. And you're welcome to call me Ashley.

A. Okay.

4. Q. Okay, so do you have any other notes in front of you today?

A. No, not right now.

5. Q. Okay, and if you take notes during this cross-examination, we are entitled to have those notes.

A. Yeah, I have paper in case I do but there is nothing on it right now and I am not likely to. But I did put some paper aside just in case I need to take notes.

6. Q. Sure. And can you confirm that you're alone?

A. Yes. I am -- I am at my house in an upstairs office. My husband is in the house downstairs but he is banished from coming upstairs.

7. Q. Okay.

A. And he is aware of that. There is no one else. I am miles from any other people that would be able to be involved.

8. Q. Okay, great. And prior to this examination did you review your affidavit?

A. Yes, I did.

9. Q. And to the best of your knowledge, is the information that's contained in it, still true and correct?

A. To the best of knowledge, yes.

10. Q. Okay. I'll just go off the record for one second.

--- OFF THE RECORD

MS. SCHIUTEMA: Thank you.

BY MS. SCHUITEMA:

11. Q. Dr. Koivu, you understand that today you've been tendered in this case for the purposes of being an expert?

A. Yes, I do.

12. Q. Okay. And you've provided an acknowledgment of an expert's duty where you agree to

provide objective evidence?

A. Absolutely.

13. Q. Okay. And your expertise has been particularly to opine on the health risks of encampments, is that correct?

A. That is correct.

14. Q. Okay. Can you tell us in preparing for today's examination what you did?

A. Like -- do you mean ---

15. Q. So I'd like to know is what you've reviewed?

A. Oh, what I reviewed? To do my affidavit, I was given affidavits 1 and 2 of Mr. Sweeney. I was also given an affidavit of Gupta, Droog and Allt. And that was to be able to do my affidavit itself. More recently, within the last 20, 48 hours, I was given significantly more information that I have quickly reviewed.

That included affidavits from other people. I don't know if I can list them off. Swan, Clint -- to be honest, I'd have to go back and look at them. Let me see who else was on it. And significantly more people that I was able to quickly look through their affidavits. And I am sorry; I actually don't know the names of all of the people that I looked at quickly.

16. Q. That's okay.
A. (Indiscernible)
17. Q. Would you say ---
A. (Indiscernible), there was -- I'm sorry.
18. Q. Go ahead.
A. There was the affidavits 3 and 4 of Mr. Sweeney as well were included in the information that I was given more recently.
19. Q. Okay, and have you reviewed some of the affidavits of the residents that live at the encampment?
MR. LOKAN: Ashley, I wonder if I can help with this. As counsel, we did not provide residents' affidavits to Dr. Koivu. And also in her first list I think she may have missed Dr. Wang (ph).
THE WITNESS: Oh, yes, you're right. I did miss Dr. Wang. I am sorry.
MS. SCHIUTEMA: Okay, so why were the residents' affidavits not provided?
MR. LOKAN: You're asking me?
MS. SCHIUTEMA: Sure. I mean, you -- she didn't have a chance to review them because you didn't provide them, so …

MR. LOKAN: There are a lot of them and they themselves are narrative accounts that didn't appear to relate directly to her medical expertise.

But if you want to put any compositions or facts or this is the evidence before the court type questions from those affidavits, we have no objection to that.

MS. SCHIUTEMA: Okay, thank you.

BY MS. SCHUITEMA:

20. Q. I am going to ask you some questions about your background now. So we're going to share our screen to take a look at your CV.

--- SCREENSHARE

MS. CAHILL: I am not seeing -- what are you able to see right now?

MS. SCHIUTEMA: So you've got Page 1 up.

BY MS. SCHIUTEMA:

21. Q. Can you see that, Dr. Koivu?

A. I can't see that; it's pretty small. Is it okay if I go to my own?

22. Q. Yes, of course. So you can -- if that's easier, you can look at your own copy.

MR. LOKAN: Ashley?

MS. SCHIUTEMA: Yes.

MR. LOKAN: We're seeing a list on the left-hand side that I am not sure if you wanted us to be able to see.

MS. SCHIUTEMA: Oh, thank you.

BY MS. SCHUITEMA:

23. Q. Okay, Dr. Koivu, can you confirm that this is your CV?

A. Yes.

24. Q. Okay. And you are a physician?

A. Yes, that is correct.

25. Q. Okay. And in September of 2025 when you swore your affidavit, at that time you were working as an addiction medicine consultant at the St. Thomas Elgin General Hospital?

A. Yeah.

26. Q. And are you still in that role?

A. Yes.

27. Q. And you've been in that role since 2021, is that correct?

A. Yes.

28. Q. Okay. Currently, and at the time when you swore your affidavit in September, you weren't working as an addiction medicine consultant anywhere else?

A. No.

29. Q. Okay. And you didn't have hospital privileges anywhere else?

A. No.

30. Q. Okay. So from 2012 -- I am looking at the clinical appointment section here.

A. Yes.

31. Q. So from 2012 to 2024, you worked as an addiction medicine consultant at the London Health Sciences Centre?

A. Yes.

32. Q. And when in 2024 did you stop doing that work?

A. Let's see. I believe it was June.

33. Q. Okay. And you also worked from 2021 to 2024 doing a similar role at the St. Joseph's Health Care in London?

A. Yeah.

34. Q. And did that include working at the St. Joseph's Hospital in London?

A. St. Joseph's Hospital is -- there isn't

1 -- that's not an entity anymore. It's -- St. Joseph's
2 Health Care is an urgent care clinic. So St. Joseph's
3 has several sites which includes an urgent care clinic
4 which does have like a day hospital. And I worked
5 there as well as Parkwood which is their chronic
6 hospital, as well as they have a mental health
7 facility. As well, I worked in all three of them
8 which are all part of St. Joseph's Health Care System
9 in London.
10 35. Q. Okay, and that would have been during
11 that 2021 to 2024 ---
12 A. Yes.
13 36. Q. --- time period?
14 A. Yes, that's correct.
15 37. Q. Thanks. Can you describe the duties of
16 an addiction medicine consultant?
17 A. The duties -- my duty is in essentially
18 at all sites would be to see anyone that I have been
19 consulted on. So I am strictly a consult service.
20 I -- or position, I work only on patients,
21 or primarily on patients, who have been admitted to
22 the hospital and are found to have a substance use
23 disorder where substance use disorder may or may not
24 be the cause or related to the admission. But it is
25 something that is part of their story, part of their

1 -- what they have.
2 A lot of my duties is to ensure that they
3 are stable, make sure that they are not in withdrawal,
4 medically stable from an addiction perspective to be
5 able to have whatever treatment is required to be
6 involved with them from an addiction perspective in
7 the hospital as well as to facilitate discharge to the
8 community as they define it.
9 Whether that means addiction treatment, it
10 could be opiate agonist therapy treatment, it could be
11 more in the counselling services, helping to
12 facilitate what they need as an individual into the
13 community.
14 38. Q. Okay, and that perspective around
15 discharge, you're not doing that actual work, you're
16 just facilitating it?
17 A. I'm just facilitating it, yes.
18 39. Q. Okay.
19 A. And I don't know what you mean by I'm
20 "not doing the actual work." I am often calling like
21 -- so I don't do the discharge per se but if they are
22 going to an opiate agonist therapy clinic, for
23 example, often I would be involved in calling the
24 clinic ---
25 40. Q. So what I meant is you're not like

1 facilitating -- you're not doing the work once they're
2 discharged in terms of like ---
3 A. No, once they are out of hospital --
4 for the most part, once they're out of hospital, I
5 don't follow them. There might be sometimes when a
6 community physician will call me and we'll work
7 together regarding whatever the care plan was. But I
8 don't continue to see them medically outside of
9 hospital.
10 41. Q. Okay. And so the work that you're
11 doing is what's commonly referred to as "in-patient
12 care?"
13 A. Yes, that is correct.
14 42. Q. Okay, and the work that you're
15 describing once they're discharged, that's out-patient
16 care?
17 A. Yeah.
18 43. Q. Okay, thanks. And the patients that
19 you serve like in your current role at the St. Thomas
20 Hospital, do they have to be homeless in order to
21 access your services?
22 A. No, they don't.
23 44. Q. Okay. And what percentage of the
24 patients that you support at the St. Thomas Hospital
25 would you say are unhoused or experiencing

1 homelessness?
2 A. Unhoused, experiencing homelessness or
3 vulnerably housed, would be the vast majority of the
4 patients that I see.
5 45. Q. And what do you mean by "vulnerably
6 housed?"
7 A. Vulnerably housed would -- could be
8 couch-surfing, it could be having some time in a -- in
9 a shelter but not in a stable environment. So if I
10 include -- you know, include people who are -- don't
11 have a specific shelter or are involved in being
12 unhoused, I'd say that's probably 75 percent of the
13 people that I see.
14 46. Q. And just to be clear, I'm not talking
15 about your previous experience but I am talking ---
16 A. I'm talking about St. Thomas.
17 47. Q. --- about specifically St. Thomas.
18 Okay, so ---
19 A. Yes, specifically St. Thomas.
20 48. Q. --- so 75 percent of the patients you
21 see are either you said unhoused, experiencing
22 homelessness or vulnerably housed?
23 A. Yeah.
24 49. Q. Okay. And how does that compare to
25 when you were providing addiction medicine consultant

1 services in London?
2 A. The volume in London was significantly
3 higher. And the population I saw was significantly
4 more diverse. I'd say it was probably more like 50
5 percent in London where the numbers were substantially
6 higher.
7 50. Q. Okay. Can I -- is it okay if I pause
8 for a second. There's something that I want to look
9 at. Can we go off the record just for a second while
10 I can look something up? I am just going to take a
11 minute, thank you.
12
13 --- OFF THE RECORD
14
15 MS. SCHIUTEMA: Thanks.
16
17 BY MS. SCHUITEMA:
18 51. Q. So, Dr. Koivu, you provided an
19 affidavit in the *Heegsma* case, is that correct?
20 A. That is correct.
21 52. Q. Okay, and you were -- you underwent
22 cross-examination in that case as well?
23 A. That is correct.
24 53. Q. Okay. And I have a copy of the
25 transcript which we're going to show to you in a

minute. But I understand that this was completed in September of 2024. Does that sound correct to you?

A. Yes.

54. Q. Okay. So we -- sorry, we're trying to pull it up just so that you can see the transcript. But I'll just tell you that I am looking at Page 52 of that transcript. And you were asked some questions about the number of patients that you support in St. Thomas who you estimate are housed -- unhoused or homeless.

--- SCREENSHARE

A. I can't see that.

55. Q. That's very small. We can make it bigger once I just (indiscernible) Page 52. Yeah, if you can scroll -- so we need to look at most of that page.

Okay, so you were asked -- I am looking at Line 206. So, Andrew, can we mark this transcript as an exhibit?

MR. LOKAN: Perhaps ask the witness if she's seen it before.

THE WITNESS: Yeah.

1 BY MS. SCHUITEMA:
2 56. Q. Have you seen this transcript before?
3 No. Okay, but you -- and you recall undergoing this
4 cross-examination?
5 A. Yes.
6 57. Q. Okay. So the question you were asked
7 was:
8 "… In your role as an in-patient
9 addiction specialist, what percentage
10 of your patients would you estimate are
11 unhoused or homeless? …"
12 And your answer was:
13 "… That's increased over time.
14 Initially, I'd say that the number was
15 fairly small. I'd say that the number
16 has risen to close to 40 percent …"
17 And then you said, "In London, before I
18 left London." So then the next question just below
19 Line 208 is, "It's in St. Thomas" -- sorry, your
20 answer is:
21 "… In St. Thomas it would be a
22 different number …"
23 And you were asked, "What would the
24 number be?" And you said:
25 "… In St. Thomas, it's a smaller

1 number. I would say most of the
2 patients I see in St. Thomas are housed
3 …"
4 Do you see that answer there?
5 A. Yeah, yeah, I do.
6 58. Q. Okay. Okay, so I'd like to mark this
7 as Exhibit A.
8 MR. LOKAN: Okay, "A" for identification.
9 MS. SCHIUTEMA: Sure.
10
11 EXHIBIT NO. A: *Heegsma* Transcript
12
13 BY MS. SCHUITEMA:
14 59. Q. And so, can you help us understand --
15 so in 2024, you testified that most of your patients
16 were housed and now you're saying that 75 percent of
17 your patients are unhoused. Can you help me
18 understand ---
19 A. Okay.
20 60. Q. --- that difference?
21 A. Yes, I think that that is explained by
22 several things. One, is that now my focus is in St.
23 Thomas. So I am seeing probably a higher percentage
24 of complicated patients in St. Thomas. I would say
25 that the patients that I am called to see are now in

St. Thomas are more likely unhoused or vulnerably housed.

I am including living in a shelter in that which includes (indiscernible) and I'm working really closely with the community health center when patients come into hospital. I don't know if what that means is that I am getting less consults on other people and more on this. But definitely in the last year, I would say when I am looking at the population that I am seeing in St. Thomas, more of them are unhoused and vulnerably housed.

61. Q. So it's increased since you gave this testimony in 2024?

A. Yes, I can definitely say that.

62. Q. And just to be clear, these answers that you've provided in *Heegsma*, you were talking about St. Thomas at the time? Is that correct?

A. In that -- well, the first one is -- was London, but, yes, the second one is St. Thomas, yes.

63. Q. Okay.

A. And working in St. Thomas.

64. Q. Okay. So in your role, you wouldn't be -- and I am talking about your current role -- you wouldn't be attending encampments to provide any

1 direct care, would you?
2 A. No.
3 65. Q. Okay, and you wouldn't attend any
4 emergency shelters to provide care there?
5 A. No.
6 66. Q. So I just want to be clear, in Waterloo
7 Region we have an outreach primary care team. And so
8 this is like a doctor, a nurse practitioner and social
9 workers and other medical professionals who actually
10 attend at encampments.
11 So you don't do any of that work in your
12 addiction ---
13 A. No.
14 67. Q. --- consultant role? Okay. Can we go
15 to looking at that other position. So go back to your
16 CV for a second, please. This is on Page 3; I've just
17 numbered your CV because it didn't have numbers. But
18 this is Page 3 of your CV.
19 A. Thanks. What I am seeing is blank.
20 Oh, there -- no, okay. Appointments.
21 68. Q. Yeah, I don't see it either.
22 MS. CAHILL: I'm sorry. I am not sure if
23 it's just loading. Let me ---
24
25

BY MS. SCHUITEMA:

69. Q. Do you have your CV in front of you, Dr. Koivu?

A. Yes, I do.

70. Q. Okay, so I am looking at the part about your family practice. So it looks like you worked as a family physician for a number of years, is that correct?

A. That's correct.

71. Q. From 1985 to 2002?

A. And from 1985 to 2002, I had my own practice in family medicine.

72. Q. Okay, and where was that located?

A. In St. Thomas.

73. Q. Okay. And looking at sort of your other academic, or sorry, your other clinical appointments, so you did family medicine. Is it fair to say that aside from addiction medicine, which you've done more recently, your other focus has been on palliative care?

A. Yeah, that is correct.

74. Q. Okay. Have you ever worked as an emergency room physician?

A. Yes. When I first started in family medicine, we were a completely comprehensive practice.

We ran the emergency department. So we did all of the emergency work, I believe until 1992. We did all our obstetrics, we did all our assisting in the OR, taking care of our in-patients.

So if somebody actually showed up in the emergency department while I was at work, we were responsible for our own patients that showed up in the emergency department. Having -- but I've not worked as an only emerg doc, emerg physician, but prior to 1992, that wasn't a role in St. Thomas.

75. Q. Okay, have you completed any, like a fellowship or any sort of specialized program for emergency medicine?

A. No, I haven't.

76. Q. Okay. Between 2012 and 2021, you practiced as a palliative care physician consultant and an addiction medicine consultant at the -- overlapping roles, is that correct?

A. Yes, they overlapped.

77. Q. Okay. And could you tell us like what percentage you were doing in your practice was addiction medicine and what was palliative care?

A. That's a really hard question because there is so much overlap. And that's actually what got me involved in addiction in the first place, was

the overlap. Because many of the people that I was seeing that were dying or dying of complications, for example, related to an injection drug use and/or complications of alcohol use.

So there was a significant overlap between my palliative care world and my addiction world which is actually what made me recognize that there was a shortage of understanding of people suffering from substance use and increased my work. So it's one of those things where I became more involved in addiction that wasn't just end of life over time.

Until it became something that was my sole role that they -- the addiction role increased to the point where I then found it was too much work and stepped back from my palliative care role.

78. Q. Okay, thank you. And I think you say this in your affidavit but just to confirm, you don't have any practice experience in the Region of Waterloo?

A. No, I have not worked in Waterloo. I have given talks in Waterloo but I have not -- I have not practiced in Waterloo.

79. Q. Okay. I am just going to look -- focus your attention on the publications section of your CV. So this is Page 12. And I don't remember if I said

this but your CV is Exhibit A to your affidavit for the record. I can see that on my screen, can you see that, Dr. Koivu?

--- SCREENSHARE

A. Yeah, I can see it on your screen so I found it on my screen, too. Yes, I can see.

80. Q. Okay. And so I see that you have 11 publications listed here. Is it accurate to say that most of these are peer-reviewed research articles?

A. I think I would say most of them are peer-reviewed research articles. Although, for example, number 2 is more of a narrative than a research article per se.

81. Q. Okay. Yeah, 2 and 3, I think are ---

A. They appear as somehow the same. Sorry, but I hadn’t noticed that until right now. Sorry about that.

82. Q. No problem.

A. But those aren’t peer-reviewed, they would be a narrative of an experience of organizing smudging at the hospital. But most of the others are all peer-reviewed, I believe.

83. Q. Okay. And aside from two -- so we know 2 and 3 are the same thing. So aside from those which

are -- like seem to be about a different topic, could you say that that predominantly the focus of your publications has been on infectious disease and drug-related infections?

A. Yes.

84. Q. Okay.

A. Infectious complications of primarily and -- primarily infectious complications of injection drug use. Yeah.

85. Q. Okay. And you -- none of your publications are related -- or are research around homelessness?

A. No, I have not done research around homelessness or published around homelessness.

86. Q. Okay, and you haven't done any research on encampments?

A. No.

87. Q. Okay, and you haven't done any research on the shelter systems?

A. No.

88. Q. Okay, and none of your research is on health risks related to living in encampments?

A. No, not related to live -- well, not specifically. Although some of them overlap as far as relevance such as sharing of paraphernalia, that sort

of thing. But they were not specifically targeting people living in encampments.

89. Q. Thank you. I think, yeah, I'll come back and ask you some questions about the sharing of paraphernalia.

You -- like at the very beginning of your affidavit or your CV -- and I am sorry that I'm jumping all around -- you indicate -- and you've also indicated at Paragraph 5 of your affidavit that you are an assistant professor at Western University in the Department of Family Medicine?

A. Yeah.

90. Q. Okay, in your affidavit you're quoted as indicating that your courses include addiction medicine, palliative care, chronic pain management, medical ethics and Indigenous cultural safety. Is that correct?

A. Those are within the Department of Family Medicine. At Western, those are all topics that I had been involved in teaching. Yes. I ---

91. Q. Are you currently teaching?

A. I'm currently -- no, I am not. Not anything structured. There isn't -- but to be honest, those are all at request. So it's not like a medical school where you have a specific course. The ethics

was a specific course that I taught in medical school.

The others are at request and right now, in the last year or so, I have not given a lecture for the Department of Family Medicine. I am still part of the Department of Family Medicine and I am still an assistant professor.

92. Q. Okay. And in that role, have you taught any courses directly on homelessness?

A. No.

93. Q. And have you taught any courses on the health risks of encampments?

A. No.

94. Q. Okay. I am going to move away from your CV now. And I am going to ask you some questions that are specific to Waterloo Region.

Have you visited the encampment at 100 Victoria Street?

A. No, I have not.

95. Q. Okay. And have you visited any of the Region-funded emergency shelters in Waterloo Region?

A. No, I have not.

96. Q. Okay. I want to ask you some questions around the availability of shelter beds in our Region. And I am going to ask Charlotte to put up a CBC article about St. Thomas.

--- SCREENSHARE

So I know you're predominantly practicing in St. Thomas. So this news article is actually about St. Thomas. You're not quoted in it but I want to give you a minute to look at it and discuss it with you. Are you familiar with this news story?

A. No, I have not seen it.

97. Q. Okay.

A. And I can't see it right now ---

98. Q. Oh, okay.

A. --- either.

99. Q. I want to make sure you can see it. So it's titled:

"… This Ontario town is on a mission to end homelessness by 2027 and here's how they're going to do it …"

It's -- the author is Sheena Goodyear and it's dated November 5th, 2025. I am going to take you -- so you can take a few minutes to take a look at it if you want. But there's like a specific sentence at Page 3 that I want to ask you about.

A. Okay.

100. Q. I can't see anything at the moment,

Charlotte.

MR. LOKAN: So, Ashley, just as a caution, there's nothing so far to establish or prove any of the facts that are reported in this article. But if the question is simply to put a proposition to this witness for comment, for that limited purpose questions are fine.

But you may independently need to prove not only the authenticity of the article but also that what it says is actually true, if you're going to rely on that.

MS. SCHIUTEMA: Okay, well let me just take her to the sentence that I want to ask her about because it might be something that she is familiar with in her role already.

So, Charlotte, are you able to show us Page 3?

MS. CAHILL: One moment, please.

MS. SCHIUTEMA: If you just scroll down a little bit; I think it's at the bottom of where you're looking right now. Okay, thanks.

BY MS. SCHUITEMA:

101. Q. So, Dr. Koivu, I am just going to ask you about that very last line. And again, like this is just -- I think it's something that you would be aware of in your role but let me ask you about it. So it says:

"… The city says it will have enough shelter spaces this winter to accommodate the roughly 130 people who are living in the streets …"

And this is related to St. Thomas.

So are you aware that there are a hundred and -- like roughly 130 unsheltered people in St. Thomas?

A. I would not know the number but that seems consistent with my experience.

102. Q. Can we mark this exhibit for the purposes of identification?

MR. LOKAN: Yeah.

MS. SCHIUTEMA: Thank you.

EXHIBIT NO. B: CBC article, November 5, 2025

And are you familiar with the concept of like a "Point in Time" count?

A. Yes.

103. Q. Okay. And does this sentence about, you know, having enough shelter spaces to accommodate all those people, does that align with your understanding of shelter availability in St. Thomas?

A. I really can't say that I know for certain the shelter availability. I know that there is more shelter availability in St. Thomas for the amount of homeless compared to working in London. But I wouldn't know the numbers.

104. Q. Okay. Thanks. And I just -- I know this is where you're practicing exclusively so -- so by comparison, I am going to put the numbers in Waterloo Region to you. And so I am going to show you our -- the Waterloo Region, 2024 Point in Time count. And this might be more akin to what was happening in London.

And I mean, I can tell -- Charlotte, if you can put it up. I think it's easy to see. It's easier to see a visual.

MS. CAHILL: I am just trying to open them now in (indiscernible) so that there are hopefully aren't more of those issues where you can't see the screen. So it might take me a little bit longer. Sorry for that.

1 MS. SCHIUTEMA: It's okay.
2
3 BY MS. SCHUITEMA:
4 105. Q. Dr. Koivu, I'll just start telling you
5 the numbers so it can start sinking into your brain. I
6 don't know if you're a visual or if you're okay with
7 me just verbally telling you these numbers. But we
8 have a Point in Time count from Waterloo Region which
9 is dated October of 2024.
10 And in that Point in Time count, the Region
11 recorded 2,371 homeless individuals. And 1,009 of
12 those folks are living rough; 446 are in emergency
13 shelter. And 153 are in Region-funded motels.
14 So that's -- the main number that I am
15 hoping that you can keep in your mind is 1,009. This
16 is how many people are in our community are living
17 rough. So this ---
18 MR. LOKAN: Sorry, Ashley, you keep saying
19 "our." This is as of a Point in Time back
20 in October. So it is recognized that
21 numbers fluctuate.
22 MS. SCHIUTEMA: Sure, but this is the
23 numbers that are on the record.
24 MR. LOKAN: As of October 2024?
25 MS. SCHIUTEMA: Right, but this is what's in

the record, the most recent numbers that are in the record. And there hasn't been an updated like fulsome Point in Time count survey done since then.

--- SCREENSHARE

BY MS. SCHUITEMA:

106. Q. Okay, do you see that, Dr. Koivu?

A. Yes, I do.

107. Q. Okay. And now the evidence that's on the record from the Region is that they have capacity for 377 people in emergency shelter. And they on the record have acknowledged that the number of homeless individuals vastly exceeds the housing supports that they can provide.

And you'd be aware of these after reading some of Peter Sweeney's affidavits. The Region has also acknowledged that the shelter system often operates at capacity.

So looking at these numbers, you would agree that the situation in Waterloo Region is vastly different than the situation in St. Thomas, is that correct?

A. Yes, it's definitely different than the

1 situation in St. Thomas.
2 108. Q. Okay, and you would agree that by
3 looking at these numbers that in Waterloo Region
4 there's simply not the shelter space, enough shelter
5 space for everyone that's living rough in the
6 community?
7 A. Based on the numbers provided in
8 October of '24, there are not enough shelter spaces
9 for the number of people who are unhoused.
10 109. Q. Okay. So at Paragraph 13 of your
11 affidavit, you -- I am just going to turn to it. I
12 don't know if you want to take a look at it as well.
13 But this is -- as far as I can tell, this is the
14 underlying factual foundation in your affidavit that
15 you've been provided from the Region.
16 And it's that 100 Vic:
17 "… Unhoused residents of 100 Vic may be
18 offered various forms of shelter
19 including space at shelters, tiny
20 homes, transitional housing, subsidized
21 housing and motel rooms with supports
22 …"
23 Do you agree that that's the factual
24 basis for your opinion?
25 A. That is the -- yeah, my opinion is

1 certainly beyond just that paragraph. That is the
2 information that was provided to me about -- about the
3 situation in Waterloo Region.
4 110. Q. Okay.
5 A. Oh, wait, sorry. And it's not that I
6 can see the paragraph. It's Paragraph 13, is that …?
7 111. Q. That's right.
8 A. Okay.
9 112. Q. And your opinion is largely comparing
10 encampments and shelters, would you agree with that
11 characterization?
12 A. That is correct.
13 113. Q. Okay. Would you agree that if shelter
14 options don't actually exist that it's difficult to
15 draw the comparisons that you're making?
16 A. No, that's -- if shelter options don't
17 exist, that doesn't change the comparisons. That
18 doesn't -- like a shelter is safer than living out of
19 a shelter, unsheltered on the street. That doesn't
20 change based on the number of shelter spaces
21 available.
22 The availability to get safety might change.
23 But the comparison between a shelter and being
24 unsheltered doesn't change based on the number of
25 shelter space. So, you know, the ability to access

1 something that is safer might change but whether it's
2 safer or not, doesn't change.
3 114. Q. Okay. So but your -- you would agree
4 that your affidavit is based on the assumption that
5 there -- people have the ability to access something?
6 A. My affidavit is based on looking at an
7 encampment -- unsheltered versus sheltered. And
8 extrapolating from that, can be assumptions that can
9 be made from that. But I wasn't basing that
10 particularly on the assumption of sheltered versus
11 unsheltered.
12 That is a whole different scenario. And
13 whether people can access a shelter or not, doesn't
14 change whether they're safer or not. Next steps can
15 but I'm -- a lot of my work really is about looking at
16 the risks of being unsheltered compared to the risks
17 of being sheltered.
18 And my understanding from what was provided
19 with me -- for me, is that people were going to
20 largely be offered some form of shelter that were at
21 the -- that are at 100 Vic. My work really is about
22 what I've seen in people who are unsheltered and --
23 versus people who are sheltered.
24 So it -- the numbers of availability doesn't
25 change with the risks. The urgency of having

shelters, the urgency of having things that are available for people who are unsheltered might be evident in my work. But I am not sure if I understand what you're saying that it's based on an assumption which is about ---

115. Q. So let me ask you a different question. I want to go back to some of the things you said as well. But is it accurate to say that your affidavit doesn't discuss at all or even consider what could happen if the shelter options don't exist?

A. I would say that what I am looking at is the difference in being sheltered and unsheltered. And the -- that is where my work is, the difference between being unsheltered and sheltered.

I did not look at specifically the number of beds available within any system within Waterloo or the number of shelters.

And so the amount of shelter space, my understanding is that the people in 100 Vic were going to be offered some form of shelter whether it's motel space, whether it's a shelter, you know, the various types of shelters that are outlined by Mr. Sweeney.

But I am really looking at the risks of being unsheltered because I think that the risks of being unsheltered need to be identified and

highlighted and not overlooked.

116. Q. Okay, and so you said that -- you just said, my understanding is that people at 100 Vic are going to be offered something. I'd suggest that the language in your affidavit is that they "may" be offered something.

Would you agree that there is a difference between those propositions?

A. I think you're right. There is a difference between the word "may" and "going to be." Yes, there is a difference between "may." And in my affidavit the word "may" is the word that is used.

117. Q. Okay. And you've talked a lot about the difference between "unsheltered" and "sheltered." Can you help us understand your definition of "unsheltered?"

A. Unsheltered, the definition I've used -- I've tried to use the same definitions that I found in most of the literature, would include what is often referred to as "living rough." So it includes people that are living outside of a stable structure that is considered permanent and safe.

So that could include people who are living -- live in a tent, people who are living outside of a structure outside of a tent, the tents could be in

encampments or not in encampments. They could be living in bus shelters or are staying in bus shelters; they could be using other forms of protection from the -- to live in.

But they are not specifically staying in what is considered a structure that is sheltered. So that includes -- essentially, all outdoors. So people who are living outdoors in various (indiscernible) is probably the best way of considering that. And that includes all forms of living outdoors.

118. Q. Okay, and in your expertise, you don't make any distinction between like living rough and living with a tent or some other sort of (indiscernible) ---

A. Living rough ---

119. Q. --- structure?

A. Living rough is a definition that does like -- living rough can include living in a tent if you look at some of the definitions.

So living rough, sort of is a colloquial term; it's not a medical term. And if I look at the literature, "living rough" is in some of things -- it will include living in a tent or living outside of the tent.

Most of the literature doesn't --

unfortunately, the literature doesn't -- does group those and groups -- people who are living outside including living in a tent, living not within an encampment. Those things are grouped which makes it very difficult to separate them.

So when I am talking about "unsheltered," it primarily is -- and it includes as is in the literature -- "unsheltered" includes people who are living outdoors which includes people living in a tent, does not exclude them from the literature that is provided around unsheltered. And in almost everything I saw.

Now some things don't define what unsheltered mean which makes it challenging. But most of them define it as outdoors and anything living outdoors. So I've used the same information in making my affidavit.

120. Q. Okay, and Ms. Perez is going to ask you some questions specifically to the literature. I want to ask you about -- I want to take you to Paragraph 68 of your affidavit. And you're talking about in this paragraph -- and let me know when you're there, Dr. Koivu. I think it might be easier if you just locate your own copy.

A. "… Additionally, even the most

vulnerable are provided with supportive housing and reference services. Outcomes are shown to be greatly improved …"?

That ---

121. Q. That's the paragraph, right. And so in terms of wrap -- supportive housing with wrap-around services, are you aware that the Region's list for supportive housing has an average wait-time of 13.5 months in order to access supportive housing?

A. No.

122. Q. Okay. So if there was a 13.5-month waitlist to access your services, your addiction medicine services, would you say that that's a service that is available to patients in your community?

MR. LOKAN: I am going to object to that, Ashley, because you've not laid any foundation that accessing the services of Dr. Koivu is comparable to accessing supportive housing with wrap-around services.

MS. SCHIUTEMA: Okay, so let me ask it a different way then.

B

Y MS. SCHUITEMA:

123. Q. Dr. Koivu, would you agree that if there is a 13.5-month waitlist for a supportive housing unit, that it's not actually available for people at 100 Vic?

A. I -- if there is a 13.5-month waitlist, then that, per se, isn't available but I don't know how the options are as far as the individual personalized health -- housing arrangements are being discussed with the individual people and the individual support workers that are going into their -- outreach workers going into the community trying to have individual housing plans for each person.

And I am aware that sometimes individualized housing plans means that there can be changes or sometimes shuffling, sometimes people are earmarked as having a high priority. I can't know based on my information what is available specifically to the -- to any person within their individual health plan -- or housing plan.

124. Q. Okay. I am going to move on now and ask you some questions about health. And I'm going to ask you some questions about harm-reduction.

Would you agree with me that housing is a social determinant of health?

A. Yes.

125. Q. And would you agree that Ontario is in a housing crisis?

A. Yes.

126. Q. Okay. And in your practice as a result of this crisis, would you agree that sometimes hospital patients are discharged into homelessness?

A. Yes.

127. Q. And you consider yourself to be an advocate for harm-reduction, is that right?

MR. LOKAN: Can you -- what -- harm-reduction is a very broad term.

MS. SCHIUTEMA: Sure. So I am not -- I'm not -- this isn't like trying to trick Dr. Koivu. I think in the past, she's admitted that she's an advocate for harm-reduction. I am specifically thinking around her involvement in the *Black* case out of Alberta where there was questions around safe supply.

MR. LOKAN: So if you want to ask about safe-supply, perhaps you can give that context.

BY MS. SCHUITEMA:

128. Q. Okay, so have you in the past referred to yourself as an advocate for harm-reduction?

MR. LOKAN: In the context of safe supply? Is that your question?

MS. SCHIUTEMA: In the context of the *Black* case, specifically.

MR. LOKAN: Do you have a document to put to Dr. Koivu?

MS. SCHIUTEMA: I do.

MR. LOKAN: That would be fairer to ---

MS. SCHIUTEMA: Okay, sure. And sorry, I'm not -- this isn't meant to be a trick question. Charlotte, do you mind putting up the *Black* transcript? And we're at Page 80.

BY MS. SCHUITEMA:

129. Q. So, Dr. Koivu, you were involved in a case out of Alberta, *Alberta vs. Black*, is that correct?

A. That is correct.

130. Q. Okay, and you gave affidavit evidence in that case?

A. Yes.

131. Q. And you were cross-examined on your

affidavit evidence?

A. Yes.

132. Q. Okay, so have you seen this transcript of your cross-examination?

--- SCREENSHARE

A. No, I have not.

133. Q. Okay. For identification purposes, can we mark this as Exhibit C?

MR. LOKAN: Yes.

EXHIBIT NO. C: *Alberta vs. Black* transcript

BY MS. SCHUITEMA:

134. Q. Okay, so I am looking at Line 17. This is in the context of your answer. And you say -- I'll just read the full sentence:

> "… In addition, this neighbourhood was one of the neighbourhoods that was being considered for a supervised consumption site. I am a strong advocate for evidence-based harm-reduction. I wanted to be in the community when I went to numerous

meetings in the community to promote a supervised injection consumption site. And I think that being there was extremely valuable for people within the community to recognize that I was a member of the community …"

Do you recall like giving that answer?

A. Yes.

135. Q. Okay. So in the context of this case, is it true that you identified yourself as a strong advocate for evidence-based harm-reduction?

A. Yes.

136. Q. Okay, thank you. So I want to ask you some questions around -- so factually, what I want you to keep in mind is the idea of 1,009 unsheltered people in Waterloo Region versus 377 shelter beds.

And would you agree that when indoor shelter doesn't exist, being able to shelter oneself even in some sort of very basic way, is a form of harm-reduction?

A. Being able to shelter in some basic way can be a form of harm-reduction.

137. Q. Okay.

A. That's ---

138. Q. Okay, are you aware that the Region

through their funded partners for the past number of years have actually given out tents and tarps and sleeping bags as part of their winter warming strategy?

A. Yes, that was in one of the affidavits.

139. Q. Okay. And you would agree with the Region's approach to harm-reduction in that way?

MR. LOKAN: Sorry, that's -- that's two questions in one. Can you break it down? The first question, it would be "Do you agree with that initiative by the Region?" And the second, "Would you characterize that as being harm-reduction?"

MS. SCHIUTEMA: Thanks, you're doing my questions for me, Andrew.

MR. LOKAN: No, I'm not. I'm being alert to compound questions ---

MS. SCHIUTEMA: Sure.

MR. LOKAN: --- that assume something that has not yet been established.

MS. SCHIUTEMA: Okay.

BY MS. SCHUITEMA:

140. Q. So do you agree with the Region's approach to their winter-warming strategy?

A. Oh, winter-warming strategy I think needs to increase the amount of available warming spaces and indoor spaces. That being outdoors is a high risk and that the -- the amount of harm-reduction from providing tents in the winter and sleeping bags in the winter is insufficient, I feel, to be considered really a form of harm-reduction.

So if I am going to -- I think -- to answer, I think what your question is, is do I think that's a right strategy. I think that having availability indoors is truly harm-reduction. Having availability of tents and sleeping bags is extremely limited. It will protect from wind and it will protect from rain. But it is not an effective form of harm-reduction to protect from frost bite, hypothermia, that sort of thing.

So it also is in context, if we're talking about putting a whole bunch of them together, then you have an increased risk of communicable diseases, diseases that can be spread through feces, diseases that can be spread through rodents. So it really depends on the context of what that looks like.

So a group of tents has its own increased risk of having more communicable diseases, more infectious diseases. So that isn't harm-reduction,

that can actually increase the risk of people getting certain types of diseases. So ---

141. Q. So in a situation where there are not enough indoor spaces and tents are given out, would you agree that that is harm-reduction?

A. I think harm-reduction should decrease the risk of getting something and a tent doesn't -- it decreases your risk of getting wind and rain but it does not decrease your risk of getting frost bite and hypothermia. So it's a very different way of looking at harm-reduction than we do for something that -- for other forms of harm-reduction where we can really equate a decreased risk.

I think it would be -- if we're going to call that a form of harm-reduction, I think that it's a very ineffective form of harm-reduction. And it has to be taken in the context of when and where and what we're expecting them to be able to do.

142. Q. Okay, so giving out tents and winter-warming gear is part of the Region's winter-warming strategy. And it is a harm-reduction approach. So you disagree with the Region's approach?

A. I think it's -- it's an ineffective form of reducing the risk of hypothermia and frost bite. And from that perspective, I think it's

ineffective as reducing those -- those particular risks. And other strategies need to be available when the temperatures are cold enough that those are the risks.

I also think that it's important that they would be associated with, you know, teaching how to use things properly, teaching about -- you know, just giving someone something doesn't necessarily mean that they know how to use it properly. I don't know if that includes talking about condensation, about having to dry out of tents and sleeping bags and any context that goes along with them.

So just handing something out isn't necessarily an effective strategy.

143. Q. Okay. One of our clients -- and I guess you wouldn't have looked at her affidavit -- but she attested that prior to living at the encampment, she was sleeping on a sidewalk outside of a restaurant and someone urinated on her.

She also attested that while she was sleeping alone on the streets, she was assaulted and that that's never happened since living at the encampment.

You know, if your patient was telling you these things, you'd accept that for her sleeping at

the encampment is safer than sleeping on a sidewalk?

A. My experience with people who have talked to me about being in an encampment and my experience with encampments in the literature, is certainly that there are risks of being assaulted within an encampment.

144. Q. Sure, but sorry, but that's not my question. My question is I am telling you specifically about a woman that has been assaulted while sleeping alone on a sidewalk.

A. I would want to make sure that she understood the risks of an encampment as opposed to just saying that that is a place that she should go.

So an anecdote of an experience does not mean that living on the sidewalk versus living in an encampment over time increases or decreases your risk.

I think I'd want to make sure that she was extremely aware of risk that are seen within encampments and wouldn't just specifically be saying that an encampment is a safer place to be just because she has not yet experienced a harm being in an encampment.

145. Q. Okay, I am going to ask you some questions about communicable diseases. I'd like to take you to Paragraph 48 of your affidavit.

A. Yeah.

146. Q. So you raise concerns here and I'll read it, so the paragraph says:

"… Due to lack or inadequate sanitation, people in encampments are at risk of developing infections spread through feces. There are examples of Hepatitis A outbreaks in encampments. I am informed by council that the Region's evidence on this application is that human feces, urine and drug paraphernalia have all been found at the encampment at 100 Vic …"

So you're raising concerns here about infections that are spread through feces.

A. Yeah.

147. Q. And in particular, you mention Hepatitis A outbreaks?

A. Yes.

148. Q. Are you aware of any Hepatitis A outbreaks occurring at 100 Vic?

A. No.

149. Q. Okay.

A. I don't have information about 100 Vic as far as outbreaks are concerned.

150. Q. Okay. At Paragraph 55 of your affidavit, you say:

"… Porta Potties are now often installed to mitigate the risk of fecal contamination. If not kept clean, they can be a site of transmission of bacteria, viruses and parasites, including e-coli, Norovirus, salmonella and Hepatitis A …"

Are you aware that the Region -- so you told me you're not familiar with 100 Vic but I'll just ask. Are you aware that the Region has three portable toilets on-site at the encampment with built-in handwashing stations?

A. I have seen a picture on-line that shows that there are three Porta Potties. I was not able to see that there are three handwashing stations within them. But I did know that there were Porta Potties on-site.

151. Q. Okay. And are you aware that the Region's evidence is that those portable toilets are serviced daily?

A. What does "serviced" mean?

152. Q. My understanding is that they have a service provider that comes and cleans and restocks

daily. Were you aware of that?

A. No.

153. Q. Okay. Are you aware that across from 100 Vic there is a community service agency, directly across the street where encampment residents can access showers, washrooms and laundry facilities?

A. I was aware that there was a service agency across the street that provided some services that could be accessed by the residents. But I don't know the details about that.

154. Q. Okay. You would agree that having access to those services on-site that I mentioned, so Porta Potties with handwashing facilities that are serviced daily and the services that are provided across the street, would mitigate some of the concerns that you've highlighted around the spread of infectious diseases?

A. I can't. What I can say is that Porta Potties themselves do need to have regular maintenance. The handwashing facilities within a Porta Potty isn't necessarily -- I can't say that it's effective or how it's used. And there are certainly risks of Porta Potties being quite hot during the summer and have their other forms of risks with being in a Porta Potty in the summer.

1 If there are Porta Potties that are
2 kept extremely clean which actually is a very high --
3 is a challenging thing to do, then in answer to your
4 question, they could mitigate some of the risk of
5 transfer of fecal material. I don't think it will
6 eliminate it all because -- but they can mitigate some
7 of the risks related to fecal material.
8 155. Q. Okay, I want to take you ---
9 A. There is an assumption to that that
10 they are also used -- used correctly and exclusively.
11 And that isn't consistent with the statement that
12 feces has been -- so it's actually concerning.
13 Because what I'm informed -- and you haven't -- and it
14 seems to be there is a place for people to go, there
15 are three Porta Potties that are available for the
16 people in the encampments to use.
17 Yet, feces has been seen on-site at the
18 encampment actually is concerning because that would
19 be an indication that the Porta Potties are not used
20 in the harm-reduction way that you're speaking of and
21 intending to decrease the risk of -- on transmission
22 of infectious diseases.
23 156. Q. So do you have details about when the
24 feces on found on-site?
25 A. No. No, I do not.

157. Q. Okay, so there was a period of time where Porta Potties were not available on-site when the encampment was first formed in 2021. In 2022, the Region moved to put Porta Potties on-site and I know prior to that, there was feces found. But if you don't have those details then ---

A. I do not know that it hasn't been found since but I do not have details on that. Are there details saying that it has not been found since?

158. Q. I don't remember that specific piece of evidence. But I know that it was reported prior to the Porta Potties being installed.

I am going to ask you some questions about -- I want to take you to Paragraph 56. I am going to ask you some of the questions about the over-dose deaths.

So there are a number of reports of people dying. So you say:

> "… There are a number of reports of people dying from over-dose deaths in Porta Potties …"

Do you have any information about the prevalence of drug use at 100 Vic?

A. I believe from affidavits that I've read that drug use is very prevalent at 100 Vic.

159. Q. But you don't have any direct knowledge?

A. I do not have direct knowledge of -- I -- I have knowledge of encampments that I have been involved with in London and the affidavit from Sean (ph) was -- said that in her experience, you can generalize that there are a lot of similarities among encampments. But I have not been to the encampment at Vic.

160. Q. And your experience with the encampment that you've been involved in in London, that's in your personal capacity as a neighbour?

A. That would be -- well, I was not there medically. I have been involved not necessarily just as a neighbour. There were encampments where I was living. I have been involved in walking to various encampments, speaking to people in the encampments. That was not in the capacity as a physician, that was in the capacity of someone living within the community.

161. Q. So as a community member?

A. Yes.

162. Q. Okay. Do you know the percentage of residents at 100 Vic that use substances?

A. No, I don't.

163. Q. Okay. Do you have any direct knowledge about any overdose deaths occurring in the portable toilets at 100 Vic?

A. No. Not specifically in the portable toilets.

164. Q. Okay.

A. (Indiscernible).

165. Q. That's not what I am asking about right now.

A. Right.

166. Q. Are you aware that the Region has hired security guards that are stationed at the encampment 24 hours a day, seven days a week?

A. Yes.

167. Q. Okay, and are you aware that the security guards conduct hourly checks on the portable toilets to mitigate the risks of overdosed deaths?

A. No, I did not know that.

168. Q. You'd agree that by the Region installing 24/7 security, conducting frequent checks on the toilets, that could mitigate some of the concerns you highlighted about the potential for overdosed deaths in those washrooms?

MR. LOKAN: Ashley, I am going to ask you that you provide the evidence reference for

1 the hourly checks to mitigate overdoses.
2 MS. SCHIUTEMA: Okay, I will -- I'd have to
3 take it as -- I have to find it, Andrew. I
4 don't have it in my notes.
5 **UNDERTAKING**
6
7 MR. LOKAN: Okay. Just because when you're
8 putting evidence to the witness, I'm not
9 suggesting that there would be any attempt
10 to mislead but it's always safer to be able
11 to quote from the evidence to make sure that
12 it's an accurate reflection.
13 MS. SCHIUTEMA: Sure.
14 THE WITNESS: I think, yes, there can be
15 some mitigation by that. And I think it's a
16 sign that there's a good thing that there is
17 security on-site.
18 I also am aware that people can know
19 when a security check has occurred and might
20 use in a Porta Potty afterwards and an hour
21 can be a very long time, if we're talking
22 about an overdose. So if somebody were to
23 use and overdose, an hour can be a very long
24 time. So I've certainly seen, even within
25 the hospitals where people are checked

regularly, that they can still have an overdose within a period of time that seems fairly short.

Absolutely, I think that it is appropriate to have security guards on-site and if they're checking the washrooms regularly, that's good. It will -- I think that's also a sign that the security guards are trying to work in the best interest of the people involved.

But I can't say -- I mean, I don't know of anyone dying All I'm saying with this is that there is a risk of overdose within Porta Potties and those risks have been seen. And that there can be things done to try to mitigate those risks but those risks will still exist.

BY MS. SCHUITEMA:

169. Q. Do you know the rates of overdoses in shelters in Waterloo Region?

A. No, I don't.

170. Q. Okay. Would you agree that there is a risk of overdoses in shelters in the bathrooms there?

A. There is a risk of overdose in

shelters. When we look at overdose risks within shelters and unsheltered, there is an increased risk of death within unsheltered. But there certainly is risk of overdosed deaths even with -- there is risk of overdose and risk of overdosed death within shelters.

Some of those risks are mitigated by the fact that they have professional staff on hand that would be able to have appropriate first aid, appropriate Naloxone and be able to call 911.

So looking at any statistic I've seen that has compared sheltered and unsheltered would say that -- show that shelters -- while they can happen, absolutely can happen in a shelter -- that the risk of an overdose death is less when people are sheltered.

171. Q. Okay. I want to ask you -- so you've just flagged some, you know, first aid, Naloxone and those types of things. So I want to ask you some questions about what -- what's at 100 Vic.

But I am also conscious of the time. So we've been at it for almost an hour and a half. And Mercedes, I'm getting close to being done my questions but I wonder if you want me to keep going and finish or if it makes sense to take a break. And I don't know what you need, Dr. Koivu.

A. I'm fine to keep going right now. I

1 don't know how long that means but I can certainly
2 keep going right now.
3 172. Q. Okay, so let me ask you some questions
4 about the next -- my next group of questions.
5 Charlotte, can you scroll up to Paragraph
6 52, please? So here you write:
7 "… Sharing needles and paraphernalia
8 increases the risk of spreading blood-
9 borne infections, including HIV and
10 Hepatitis C. Improperly discarded
11 needles and contaminated products pose
12 a risk to the people in the encampments
13 including people living there, working,
14 walking through or playing in the area.
15 A needle stick injury can be very
16 stressful and require bloodwork and
17 possible treatment …"
18 So also -- so that's one part of it.
19 Also at Paragraph 47, you mention children could be at
20 risk if encampments are in parks or near playgrounds.
21 So I think you said that you've seen
22 some pictures of 100 Vic. Are you familiar with the
23 location of 100 Vic?
24 A. I am now.
25 173. Q. Okay. Have you looked at it on a map?

A. Yes.

174. Q. Okay, so you're aware that this is a vacant lot?

A. From what I can understand seeing it, it's a lot that's very close to railway track. One side it's right -- abutting a railway track and on two sides it abuts streets. So I think it abuts Weber Street and Victoria Street and it's not a playground, it's definitely not a playground. It doesn't look like a safe place for an encampment for other reasons but it's not a playground.

175. Q. Okay, and you'd agree with me that it's also not a park?

A. No, it's not a park.

176. Q. Okay. And would you agree that it's -- like I'll tell you that it's not anywhere near a school. Are you familiar with its -- what's in its surrounding vicinity?

A. What I know of it would -- would be limited to what I just said. I think there's some businesses across -- not from it but -- and it's their railway station. A bus -- a railway terminal, if I remember correctly.

177. Q. Okay, so if it's not -- if it's not near a school or a daycare and it's not a park or a

playground, would you agree that the risks associated with children playing there would be lessened?

A. The risks to children are lessened at that site. I would not be expecting that children would be at the site, and for any reason.

178. Q. Okay. I want to show you a screenshot from an organization, a local organization called "Sanguen Health," have you heard of them?

A. The name is familiar but I'm -- I certainly couldn't speak to knowing them. I think it's -- no. I have seen the name Sanguen associated with Waterloo.

179. Q. Dr. Chris Steingart is the leading physician there. I don't know if that makes a difference for you in terms of memory.

But so I'm -- I'd like you to take a look at this. This is a screenshot from their website about the services that they provide. They are a Ministry of Health-funded agency that specialize in Hepatitis C and ---

--- SCREENSHARE

MR. LOKAN: Can I ask, this is not already in the record, is it?

1 MS. SCHIUTEMA: There is a statement from
2 Sanguen in the record but this screenshot is
3 not in the record. No.
4 MR. LOKAN: Okay, so saying what you -- you
5 can put a proposition from this but there's
6 no basis yet either to identify the document
7 or to verify the truth of anything said in
8 that.
9 MS. SCHIUTEMA: Okay, so let me tell you
10 what this says and then I'll ask you my
11 questions.
12 So they provide -- this organization
13 provides harm-reduction supplies to 100 Vic
14 on a weekly basis. So, Charlotte, do you
15 mind -- sorry, I don't remember where it is.
16 Oh, yeah, so their van scheduled there, it
17 indicates that on what -- they go to 100 Vic
18 on Wednesdays.
19 And, I'm sorry, Charlotte, do you mind
20 scrolling up a little bit, actually? Okay,
21 can you stop for a sec. I am looking at the
22 second paragraph. It says, "Our
23 interdisciplinary" -- like midway through
24 that paragraph:
25 "… Our interdisciplinary team staff the

van and connects community members with harm-reduction supplies such as new drug-gear, needle exchange, condoms, etcetera. Naloxone training and distribution, food, clothing, hygiene items, nursing, peer and social supports …"

BY MS. SCHUITEMA:

180. Q. So are you familiar with like -- and I guess, in your work, are you familiar with an agency that does this work, like elsewhere, similar ---

A. Yeah.

181. Q. --- type agencies?

A. Yeah.

182. Q. Okay.

A. Yes.

183. Q. Okay. And so, can we mark this as like for identification purposes, Andrew?

MR. LOKAN: Can mark it for identification purposes if you've got a question arising from this document. But there's no ---

MS. SCHIUTEMA: Sure.

MR. LOKAN: --- evidence you've yet pointed to that any of these statements are true.

MS. SCHIUTEMA: So I do think that there are references in the record to Sanguen. Like I know some of our client affidavits talk about supports that Sanguen provide on-site. But I don't have those references off the top of my head.

EXHIBIT NO. D: Sanguen Health website

BY MS. SCHUITEMA:

184. Q. So my question for you, Dr. Koivu, is if there is like a harm-reduction agency van program which is going to 100 Vic on a weekly basis, and they are doing a needle exchange program, they're doing sharps container pick-ups, etcetera, would you agree that that service is helpful to support the residents at the encampment that use drugs?

A. "Help" is a funny word. I mean, if people are having harm-reduction materials brought to them in a group setting, then they are quite likely to be using as a group.

And what we learned in London was that people were aware that you couldn't share needles but were not aware that you couldn't share paraphernalia. By that I mean the cookers and the -- the filters

1 themselves were where we were finding HIV was
2 transmitted.
3 We also know this is a -- from other things
4 that I've read that there are people that come and go.
5 So a new person can come. So, for example, you might
6 never see -- people can share needles and not get HIV
7 as long as no one with HIV is present. But when
8 someone comes and is present, then they are shared.
9 My experience in London also was that when
10 paraphernalia was initially brought to people, there
11 was no real instruction, there was sort of a belief
12 that they knew how to use it, and they weren't
13 necessarily provided information such as -- everyone
14 knows not to share needles -- and we call it even
15 needle exchange.
16 But understanding that you can't share
17 cookers and filters, I can't say from -- from this
18 that the implications of being in a group setting with
19 paraphernalia to use for injection drug use when some
20 of what I've heard is that using together is -- people
21 are using together and that is, you know, as a
22 community, I can't say that they wouldn't be at risk
23 because of how they're using it.
24 If they are picking up and making sure all
25 needles are not -- are discarded properly, there is

1 going to be some amount of improvement from discarded
2 needles being a risk to others that might -- the
3 security guards, for example, or others, the people
4 that are cleaning the toilets, that sort of thing.
5 But I don't have anything from that to tell
6 me what percentage of needles are recovered. And is
7 it a hundred percent of needles are recovered, is it
8 50 percent of needles are recovered?
9 And so, is it a -- so there can still be
10 significant risk even if there's less risk of, you
11 know, having old equipment and sharing old equipment,
12 there is still risks with having this type of
13 equipment. And there is not enough information from
14 this for me to know how much of that, as I say, is
15 still their risk to other people.
16 It's a risk to people in the community that
17 are on-site which you have told me there are people
18 cleaning the toilets, there are people who, you know,
19 the security guards on-site. I don't know what their
20 risk is from this information.
21 185. Q. So if there was a -- if the evidence --
22 and I don't know if this is true in the record. But
23 if the evidence was that Sanguen was providing an
24 educational component to their harm-reduction van
25 service, you'd agree that that is -- could lessen some

of the risks?

A. Depends on what their education includes. My -- my experience, unfortunately, with harm-reduction when I first got involved in it, it was that the focus on the needle as being -- and, you know, needle exchange, don't share needles.

And -- and when I left and when -- I still found that. So I do not know if there is -- what that would look like. So -- and what -- you know, and there are new people. How often are they doing this? You know the -- so, yes, is it important to be providing information? Absolutely, yes. Is it important to be providing the right information? Absolutely, yes. Is it important to make sure everyone has that information? Absolutely, yes.

Then will people always follow-up on that information? I don't know how that is observed. But -- but those are a lot of assumptions that, yes, there can be -- there is benefit but I can't say how much the risk is.

One of the things that could be found out is the -- as you say, there are sharps containers. Have they done a count of what percentage of needles they deliver are recovered? Because that is actually a measurable way of knowing how many needles are in the

1 community. This does not provide me with that
2 information.
3 186. Q. Okay. When you say -- when you're
4 talking about people using together, you said about
5 "I've heard" about implications of using in group
6 settings. What's the basis of that knowledge?
7 A. I believe that there was an affidavit
8 that referenced using in a group. And I actually
9 can't tell you for sure what that -- and I also read a
10 CBC article that said that, too. So I can't -- I do
11 not know for sure.
12 Having said that, my experience with
13 encampments is that people tend to use and sometimes
14 will be sharing equipment. Often then will go, you
15 know, once they've used, go back into their tents.
16 But there can be an amount of sharing of equipment
17 within an encampment.
18 Some people ---
19 187. Q. So when you ---
20 A. --- will use alone.
21 188. Q. Sorry, and when you talk about your
22 experience with encampments, are you talking about
23 that personal experience in London?
24 A. I am talking about London but that
25 would include both personal and patient. So both of

my -- not necessarily just as a community member but as information from -- from being in the hospital setting.

189. Q. But no direct -- direct knowledge of that?

A. I have not watched people sharing needles or sharing equipment within an encampment. I have not watched people sharing, you know, Fentanyl within an encampment, no. Not personally.

190. Q. Okay.

A. I have seen ---

191. Q. You'll ---

A. Oh, sorry. No.

192. Q. No, you go ahead.

A. No, I have seen people sharing Fentanyl within a park setting but not specifically within an encampment setting. So I have not been that close to know what that would look like in an encampment, sorry, from a personal experience.

193. Q. Are you aware that the safe-injection site in Kitchener closed in April of 2025?

A. I am aware of that.

194. Q. Okay. Now, I understand that you're saying that you don't know the exact numbers but broadly, would you agree that having a needle exchange

program can mitigate some of the risks that you've noted in your affidavit around injection drug use?

A. Yes.

195. Q. And you would agree that having sharps containers on-site that are frequently, like picked up in some sort of frequent way, could mitigate some of the risks of improperly discarded needles?

A. I think that would mitigate some risks.

196. Q. Okay. There's another news article that I'd like to show you. This is from the Record which is a local Kitchener-Waterloo publication. And I -- I'll give you -- you're not quoted in it so I imagine you're not familiar with it. But I'll give you an opportunity to take a look at it.

It's called "Harm-reduction tent set up at Victoria Street encampment in Kitchener." And it's dated July 4, 2025.

MR. LOKAN: And, Ashley, I'm going to put the same caution on here that I don't believe this is anywhere in the record. And it's all the more questionable to use this as a source of any information given that this, if I am remembering correctly, is a associated with the Fight Back group. And you do have some affidavits from two members

of the Fight Back group. So if I ---
MS. SCHIUTEMA: So I don't think this is actually associated with the Fight Back group, Andrew.
MR. LOKAN: Okay, it's a group of activists and camp residents then.
MS. SCHIUTEMA: Yeah, it says Alan -- Charlotte, do you mind scrolling down just a minute. It says -- sorry, the second site there, it says:

> "… Julien Ichmim, a member of the Alan Ryan People's Community Defense Brigade …"

MR. LOKAN: Okay. I think we may have asked and got a refusal or not yet an answer on the people associated with Fight Back. But in any event, there is -- there is evidence in the record, there's affidavit evidence talking about harm-reduction. And I am wondering why you are using this article rather than something from the record? If you're using this article, it can be the basis for a hypothetical. But really, that's as far as it goes.
MS. SCHIUTEMA: That's fine. That's fine.

BY MS. SCHUITEMA:

197. Q. So I guess my question is, were you aware that there was a mutual aid group that had set up a harm-reduction tent at 100 Vic?

A. No.

198. Q. Okay. There's parts in the article -- and as Andrew correctly points out, this is actually also in some of the affidavits about there being Naloxone and harm-reduction supplies being readily available on-site.

MR. LOKAN: Again, Ashely, if you're going to characterize the evidence, I would ask that you provide the actual evidence.

MS. SCHIUTEMA: Sure. I don't have the sources in front of me, Andrew. But I know that they -- I'll try to remember where they are. I know they're mentioned. And you said yourself that you know that they're in the record as well.

MR. LOKAN: So I am not trying to be obstructive. Put the hypothetical to the witness and if there's evidence in the record that proves the facts underlying the hypothetical, then you have that. But I am wondering what the use of the article is.

And perhaps just put the hypothetical.

BY MS. SCHUITEMA:

199. Q. So if there are volunteers at the encampment with Naloxone to provide to residents for overdoses, would you agree that that would mitigate some harms around overdoses?

A. Are they -- I think that (indiscernible) reversing an overdose, it is certainly possible that you could have reversals of an overdose if there are people at the site who are trained to use Naloxone, and people are not going back into their tents when they are using.

So there is a lot of assumptions in that type of a statement about the type of use. Also, are these people available 24 hours a day, seven days a week? And I think it's really important -- actually, you bring up a really important issue, Ashley, of the difference between reversing an overdose and actually decreasing the risks of overdose deaths over time. Because we know with Naloxone that we can reverse overdose but we're still seeing an increase in overdose deaths over time when Naloxone came out.

And in part that is, when we look at an encampment, we have to look at drug use within the

1 encampment. The more drugs are available and
2 accessible and used -- and certainly, we also know
3 that there can be sort of drug sub-culture that
4 increases use. The more people use and the more often
5 they use, the more likely they are to have an overdose
6 that will lead to their death.
7 So there is a -- when you're in an
8 encampment, and my experience with an encampment,
9 within encampments, is that there is high drug use.
10 That there is regularly accessible drug use and the
11 drug use is very inexpensive which increases the
12 amount that people use.
13 People who weren't necessarily using, are
14 going to start using, they're going to start using
15 more, they're going to be in an environment in which
16 it's used very regularly, and used more. They are
17 going to need to be -- have a higher incidence of
18 overdose, overdose which needs to be reversed which
19 increases the risks that they're going to have an
20 overdosed death that will be missed or not reversed,
21 or there won't be enough Naloxone to reverse.
22 The other thing that's really important
23 about the environment. And I am concerned about --
24 about 100 Vic, is the importance of recognizing that
25 Naloxone is just one factor in decreasing an overdose

1 death. That is also has to be associated with calling
2 911. And not being -- and not being sort of remiss
3 about the next step of calling 911. So ---
4 200. Q. Okay, so you would agree that having
5 security on-site can mitigate some of those risks that
6 you just identified?
7 A. If security -- well, I don't believe
8 that security is going to be watching people using. I
9 think that that would probably not be happening.
10 Security would therefore need to be informed that
11 somebody has had an overdose and be -- when -- so if
12 security is informed -- is security informed every
13 time that Naloxone is used on the site?
14 That would be an easy thing to -- so if
15 you're saying there are volunteers and that they are
16 using Naloxone, is part of the volunteer protocol to
17 inform security when they have used Naloxone. Because
18 if it's not, then security doesn't know that an
19 overdose has been reversed.
20 So if security is involved in the process
21 and is informed when Naloxone is being used, then
22 security on-site absolutely is beneficial. But how
23 much security is involved in that, I wouldn't be able
24 to say from what you're saying. And actually ---
25 201. Q. So do you have any direct knowledge on

the techniques that are used by substance users at 100 Vic?

A. The techniques? What you've said is that there -- is the needle -- the needles that are brought. So from that, that would indicate that there is an amount of injection drug use.

I cannot say that -- what percentages used by injection drug use. I can't say how much is smoked. We do know that the use of injection drugs has gone down and smoking Fentanyl, for example, has gone up.

I do not know the percentage at 100 Vic. And have not seen it in anything that has been provided to me.

202. Q. Okay, so you couldn't really comment on whether or not they're practicing using safe techniques?

A. I can say my experience within encampments is that there is not -- it's not a sterile environment. So there are risks because of not being in a sterile -- a clean, maybe "sterile" is not -- is an over-simplified word. But a clean environment and clean setting. But I cannot specifically say how drugs are being used at 100 Vic.

I can say that in encampments where there is

a lot of drug use -- well, where there -- in encampments we are -- encampments have been associated -- and I believe I've read that in the -- some of the information provided to me that there is a significant amount of drug use at 100 Vic. It would be uncommon for there not to be.

And the higher the amount of drug use, the people develop tolerance, the more people develop fear of withdrawal, the more people use and the more that they are at risk of having eventually an amount of toxicity that can be potentially fatal over time.

So we're also looking at risk over time. The longer somebody is in that type of environment, the higher the risk is that they will not get into recovery and not be able to switch to opiate agonist therapy. That they will be put -- be in a position of being at risk of having a drug-related toxicity or event.

203. Q. Okay. Just give me one second. At Paragraph 92, you are talking about patients that you have supported who reported an increase in drug use in encampments. You said they were also less likely to practice safe techniques when using paraphernalia or attend a supervised injection site.

You have not attached a study to this

paragraph, is that correct?

A. No, this is actually specifically about patients that have reported to me.

204. Q. Okay. And so you don't have any like direct knowledge about this?

A. This particular paragraph ---

205. Q. Mm-hmm.

A. --- was specifically discussing things that I've been told by patients who were in the encampments. This is -- this paragraph is very specific about things that I've been told.

206. Q. So it's not -- you're not within your direct knowledge?

A. No.

207. Q. Okay, and you have no study, like scientific study to support this proposition?

A. No. I think repeatedly there is information about drug use in encampments but there is no scientific study that I am aware of specifically.

208. Q. Okay. I want to ask you a few more questions. And I know I said that last time. So I'll just do one more check. I am taking too long. But let me see. Does anyone need a break?

MR. LOKAN: Perhaps check with the reporter.

MS. SCHIUTEMA: Yeah, Ms. Pollard, are you

ready for a break?

MADAM REPORTER: Actually, I am doing just fine. I don't want to hold anybody up. But I'm fine, thank you so much for asking.

MS. SCHIUTEMA: Okay, thanks. And Dr. Koivu, you are okay to keep going for a few more minutes?

THE WITNESS: Yeah, I am okay to keep on.

MS. SCHIUTEMA: Okay, thanks.

BY MS. SCHUITEMA:

209. Q. Okay, so I am going to take you to Paragraph 82 of your affidavit. And you're -- this is about sexual violence. So you say:

> "… While sexual violence can happen within a shelter, shelters generally are often age- and gender-specific and they have staff available to safeguard against such occurrences …"

So, I mean, I take it from that statement that you agree that sexual violence can occur in shelters?

A. Yeah, I do.

210. Q. Okay. And you would agree that for some women who are experiencing homelessness, staying

in a co-ed shelter may not be a safe option for them?

A. Definitely. I agree with that.

211. Q. Okay, and are you aware of the emergency -- what emergency shelters exist in the Region for women and gender-diverse people?

A. I believe the numbers are not adequate to support the number of women that are experiencing homelessness.

212. Q. Okay, do you know -- like are you aware of the rates of sexual violence in shelters in Waterloo Region?

A. No. And I do not know the rate of sexual violence in shelters and a comparison to the rate of sexual violence in encampments.

213. Q. Okay. So the statement you made about not having adequate numbers is correct. So I'll just tell you the numbers that are in the record. There's 47 beds in Kitchener for women and that's an overnight shelter. And then there's 20 beds in Cambridge for women which operates in a 24/7 capacity. So in total, there's 67 beds.

MR. LOKAN: Again, that -- please specify that that's as of a certain time because -- those numbers may have changed.

MS. SCHIUTEMA: So that -- I know that that

comes from Sara Escobar's affidavit which I believe was sworn in June or July of this year. So those are the most recent numbers that we have in the record that we're working with.

BY MS. SCHUITEMA:

214. Q. And so you'd agree that there may be women in Waterloo Region that can't access a bed in a women's-only shelter?

A. Yes, and I would also point out that 100 Vic is gender-diverse and not women-only. So -- and I am not -- you know, so that I do know about 100 Vic is that it's a gender-diverse encampment.

215. Q. Would you agree there's a difference between having a -- like your own private tent versus like having side-by-side beds in a co-ed emergency shelter?

A. From a perspective -- from a protection point of view, not necessarily. Actually, I was just working regarding a femicide in London where one of the people working at an agency in London pointed out that the zipper is not much protection from assault.

It can give you a feeling of safety but I would say that -- and I can understand it from an

anxiety perspective in feeling safe. But I would say that in a monitored environment in which there are staff that can come and facilitate an amount of safety -- and even people around that can facilitate safety -- that being in your own tent in an encampment, isn't necessarily a form of safety over being in an environment in which there are people who can respond to an assault if it were to take place.

216. Q. Okay. And what would you say to the security and the volunteers that are at the encampment in terms of providing that monitored environment?

A. I would hope that that would be something that the security -- I don't know what the volunteers are or what their role is and how long are they are there. Are they there 24 hours a day?

My experience with volunteers is that they are often there during daytime hours and not necessarily during nighttime hours. I would hope that people would have some amount of protection from security. But I also do know that if people have -- have taken medication that is sedating and are therefore not responding, that they are vulnerable.

And my understanding is that the security would be responding if they are called but wouldn't be responding -- aren't doing checks, tent checks to make

sure. You know, they're not walking around making sure everything is fine and no one is in anyone else's tent that shouldn't be.

I don't have that kind of information. If somebody is alert and awake and aware, they would be able to call for assistance. My experience is, is that the vulnerable people within an encampment, their vulnerability is particularly if they've taken sedating drugs and are not aware of an assault when it takes place.

So there is some -- definitely there's benefit to security being on-site but I do not think that they would be able to be in a position to protect people within their own tents, particularly if they've taken sedating medication. From the model that I am aware of, of the security that's there.

217. Q. Okay, so when you say, "my experience with vulnerable people" you're talking about your experience as a community member with encampments?

A. No, that's my experience as a physician. Although, there can be some overlap because I certainly went to encampments and talked to people. Most people want to know who I am so they're certainly overlap but I am actually really referencing patients that I've talked to that had experiences of

1 feeling sexually-exploited or having experienced
2 gender-based violence within an encampment, from my
3 role as a physician and having them speak to me about
4 it at the hospital.
5 218. Q. Do you provide care to patients after
6 they've experienced sexual assaults?
7 A. I do not now. That was one of my roles
8 in St. Thomas previously. I am not involved in the
9 sexual assault center in London.
10 219. Q. Okay. Are you familiar -- so you said
11 you read Dr. Dr. Kaitlin Schwan's affidavit. Are you
12 familiar with the project Willow Report which is based
13 out of Waterloo Region?
14 A. I saw if for the first time when it was
15 provided for me to -- yes, well I saw it yesterday. I
16 did not have the opportunity to read it in detail.
17 220. Q. Okay. It is a Waterloo Region-based
18 study about women and gender-diverse people using
19 emergency shelter.
20 So I think -- and this is in the record. I
21 don't know if we need to make it an exhibit. I think
22 you've already -- you've already answered this around
23 feeling safe. But would you agree that women staying
24 in an encampment may be safer than staying in a
25 shelter if there are sexual violence and rapes that

can occur in shelters?

A. I don't know of any time when I was -- I would say that shelters can have their limitations. And certainly if you've experienced a bad experience within a shelter, that that would make it difficult to go back to a shelter. But I might -- I believe that the risk of an assault is greater in an environment such as an encampment than it is within a shelter.

There's also one line in this that I thought was interesting of a woman saying that I don't tell other women. And I can't remember how it was worded but it was certainly -- they weren't necessarily helpful which I thought was really interesting and tragic. But there are risks in shelters and I don't want to downplay that there are risks that can happen in shelters.

But I think overall there are significant, better systems in place to support women in a shelter. I think there are risks in encampments. And those risks in a shelter are mitigated by staff, they're mitigated by hopefully having people in appropriate shelters based on gender. So there are ways to mitigate risks in a shelter.

In an encampment, is still an environment which you can be using, you can be using -- you can be

in your tent alone, you could have used a sedating medication during the day or night and be in your tent and being vulnerable.

The presence of some volunteers and some -- and security, I am glad of that, that will decrease some of the risks. But I cannot say that I have enough information to make a comparison of the risks of a sexual assault in a gender-diverse community in an encampment in which sedating drugs are likely to be used ---

221. Q. Okay.

A. --- and security is not on-site. So I can't make a comparison between whether ---

222. Q. Sure.

A. --- it's safer in a shelter versus an encampment. If anything, my experience would still say an encampment is less safe than a shelter.

223. Q. Okay, and so I guess my question wasn't about sedating drugs. But I want to put this hypothetical to you. And it's based on our own clients' experience. So there's a client named Josephina Dugas. She has attested that she was raped while living in a shelter. If you pair that with the context where we don't have enough beds in our community for women, like women-only, isn't it fair to

say that she may feel safer staying in an encampment than having to go to a co-ed shelter, if that space existed?

A. She may feel safer in an encampment but I want to point out that there's a significant difference between feeling safe and being safe. If she is then later sexually assaulted within the encampment, she will not feel safe there.

So her experience right now is driving her -- her decision-making. But that does not mean overall an encampment is a safer environment. So going from an environment that has risks to an environment that has more risks because you haven't had the negative outcome at that more risky environment, doesn't make it safer.

It doesn't mean that some people will choose things that are high risky. It can but again, I think it's really important to recognize the difference between "feeling safe" and "being safe."

224. Q. And are you aware of any sexual assaults taking place at 100 Vic?

A. I am not.

225. Q. Okay. In terms of motels, are you aware of concerns that people have around sexual coercion and exploitation at some of the local motels

in the Region?

A. As compared to being in an -- my experience with people being in a -- in an encampment, for example, is that some of the sexual exploitation has been around providing claims that they will be provided with safety, safety from others. And ---

226. Q. Okay, so ---

A. So, no, I am not aware of -- so no, I'm not aware. And cannot make -- I am not aware of sexual exploitation of people who have been sheltered in motels in Kitchener-Waterloo area as opposed to brought to a motel to be sexually exploited. So, no, I don't have that kind of information, no.

227. Q. Okay. So there is some evidence in the record, and Andrew, this is at Sara Escobar's affidavit, Paragraph 23. I believe it's her first affidavit, but I will confirm, where she talks about some of the owners and staff at some of the local motels in her experience that they are not safe for vulnerable individuals to be around.

And so, you know, given some of these concerns, would you agree that some women staying at the encampment may be safer than a motel where they could be exploited?

MR. LOKAN: Once again, with the Escobar

affidavit, I am not sure that we have anything connecting those motels to any current work that the Region is doing in terms of out-placement.

MS. SCHIUTEMA: Okay, so ---

MR. LOKAN: If you want to put it as a hypothetical, that's fine.

MS. SCHIUTEMA: Yeah. It is a hypothetical.

BY MS. SCHUITEMA:

228. Q. If there are risks of women being sexually exploited in a motel, wouldn't you agree that for some women, when they don't have access to shelter, where their options are going to be exploited in a motel by the workers there, are going -- and not accessing a co-ed shelter -- or sorry, a women's-only shelter -- wouldn't you agree that for some women staying at the encampment may be a safer alternative?

A. I am going to keep saying that being in an encampment is not safe. What you're asking me is going to the motel safe? And I think that if people are -- and absolutely, we are -- you know, there are cases where women have been taken to motels to be sexually exploited. And I can't speak for staff at a motel.

But what I can say is that I think that there's a lot of assumptions in what you're saying. And that most people who are working within a business, including a motel, you know, if sexual assaults are being identified at the motel, I hope that that has been taken to the police. I hope that those people are no longer working at the motel and -- in question -- and I hope that the workers involved in placing people who are vulnerable which could include going to motels, would be aware of this information. And that the motels that they would be working with, would not include hotels where this has occurred.

Is gender-based violence a problem in our society? Absolutely. I would absolutely say that gender-based violence is a problem in our society. But to be able to say that overall, motels as a business are a less safe environment for a woman than an encampment, I don't have any information to be able to say that.

And I have much more information to say an encampment is not a safe place. And that most businesses are not going to be -- the owners are not going to be exploiting people that are coming to the hotels. That's ---

229. Q. Okay, so that's your overall picture

but let's assume for this hypothetical that you -- that the person living at the encampment knows that there is exploitation taking place at this motel. Would you agree ---

A. I would hope -- I would hope that when she is working with a individual plan, housing plan, with her worker, that that would -- information would be made available to the worker. And that that motel would not be considered an option for that woman. So absolutely, if somebody has experienced that, that needs to be -- first of all, that needs to be reported.

And hopefully -- I understand the difficulty that that can be but I think it certainly needs to be reported at a high enough level that other women aren't put at risk. Because holding that information alone could be putting other women at risk.

But in this individual case dealing with an individual housing plan, then that motel and perhaps even motels themselves might not be the right option. And that needs to be worked with the support worker to have a better option for someone who has had that experience. That does not mean I'd want to keep them in an environment that I know is dangerous.

230. Q. Okay.

A. Especially when we're looking at winter, the risk of having, you know, a cold event. You know, the frost bite that I have seen leading to loss of limbs and like fingers, toes and legs are in people that stayed in an encampment.

And I have cases of people who were vulnerable but didn't understand the risks of staying in an encampment, certainly didn't understand the risks of frost bite. And believed that because they were being supported by professional workers that were coming and giving care, that encampments were safe.

And they lost -- had life -- you know, some of them it can be more serious and just life-altering suffering. But the people that I've seen that had, you know, severe repercussions from cold-related injuries, particularly frost bite leading to amputations, retrospectively would take the shelter.

And I think that just the comparison of one thing or another, being in a -- being in a warm environment has its own set of being safe that you will not get when it's minus 10 in a shelter. So it's -- it's -- it's -- hypothetical takes away context and it takes away nuances, and takes away the overall picture that, in general, being sheltered is safer physically than being unsheltered including in an

encampment.

231. Q. No matter what the context of that shelter is?

A. I do not know of anytime that there is -- that I can think of -- I am sure there is -- this is where being in a shelter is not safer from a physical perspective particularly regarding the elements which is what I was just talking about, than being outdoors including in an encampment.

232. Q. Even if you're at risk of sexual assault?

A. If you're at risk of sexual assault, that does not change your risk of getting frost bite. So the risks of being in an encampment are high, including the risk of exposure. Going to a motel that you are at risk of sexual assault is not what I'd be recommending, obviously.

That when people are having a care plan, that needs to be part of the individual housing plan and looking at what is an appropriate motel. What is appropriate as far as any individual person. What they need to do as far as, you know, locking doors or having someone that they can call right away, partnering up with people, what they can do to mitigate this, the environment, to make it safer

wherever they are, that would be something that would be something that should be worked with their individual housing plan.

But being in a shelter, the people that I saw that had the most horrific injuries from cold -- and one I can think of that a tent fire severely damaged her face. The option of being, retrospectively, they would have taken the motel if they had -- or gone to -- I've seen people that had options but did not understand the risks of being in a -- sorry, the risk of being in an encampment and the risks of being outdoors.

And would have taken a shelter recognizing there can be some hypothetical risks to that shelter compared to the actual risks of being outdoors. So for the people that I've seen that have lost a limb, if I ask them the same question, I don't think they would necessarily give me the answer that this person is giving you.

233. Q. Okay.

A. Because she hasn't experienced the loss of limbs yet. But absolutely, if there is a shelter -- if there is a place where people are exploiting women, that needs to be exposed and it needs to be off the table as far as some place that woman would be

sent. And that should be known by the outreach workers.

234. Q. Okay, those are all my questions. Thank you very much.

A. Thank you. Thank you for the opportunity to answer your questions.

235. Q. Okay, thank you. Barbara or Mercedes, I wouldn't mind a bio-break, I think.

THE WITNESS: I think a break would be great.

MS. SCHIUTEMA: Yeah.

MS. PEREZ: Yeah, I mean, it's 12:12, so maybe if we can just have a short conversation. I mean, I need to eat something, too. I can't -- I can't proceed without least like maybe half-hour break to eat something or a 20-minute break to eat something. And go through the questions because I notice that Ashley did ask some of my questions. But, Andrew, I am just mindful of your email from yesterday where we asked you what Dr. Koivu's availability is today and you said she can stay a little bit past 1:00 but not too much.

MR. LOKAN: Okay, so we're good until 2:00.

She would have difficulty beyond that. So I am perfectly happy with a short break. And I also would want to know what to tell Peter when he should be standing by for.

MS. PEREZ: Yeah, I think the issue is that I have at least a similar amount of questions as Ashley. Like I don't think I'm ---

MR. LOKAN: So ---

MS. PEREZ: --- going to be done in an hour. So if we only have until 2:00 p.m. ---

MR. LOKAN: --- 12:30 until 2:00 p.m. is an hour and a half.

MS. PEREZ: Yeah.

MR. LOKAN: Why don't we do that?

MS. PEREZ: Okay. Sorry, 12:30.

MS. SCHIUTEMA: Sure.

MS. PEREZ: Let's see where we get.

MR. LOKAN: We're not bringing Dr. Koivu back. You need to plan these things including between yourselves. You know, we might be able to stay until like 10 or a quarter past 2:00 but we're not bringing her back. Unless a court orders us to.

MS. PEREZ: Okay, well let's come back right

at 12:30 then.

MR. LOKAN: Sure.

--- LUNCHEON RECESS

MADAM REPORTER: I'm good to go. We're on the record.

MS. PEREZ: Thank you. Good afternoon, Dr. Koivu.

THE WITNESS: Good afternoon.

MS. PEREZ: I wasn't here at the beginning of this cross-examination for a very short period of time due to some technical difficulties with my computer. And I missed a question I think of you being asked the pronunciation of your name. Did I pronounce it correctly?

THE WITNESS: Yes, you did.

MS. PEREZ: Okay, well, thank you for your patience with this process. My name is Mercedes Perez. I am a lawyer and I've been appointed *amicus curae* in this proceeding which means that I've been appointed to assist the court with respect to the interests of people who reside at 100 Vic,

are unrepresented by a lawyer and may lack capacity to retain and instruct a lawyer. So that's my role.

CROSS-EXAMINATION BY MS. PEREZ:

236. Q. I do have some questions arising from your affidavit, the one that you've been discussing up until now.

You were asked earlier about the term "living rough" and you gave an answer describing your understanding of the definition of that term. For the purpose of my questions here today, when I use the term "living rough" in this cross-examination, I am referring to people who are living outside but not in an encampment and specifically not in a tent. Okay?

A. Okay.

237. Q. At Paragraph 18 of your affidavit, you cite a study that found that unsheltered people experiencing homelessness have a 2.7-fold increased risk of mortality compared to those who are sheltered. This is the study at paragraph -- or sorry, at Footnote 27 ---

A. Yeah.

238. Q. --- of your affidavit. It's the Roncarati study titled "Mortality Among Unsheltered

Homeless Adults in Boston."

A. Yeah. I am sorry, what paragraph of mine were you looking at; I missed what you said when I was scrolling.

239. Q. No, that's okay. I was referencing Paragraph 18 of your affidavit.

A. Of -- okay, yes.

240. Q. And we have the study here on the screen.

--- SCREENSHARE

A. Mm-hmm.

241. Q. So first, can you confirm that this is in fact the study that you've referenced at Footnote 27?

A. Yes.

242. Q. Okay, thank you. I'd like to mark this study as an exhibit to the cross-examination. I think we're at Exhibit E?

MR. LOKAN: It would be a numbered exhibit if it's identified.

MS. PEREZ: Okay, sorry. So we are at Exhibit 2?

MR. LOKAN: Yeah.

1 MS. PEREZ: I can't remember. I think it's
2 No. 2.
3
4 EXHIBIT NO. 2: Roncarati study
5
6 --- SCREENSHARE
7
8 BY MS. PEREZ:
9 243. Q. Okay, so if we look at Page 2 of this
10 study and I don't know if it -- can you see it well on
11 your screen, Dr. Koivu, or is it a little small?
12 Could we maybe enlarge it a bit for Dr. Koivu? Is
13 that better?
14 A. Yes.
15 244. Q. Okay. And you'll notice with this
16 study and the ones that I'll be referring to later,
17 that I have tried to highlight the areas that I am
18 going to be taking you to, just to make it a little
19 easier for you to find things amongst all the text.
20 So if we look at Page 2 of this study under
21 the section "Importance" ---
22 A. Yeah.
23 245. Q. --- it says that:
24 "… Little is known about the pattern of
25 mortality among 'rough sleepers,' the

subgroup of unsheltered urban homeless people who avoid emergency shelters and primarily sleep outside …"

A. Yeah.

246. Q. And then if we look at Page 4 -- so if you go down to Page 4, there's a comment here:

"… A paucity of literature exists regarding the health status of unsheltered, urban homeless adults, also known as 'rough sleepers.' These elusive, yet highly visible unsheltered individuals eschew organized shelters and choose to sleep on park benches, in back alleyways, in doorways, under bridges, near train stations, and in abandoned cars …"

So this study, if I am understanding it correctly, it doesn't mention encampments or tents, it doesn't distinguish the study participants or the study people who are being observed ---

A. That's correct.

247. Q. --- (indiscernible) categories. You agree with that, right?

A. Yes, that is absolutely -- that people who are unsheltered it does not specifically identify

and people living in encampments, that is correct.

248. Q. And based on this definition here on Page 4, it appears that people sleeping in tents and in encampments may not even have been included.

A. I think though from the original -- going back to the definition that they had, it was sheltered or unsheltered. And my understanding was that unsheltered included people that were in tents.

You're right, in this particular line, the reference to tents is not there but they, I believe in another line, have referenced sheltered versus unsheltered. But there is no specific reference to people being in tents in this line. I would agree with that.

249. Q. Okay, but ---

A. There's limitations to this study.

250. Q. Right and I am going to ask you about those limitations but it's -- so you're saying there's a line in this ---

A. Go back ---

251. Q. --- (indiscernible) tent.

A. Go back to the first one you showed me again, if possible.

252. Q. Yeah, so that was on Page 2.

A. Yeah, I mean, it says, "To avoid and

primarily sleep outside." So with sleeping outside, I would include in "outside" people in tents. They have not identified that as a specific group but they haven't identified it as an exclusive group either.

So they've talked about sheltered and unsheltered and rough sleepers are people living outside. You're absolutely right that this is not -- there is very little information that would help know for sure the difference between different types of unsheltered. And my understanding from this article is that people in tents would be included in this.

But I wouldn't say that what you read later was exclusive but it certainly doesn't specifically include people living in tents.

253. Q. Okay. If we could just scroll down to Page 16. So this is the Limitations section of the article.

A. Yeah.

254. Q. And so if we look here at my highlighted sections:

"… Additional limitations included a lack of information about individual comorbidities …" ---

A. Yes.

255. Q. --- "… or the chronicity of being

1 homeless before or during the
2 observation period; both could have
3 contributed to a more nuanced
4 understanding of mortality risk in this
5 population …"
6 So does this mean that the authors
7 could not take into consideration individual
8 comorbidities or chronicity of being homeless before
9 or during the observation period and therefore
10 couldn't factor these issues into their analysis of
11 the cause of mortalities"?
12 A. Absolutely, there are limitations to
13 this study. I think what makes this study valuable is
14 that both -- any American study has limitations, too.
15 And I think that's really important. All American
16 studies have limitations because there's certainly
17 significant differences in the healthcare system and
18 social system within both the American and Canadian.
19 But what made this one I think of some value
20 is that everyone had access to the same types of
21 services in both of the groups. But there are
22 definitely limitations to this study. And you have
23 highlighted some of the limitations and I agree that
24 this study and essentially, most studies have
25 limitations in really having the nuances of knowing

what's happening within the unsheltered community compared to the sheltered.

But in this one I looked at unsheltered people with the same access to the same services as sheltered people. They found that 2.7-fold increase in mortality of unsheltered compared to sheltered. But you absolutely bring up important limitations of this study and all studies as far as the nuances of who the unsheltered are, what that means.

And they didn't do an assessment before and after of either group and could some of those factors affect the outcome? Absolutely. I think what makes it important is that it's kind of consistent with other studies. But also that both groups had access to the same services which isn't always the same in every community but there are definitely limitations to this study.

256. Q. I was going to ask you about the fact that it's in Boston. You already touched upon some of the limitations with American studies related to access to healthcare, for example.

But if we look -- I didn't -- I neglected to highlight this. But if we just look at the next paragraph, it says, "Choosing Massachusetts" -- sorry, sorry, the third paragraph. So it's the last

paragraph on this page:

"… Generalizability to cities outside Boston could be affected by difference in access to homeless shelters, health insurance, and health care. Boston guarantees each homeless person access to emergency homeless shelters each night …"

So that -- setting aside the healthcare issue, the fact that at the time that this study was conducted, Boston guaranteed each homeless person access to emergency homeless shelters each night. That's an important limiting factor when trying to compare these results. For example, to the Region of Waterloo where we heard earlier that there is a big discrepancy between demand and supply.

A. I think it's tragic that in Boston they are able to do that and we aren't here. But, yes, you're absolutely correct that are definitely differences between the communities.

257. Q. Okay. And then also another characteristic of Boston's shelters mentioned here is the limitations. This is in the middle of the paragraph and I apologize that I forgot to highlight this:

"… Most of Boston's shelters have few limits on the length of stay and have little to no requirements regarding sobriety. These shelters accept individuals struggling with alcohol and other drugs, an important factor in minimizing the number of unsheltered individuals in Boston …"

So are you aware that in Ontario many shelters do place these kinds of restrictions, length of stay might be restricted, whether someone needs to comply with sobriety requirements might be restricted. Are you aware of that?

A. Yeah.

258. Q. Okay. So that would also be an important limitation as to what we can extrapolate from this study and try to apply it to the circumstances in the Region of Waterloo?

A. That is correct, there are limitations to this study.

259. Q. Okay. Thank you. And now turning to Paragraph 17 of your affidavit. Here, you've written:

"… Encampments pose extensive health and safety risks to the people living in the encampments as well as public

1 health and safety risks to the
2 community …"
3 And you've cited a bunch of studies
4 that are listed in your footnotes. The first is found
5 at Footnote 6, so this is the Foster article about
6 Hepatitis A virus outbreaks associated with drug use
7 and homelessness.
8 A. Yeah.
9 260. Q. Okay, and so if we can just -- and
10 again, if you could -- Charlotte, if you could make
11 the printing, the font larger, that would be helpful.
12 A. Thank you.
13
14 --- SCREENSHARE
15
16 261. Q. Okay, so this is the study, this is in
17 fact the study referenced at Footnote 6 of your
18 affidavit?
19 A. Yes, I believe so, yes.
20 262. Q. Okay, so I'd -- thank you and so I'd
21 like to mark this as an exhibit to the cross-
22 examination. I believe it will be Exhibit No. 3.
23 MR. LOKAN: That's fine.
24 MS. PEREZ: Okay.
25

1 EXHIBIT NO. 3: Foster Study
2
3 BY MS. PEREZ:
4 263. Q. So if we look at just Page 1 -- sorry,
5 just give me one second, I am going to pull it up on
6 my screen. Okay, so if we look at just the very first
7 highlighted section:
8 "… During 2017, CDC received 1,521
9 reports of acute hepatitis A virus
10 infections from California, Kentucky,
11 Michigan, and Utah. The majority of
12 infections were among persons reporting
13 injection or non-injection drug use or
14 homelessness …"
15 So first of all, from my reading of the
16 article, I didn't see that homelessness was defined as
17 restricted to encampments or even involving
18 encampments at all. Is that your understanding?
19 A. It was not specific to encampments, no.
20 264. Q. Okay. And the study also, from my
21 reading of it and I'll ask you to confirm, it doesn't
22 indicate what percentage of the 57 percent acquired
23 acute Hepatitis A infection from being homeless as
24 opposed to using drugs or both being homeless and
25 using drugs. Like it doesn't ---

A. It does not ---

265. Q. --- segregate that data.

A. No, it does not segregate that data.

266. Q. Okay, and if we just scroll down a little bit on Page 1, there's a section titled, "Public Health Response." Do you see that?

A. Yes.

267. Q. And then I have a highlighted section where the authors reference:

> "… In certain jurisdictions, investigation teams also visited homeless encampments to educate and vaccinate unsheltered homeless groups …"

So first of all the vaccination against Hepatitis A is considered, I guess, a robust public health response to transmission, correct?

A. Yes.

268. Q. Okay, and would you agree that if we're comparing homeless individuals living in encampments versus those living rough, as I defined that term earlier, it would be easier for public health teams to reach homeless individuals residing at the encampment because they know the location of the encampment? As opposed to running around trying to find people

sleeping under bridges and in bus shelters, etcetera?

A. The risk of the transmission of Hepatitis A is greater in a group. So the risks of getting Hepatitis A if you're isolated is significantly different from the risks of getting Hepatitis A or any of the other communicable diseases are really about the risks of being in a group.

So you're absolutely right that if you're in a specific area they can reach you but that is why they're reaching you is because being in that area puts you at risk of getting a transmissible communicable disease or a disease such as Hepatitis A.

So your risk is higher because you're in the encampment. And, yes, they are able to reach out and do more on harm-reduction with this sense of a vaccine in an encampment but they also need it there more. So it's -- it's both.

You need it because you're in a group and those sorts of things transmit in a group. But you are able to be found in a group.

269. Q. Okay, so what I understand from your answer is that the risk of transmission might be higher in an encampment but it's also the encampment itself is a form of harm-reduction because it makes it easier to find people and educate and vaccinate them?

A. No, I said giving everybody a vaccine is a form of -- sorry, I am very sorry if that's how it sounded. The vaccine is a form of harm-reduction. Your risk is increased because you're in the encampment and in that environment and then a -- reducing that risk is being able to give the vaccine.

But your risk itself increased because you're in the encampment. The encampment doesn't make it a form of harm-reduction. You've had the increased risk of getting the disease. But then they will bring the form of harm-reduction to you.

So I think it's a nuanced answer, I feel like it's a bit different angle than what you're saying. But the risk of getting the disease in the first place is higher because you're in the encampment. So the encampment itself as a form of harm-reduction increases your risk.

But by being there, they can bring you the form of harm-reduction which is the vaccine. So I'm feeling like we're looking at it a little bit differently. I don't think being at the encampment itself is harm-reduction because it increased your risk of getting the problem in the first place.

270. Q. But this study doesn't fully support your statement that the risk of acquiring Hepatitis A

is greater in an encampment because ---

A. The fact of acquiring any communicable disease is greater if you're in any type of group setting as opposed to spread in an individual. And so that to me is sort of a given about communicable diseases. They spread where people are close together.

And this -- but as you point out, when you're close together they can get the access to the vaccine. So but I would say definitely people being in a group are more at risk because they're in the group.

But this -- I have to go over the nuances of this article but I would agree with the limitations that you have outlined, that it doesn't differentiate between homeless and injection drug use as well as specifically highlighting why this group was at risk in the first place.

271. Q. In general, though, Hepatitis A outbreaks are actually quite rare in Canada. Do you agree?

A. Yes, I would agree.

272. Q. And the vast majority of those outbreaks are actually attributable either to elementary schools or contaminated foods that are sold

in grocery stores. Would you agree with that?

A. I don't have that data but I do know that there are very few that are associated -- that sounds consistent with my information but I could not say that that is completely accurate. But it is consistent with my experience and my understanding of Hepatitis A outbreaks in Canada.

273. Q. And do you have any knowledge of any Hep A outbreaks either at 100 Victoria Street in Kitchener?

A. No.

274. Q. Or any other encampment in Canada?

A. No.

275. Q. And Hepatitis A outbreaks have occurred within emergency shelters and drop-in centres, correct?

A. I believe that has been documented. Correct.

276. Q. Okay. Another one of the articles or studies that you cite at Paragraph 17 is found at Footnote 9. This is the Haber study called, "Transmission of Hepatitis C virus by needle stick injury in community settings." So if we could put that one up on -- thank you. And make it a little bit bigger.

--- SCREENSHARE

277. Q. Okay, so the first question, Dr. Koivu, is just can you confirm that what we put on the screen here is, in fact, the article?

A. Yes, it is.

278. Q. And so I'd like to have that marked as an exhibit to the cross-examination. This will be Exhibit No. 4.

EXHIBIT NO. 4: Haber study

279. Q. And so this -- just give me one second. I didn't highlight anything here and if you need some time to review it. I know you have a lot of studies footnoted in your affidavit, so if you'd like some time to review it, please just let me know.

My understanding is that this study focuses on just two case studies, correct?

A. Yeah. I believe so.

280. Q. Okay. Relating to what's referred to as "needlestick injury." The first ---

A. Yeah.

281. Q. --- is a -- the first case study which was described starting at Page 1 is a case study of a

1 young man working in a caravan park sustaining a
2 needlestick injury to his right index finger while
3 manually emptying rubbish bins.
4 And the second case study which is described
5 at Page 2 relates to a 64-year-old woman who stepped
6 on a used syringe in (indiscernible) needle while
7 walking through a public carpark in an inner-city
8 neighbourhood with a high prevalence of injection drug
9 use.
10 A. Yeah, that is correct.
11 282. Q. Okay, so I mean, generally we can't --
12 in terms of methodology, and in terms of trying to
13 extrapolate from case studies -- I mean, it's hard to
14 generalize from case studies, would you agree?
15 A. Case studies, they are not -- yes, case
16 studies are not high-level evidence. But they do
17 highlight that when people step on a needle, there is
18 steps they have to take that can make it very
19 stressful for them.
20 And those are examples that, you're right,
21 case studies and surveys, you know, individual surveys
22 and case studies are not high-level evidence but this
23 is sort of examples of people's experience. And this
24 is not specific to encampments either.
25 This is just stepping on or acquiring --

well, in one case stepping, in the other case collecting garbage of what people have to go through when they have a needlestick injury.

283. Q. Right, so let's -- these two case studies illustrate that Hepatitis C can be transmitted by a needlestick injury.

A. Yes.

284. Q. But you would agree with the comment at -- if we could just go to Page 3 of the article and then just looking at the second column, the first full paragraph, it says:

> "… Needlestick injuries from discarded injecting equipment in public places are considered to pose a very low risk …"

A. That is correct. But what they -- as far as risk of transmission, they do pose low risk of transmission, not no risk of transmission. But they also pose a significant amount of stress and requirement on the person who has had the needlestick injury to seek medical attention and to be tested.

The probability of getting Hepatitis C or HIV from a needlestick injury in the community is actually fairly low but not zero. But the stress someone has to go through when they've had a

needlestick injury is very real.

285. Q. All right. And are you aware of any Hepatitis C transmission at the encampment at 100 Victoria Street?

A. No, I am not. I am not aware of medical issues involving people at Victoria Street at all. So I have no access to personal or medical information about people who are at Victoria, 100 Victoria, or people who have worked there. I have no access to their personal/private information.

286. Q. Right and I understood that from some of the answers you gave earlier that probably no one at 100 Victoria Street has been your patient.

A. Not that I know of, yeah.

287. Q. Yeah. But I'm just asking that question in case you've heard something through other means. But it sounds like you haven't with respect to this specific question.

A. No.

288. Q. Another article that's cited at Paragraph 17 of your affidavit is the one at Footnote 18, this is the Liu article which is titled, "Communicable disease among people experiencing homelessness in California."

So we pulled that up on the screen. Maybe

if you could just -- is that a good size for you, like is it ---

--- SCREENSHARE

A. I see that, yeah.

289. Q. --- (indiscernible).

A. And I can confirm that is the article.

290. Q. Okay, thank you. So I'd like to have that marked as Exhibit No. 5 ---

MR. LOKAN: Sure.

MS. PEREZ: --- to this cross-examination. Thank you.

EXHIBIT NO. 5: Liu study

BY MS. PEREZ:

291. Q. So if we just look -- if you just scroll a little bit down on Page 1. Again, I've highlighted some text here. The study right off the bat identified that the definition of a person experiencing homelessness differs by government agency in the U.S. and it cites two different definitions.

One from the U.S. Department of Health and Human Services which defines a homeless individual as

one who lacks housing which includes an individual whose primary residence during the night is a supervised public or private facility that provides temporary living accommodations. And an individual who is a resident in transitional housing.

And then a different -- a somewhat different definition from the U.S. Department of Housing and Urban Development which expands the definition to include people living in unstable housing arrangements such as motels, personal vehicles and tents.

So this -- so the conclusion -- and then I'll ask you about some of them that are drawn in this paper -- are not -- pertain not just specifically to homeless individuals living in tents in an encampment, correct?

A. Correct.

292. Q. So we can't -- okay, sorry, I'll start my question again. So it looks at the incidents of communicable diseases among the entire homeless population and doesn't draw any specific conclusions related to people living at encampments, correct?

A. That is correct.

293. Q. Okay, look at the bottom of Page 2 of this study. So this is under the title in the first column that I've highlighted where it says,

"Homelessness and communicable disease risk." It says, PEH, which I understand to be the acronym for "persons experiencing homelessness":

> "… Living in crowded conditions such as shelters have greater exposure to pathogens, which increases the risk of tuberculosis and diarrheal illnesses …" Do you agree with that comment?

A. Yes. Any crowded condition such as a shelter or an encampment would increase the risk of pathogens.

294. Q. Okay, but in here they're just referencing shelters, they haven't referenced encampments.

A. They said, "crowded living conditions" and then they said, "such as," so, yes, they said crowded living conditions such as. But they have not identified specifically encampments. They have identified specifically shelters.

295. Q. Okay. And then if we go to Page 7 -- sorry, just let me -- give me one second. There was a comment in -- on Page 7 in the second paragraph that:

> "… Exposures in congregate living situations such as homeless shelters may increase the risk of TB exposure

among persons experiencing homelessness …"

You would agree with that statement, correct?

A. I would agree with that statement and point out why Canada is significantly different from the States as far as response which is in another -- I talk about TB specifically. The coroner's case that was involved in the case in Toronto and how shelters specifically, absolutely had an -- you know, TB exposure in a shelter was an issue and how following the coroner's case, we've been able to recognize the issue and put processes in place within a shelter to help decrease the risk of transmission of TB as well as respond to it if it does happen.

But so, yes, being in a congregate area gives you an increased risk. We've been able to identify that within Canada and have specifically addressed TB as something that we've been able to reduce within shelters. And have really good success as far as treatment within shelters. That, to my knowledge, is not available within other areas of congregate living such as encampments.

296. Q. I'll ask you about that TB study in -- or the TB example that you gave -- given another

paragraph later on. But just sticking with this article, on Page 8, there's -- at the top of the page, it says:

"… Limited evidence suggests that housing will be beneficial for other groups as well. Among chronically ill homeless adults, permanent supportive housing was associated with decreased mortality. Permanent supportive housing programs provide a suite of healthcare and social services to help individuals stay healthy and housed …"

Do you agree with that?

A. Yes. The goal should be housing.

297. Q. And then on Page 8 there are some limiting factors that are identified. One of them which is down at the bottom of the first column on Page 8, it says:

"… Disease incidence among persons experiencing homelessness may be overestimated due to undercounting of the true population of the people who are homeless …"

So (indiscernible) agree that that is a limiting factor not just in this study but can be

generally when trying to make conclusions about these rates or incidences of communicable disease transmission?

A. Yes, there can be limitations in study methodology being able to track people who are homeless.

298. Q. Okay. And are you aware of anyone having acquired syphilis at an encampment?

A. Not specifically syphilis. I am aware of sexual transmitted disease transmission within an encampment but not syphilis specifically, no.

299. Q. Okay, and what about -- is there a Canadian study that looks at a similar issue as what is being looked at in this American study? Do we have Canadian data?

A. The -- the data from the study -- there's two studies that I've mentioned that are Canadian. One is "Homelessness and Vulnerably Housed" study which looked at Toronto, Ottawa and Vancouver, I believe. And the other one is a study out of -- that's Nikoo which I think is my ---

300. Q. Oh, that's the Vancouver study.

A. Yeah. Which -- Vancouver, yeah. That study are both Canadian studies that look specifically at Canada.

301. Q. I'll be asking you about one or both of those later. So just returning to Paragraph 17 of your affidavit, you also cited footnote -- a study which is found at Footnote 19 of your affidavit. This is the Moore study, Canadian Pediatric Society, "Needlestick injuries in the community."

So if we could just pull that up on the screen and, Dr. Koivu, if you could just confirm that this is the study or ---

A. Yes.

302. Q. --- paper, position statement, I guess I should call it.

A. Yeah.

303. Q. That's at Footnote number 19?

A. Yes.

--- SCREENSHARE

304. Q. I'd like to have this marked as an exhibit to the cross-examination. I think it's Exhibit No. 6.

MR. LOKAN: That's fine. I don't know about the number but marking it is fine.

MS. PEREZ: Okay. Yeah, I am losing track. Anyway, it's an exhibit to the cross-

1 examination. We can figure out the numbers
2 later.
3
4 EXHIBIT NO. 6: Moore, position statement
5
6 BY MS. PEREZ:
7 305. Q. Okay, so this is a position statement
8 as opposed to a research study, correct?
9 A. Yes, that's correct.
10 306. Q. But you would agree with the comment on
11 Page 1 that I have highlighted, the first one, that
12 the risk of infection from needlestick injury is
13 extremely low, you agreed to that previously.
14 A. Yes, I did. I agree with that.
15 307. Q. And then you would also agree -- well,
16 tell me if you'd also agree with the other statement I
17 have highlighted here:
18 "… To date there have been very few
19 case reports of HBV, HCV transmission
20 and none of HIV transmission following
21 needlestick injuries or needles
22 discarded in the community …"
23 A. Yes, I believe that to be still
24 correct.
25 308. Q. And I believe that you said earlier

that HIV transmission -- well, let's just look at Page 5 of this position statement from the Canadian Pediatric Society. It says on Page 5, right there:

"… It is extremely unlikely that HIV infection would occur following an injury from a needle discarded in a public place …"

Do you agree with that?

A. It's very unlikely.

309. Q. Okay. And ---

A. But again as we talked about with the last case involving needlestick injuries, it's the stress of what people have to go through regardless of whether they have HIV, they have to go be seen medically, they have to get tested, they have the anxiety associated with it. The risk isn't zero, it's unlikely.

But the process regardless of whether it's likely for, no. I also would say having seen the site, the probability of a child walking through that specific site at 100 Vic, is extremely low. So, yes, that -- that is very unlikely.

But if anyone has a needlestick injury that is at 100 Vic, workers there, people collecting the garbage, people who are cleaning the toilets or

security, they would have to go through the process of determining whether they have an infection which is -- there can be, in my experience for people who have had that, it's very stressful. Had that experience of having a needlestick injury, it's very stressful.

And I think that's why these are still important even though the risks of transmission is low, the need for follow-up and the stress associated with it is quite real.

310. Q. Finally, going back to Paragraph 17 of your affidavit, you've referenced one more document at Footnote 35. This is the National Health Care for the Homeless Council, a document from December 2022. It's called an "Issue Brief: Impact of Encampment Sweeps on People Experiencing Homelessness."

So first of all, can you just confirm that this is the document that is listed at your Footnote 35?

A. Yes.

311. Q. Thanks. And I'll have some specific -- and, sorry, I'd like to mark this as an exhibit to the cross-examination.

MR. LOKAN: That's fine.

--- SCREENSHARE

1

2 EXHIBIT NO. 7: Issue Brief, Dec. 2022

3

4 BY MS. PEREZ:

5 312. Q. And just generally, I reviewed this

6 Issue Brief and it appears that it focuses on the

7 impact of encampment sweeps on people experiencing

8 homelessness, not on the health and safety risks posed

9 by encampments?

10 A. If you look at the first sentence of

11 Paragraph 2, you've highlighted not the first

12 sentence.

13 313. Q. Yeah.

14 A. This is really is about encampment

15 sweeps but even in an article that's talking about

16 encampment sweeps, it specifically says:

17 "… Encampments are unsafe, violent, and

18 unhealthy places, and public health

19 officials are rightly concerned about

20 the impact of these congregate settings

21 on vulnerable people …"

22 So that -- that context is where -- so

23 this -- this is dealing with encampment sweeps as a

24 general part of this. Even an article that's dealing

25 with encampment sweeps is clearly stating that

1 encampments are unsafe, violent and as I've read.
2 So it's that -- perhaps that sentence per se
3 is what I am actually referencing when I reference in
4 this article. Because, you're right, this is
5 primarily dealing with encampment sweeps but even in
6 that, it's recognizing the risks of encampments.
7 314. Q. Okay, so I did see that one sentence
8 that's -- I mean, it's a -- it may be repeated once or
9 twice in this paper, I can't recall right now. There
10 might be another sort of duplication of that sentence.
11 It's not cited to anything. It's just a sentence. Do
12 you agree with that?
13 A. Yes. I didn't see -- I don't see a
14 citing of that, yes.
15 315. Q. Right. Okay. And otherwise, as you
16 agreed, this -- this paper looks at the impact of
17 encampment sweeps on people experiencing homelessness.
18 An encampment sweep is also -- is a term that can
19 refer to an encampment clearing or eviction or closing
20 down of an encampment. That's the same thing? I
21 think this is an American ---
22 A. No, I mean, encampment sweeps tend to
23 be -- a more forced removal of people. So a planned
24 dismantling of an encampment wouldn't be what I would
25 consider being specifically a "sweep." A sweep would

1 include less notice, possibly property being taken
2 away, and more of penalizing people. And removing
3 them in a different -- not -- not in a planned,
4 organized dismantling event.
5 316. Q. Okay. If we look at Page 2 of this
6 Issue Brief, it says:
7 "… Second, while some shelters are
8 well-run and fully-resourced, others
9 can be unsafe. There are threats of
10 violence, theft, increased substance
11 use and sexual harassment by shelter
12 staff and residents …"
13 So -- sorry, I'll just break down my
14 question. First of all, do you agree that while some
15 shelters are well-run and fully-resourced, others can
16 be unsafe? Do you agree with that?
17 A. I don't know of an unsafe shelter in
18 Canada. I think that the level of safety within a
19 shelter depends on the resources that are available to
20 it. So, yeah, I can't comment that I know of any of
21 what I would say is truly unsafe shelter in Canada. I
22 am not aware of that.
23 317. Q. The second sentence says:
24 "… There are threats of violence,
25 theft, increased substance use and

1 sexual harassment by shelter
2 staff and residents …"
3 Is that something you agree with?
4 A. Again, I would say that there can be
5 some issues within shelters. My experience has been
6 that they are significantly higher outside of shelters
7 and that shelters mitigate them.
8 318. Q. This paragraph is within a section of
9 this paper that's titled, "Factors that Drive
10 Encampments." And if you need some time to review it,
11 you can but I am just wondering if you generally agree
12 that these are factors that can drive encampments.
13 There's -- I mean, we can go through them
14 one-by-one, but just in the interest of time, if
15 you're familiar with these paragraphs, I mean, do you
16 generally agree with what's written in these three
17 paragraphs?
18 MR. LOKAN: Mercedes, I think in the
19 interest of time, it might be better to do
20 that by way of undertaking. That we'll look
21 at it and advise if there is anything that
22 the witness does not agree with in those
23 paragraphs?
24 THE WITNESS: Sorry, I am having trouble
25 seeing what -- where you are looking. So --

MS. PEREZ: So you have to -- sorry, you have to start -- see, right here is -- on Page 1, there is a heading, "Factors that Drive Encampments" and then the Issue Brief, according to my reading of it, has a few paragraphs in that section that describes some factors that drive encampments.

BY MS. PEREZ:

319. Q. And my question is simply whether you agree that the factors identified in this section can drive encampments?

MR. LOKAN: Again, I think it's more efficient to do by way of undertaking so that your time is preserved.

MS. PEREZ: That's fine.

THE WITNESS: I think that there are things that can drive encampments. Absolutely there are factors that can drive ---

MR. LOKAN: Dr. Koivu, when I -- when we've given an undertaking, it means we're going to do it after in writing. And so we don't ---

THE WITNESS: Okay, sorry.

MR. LOKAN: --- interrupt her ---

1 THE WITNESS: All right, sorry. Thank you.
2 MS. PEREZ: Okay.
3 **UNDERTAKING**
4
5 BY MS. PEREZ:
6 320. Q. And then maybe we can do the next
7 question by way of undertaking as well.
8 Dr. Koivu, you already described your
9 understanding of encampment sweeps. And if we look at
10 Pages 3 down to -- 3 to 7 -- actually just 3 to 6. I
11 am less interested in the factors on Page 7.
12 So the -- what the author's titled, "Damage
13 Health, Well-Being, and Connections to Care." So
14 they're documenting, according to them, some of the
15 damages that they think arise from encampment sweeps.
16 If you could review those pages, Pages 3 to
17 6 and tell me whether you agree with some or all of
18 the types of harms that are identified?
19 A. I think that an encampment sweep that
20 is about doing things abruptly, doing things without
21 notice, doing things that include taking people's
22 property, there can be significant harm from that form
23 of an encampment sweep.
24 Which is why it is extremely important that
25 when an encampment is dismantled, it is done in a

different format where people have an understanding, a timeline, hopefully choices of where they can go other than the encampment. That their property is not destroyed, that they have sufficient time to pack up their belongings if they have things they need to move.

So I think that absolutely a sweep of an encampment, a sudden, forced event is something that I would not be -- I would feel is not in the best interest of the people within the encampment.

And that there needs to be a much more humane way to address moving people from an encampment than the destructive way that can happen within a sweep.

MR. LOKAN: So, Mercedes, I take it you still want the undertaking? You've got those answers on record but do you still want the undertaking?

MS. PEREZ: I would like that undertaking, thank you.

MR. LOKAN: We'll give that, thank you.

MS. PEREZ: But thank you for the answer, Dr. Koivu.

UNDERTAKING

BY MS. PEREZ:

321. Q. Okay, just turning to Paragraph 18, the second -- of your affidavit, the second sentence is a statement that:

"… Encampments are not a safe alternative to housing or to a shelter …"

And you've cited two studies here ---

A. What paragraph are we on? I'm sorry.

322. Q. Sorry, no, that's okay. Paragraph 18 and I am specifically looking at the second sentence in your paragraph.

A. Okay.

323. Q. So you cited two documents, the first is found in your Footnote 5 which is the Farha and Schwan paper, "A National Protocol for Homelessness Encampments in Canada: A Human Rights Approach."

So if we could just put that on the screen for you. And if you could maybe make it a little bigger.

So first, do we have the correct paper here, up on the screen?

--- SCREENSHARE

A. Yes, we do. Yes, you do.

324. Q. We do, thank you. Okay, so if we can mark that as exhibit to the cross-examination.

MR. LOKAN: Yes. I think it's Exhibit 8.

MS. PEREZ: Thank you.

EXHIBIT NO. 8: Farha and Schwan document

BY MS. PEREZ:

325. Q. If we go down to Page 7, I've put a little highlighted mark there in red. So looking at Paragraph 7:

"… The purpose of this document is to provide all levels of government with an understanding of their human rights obligations with respect to homeless encampments, highlighting what is and is not permissible under international human rights laws …"

So the main -- the purpose of this article is not to convey the results of the study concluding that encampments are not a safe alternative to a shelter, correct?

A. One of the comments specifically in this study is that encampments should not be

1 considered -- and I don't have the sentence in front
2 of me but encampments should not be a replacement for
3 housing. And there is a specific -- again, perhaps
4 I'm taking -- you know, there is specifically
5 something in here that in spite of the -- and it's
6 talking about encampments but it does say that they
7 are not a safe alternative to housing.
8 326. Q. Right, but the authors also recognize
9 that encampments, they're both a human rights
10 violation but also a response to a human rights
11 violation.
12 MR. LOKAN: I am going to object to any
13 question about whether they do or don't ---
14 MS. PEREZ: Well, it's ---
15 MR. LOKAN: --- violate human rights.
16 MS. PEREZ: Okay, I mean, it's in -- I can
17 find the specific ---
18 MR. LOKAN: And you can argue it on the
19 application but this witness is not tendered
20 for knowledge of human rights.
21 MS. PEREZ: No, I understand that. But this
22 article is being put forward as an article
23 that supports that encampments are not a
24 safe alternative to housing or to a shelter.
25 And so I just ---

MR. LOKAN: And that's adopted for that purpose, yes, but that doesn't mean that there's either an agreement or disagreement with the rest of the article.

THE WITNESS: And I would agree with that. Specifically that I've -- you're right, I have taken out something in this article that specifically says that encampments should not be considered a humane or safe alternative to housing. I have the sentence that I used written down but I don't have it in front of me.

So I think why it's important is because I've -- I feel like there has been -- I want to make sure people recognize that when we're discussing encampments, they are not safe. These are people that are talking about encampments and there's even in this article, it does say that there can be times when encampments do need to be dismantled.

And so within this article they are saying they are not safe, we should not consider these instead of housing. And that there can be times when encampments do need to be dismantled. Those are why I think

it's relevant. There's -- they have lots of information here that may or may not be, you know, what I was looking at and highlighting.

But in this large document, their conclusion isn't -- is that encampments are not to be thought of as replacing housing. And are not -- the endpoint that we are striving for, are not encampments.

BY MS. PEREZ:

327. Q. The authors don't just recognize that encampments don't constitute adequate housing, they also take the position that it's both encampments and shelters are recognized as inadequate housing.

Do you agree, first of all, that that -- so I can find you an example where they say that if we go to Paragraphs 13, 14 and 16. They recognize -- it's not just encampments. It said encampments and shelters are inadequate housing and that governments need to create adequate housing for all people.

Do you agree?

MR. LOKAN: I'm sorry, this is straying from the medical opinion. If you want to ask if this witness has any comment from her

medical expertise on these paragraphs by way of undertaking, I am happy to give that.

MS. PEREZ: Okay. The sentence in the affidavit says, "encampments." So this is at Paragraph 18:

"… Encampments are not a safe alternative to housing or to a shelter …"

And so, my question is related to that comment. And the use of this article to support that comment, this article also finds that shelters do not constitute adequate housing.

And I also believe that it doesn't say anywhere that encampments are not a safe alternative to a shelter. And so I am putting that to Dr. Koivu. If she disagrees, she can tell me that. But I am giving her a chance to respond given that she's using this paper to put forward a proposition in her affidavit.

MR. LOKAN: I agree, Mercedes, that it's a fair question to ask where in this paper did you find support for the proposition that encampments are not a safe alternative to a

1 shelter, and focusing on that.
2 It's a long article, and again, let's
3 perhaps ask for an undertaking what part of
4 the paper did she rely on to support that
5 specific proposition. I am happy with that.
6 MS. PEREZ: Well if -- I mean, can Dr. Koivu
7 answer the question now or …?
8 THE WITNESS: I'd have to look at the -- my
9 having read this article, my -- I took from
10 this article that encampments should not be
11 considered an alternative to housing. And
12 they are not a safe alternative to housing.
13 I agree that shelters are not the
14 endpoint either. But I also would feel that
15 they are safer than being in a shelter. But
16 where I use this specific article was in
17 comments regarding encampments not being the
18 endpoint.
19 And I feel perhaps my language is not
20 clear but I think it's important that we do
21 not think of shelters as an endpoint. That
22 we -- our goal should be housing, our goal
23 should be not maintaining and sustaining
24 shelters but trying to find alternatives
25 that are safer than shelters. The endpoint

-- sorry, safer than encampments.

The goal shouldn't be encampments; the goal should not be that encampments are where we need to stop and be encouraging people to stay in that type of an unsafe environment. And I felt from what I read in this, that they supported that encampments are not where we should be stopping. We don't need to stop at encampments.

We shouldn't be preventing them from -- preventing people from finding alternatives that are safer than encampments. And I felt that this article actually supports that.

There's a lot of other things within this article and I'd have to find the exact reference to that. But they're right, shelters alone are not the endpoint as well. But they're not talking -- from that perspective, I didn't see that as much as the safety as an endpoint.

BY MS. PEREZ:

328. Q. Okay, sorry. So just that was -- that was a very long answer. I just want to be clear.

Are you saying that you made a mistake in

your statement in Paragraph 18 that -- when you say that encampments are not a safe alternative to a shelter, that this article supports that? Or are you saying that you need time to review this paper so that you can tell me where it says that encampments are not a safe alternative to a shelter?

A. I would say I need time to review where that is.

329. Q. And that's fair. So why don't we -- that will be the undertaking, Andrew, if that's okay?

MR. LOKAN: Yes.

UNDERTAKING

BY MS. PEREZ:

330. Q. Okay, and then you've cited another article here. It's found at Footnote 16. This is the Cortez (ph) ---

A. Oh, yeah.

331. Q. --- Baggett (ph) and it's called, "Permanent Supportive Housing for Homeless People." And I couldn't find that article. Could I have an undertaking that we be provided with a copy of that?

MR. LOKAN: Yes.

UNDERTAKING

MS. PEREZ: And then … Okay, that's it.

BY MS. PEREZ:

332. Q. So just moving on in your affidavit. I'll take you to specific paragraphs. But you make several comments in your -- you include several comments and observations in your affidavit respecting tents.

So, for example, at Paragraph 21, you talk about tents are largely ineffective at preventing injury from exposure. And shouldn't be regarded as a safe alternative to indoor shelters.

And then -- and so for that specific statement, you haven't provided a citation, correct? That paragraph (indiscernible)?

A. There is no citation in that sentence, no.

333. Q. Yeah. But you have provided some other citations in other paragraphs so I'll ask you about those in a second.

But just generally when I reviewed your CV, I take it that you're not holding yourself out as an expert in tents, tent structures, the different types of tent when they're properly used to mitigate certain risks of exposure to the elements?

A. I am not an expert in tents.

334. Q. Okay.

A. And I provided information that would be the type of information that, as a physician, I would want to have aware that I would share with patients.

Once I started -- I was doing my work for an awfully long period of time and rarely saw any frostbite. And then saw frostbite leading to significant suffering and loss of digits and limbs involved in being in a tent.

And essentially, all of the patients that I saw with significant frost bite and suffering related to frost bite and hypothermia, were in a tent. And many believed that they were safe because they were in a tent.

And really, I am just trying to give information that would be -- give an understanding that tents have significant limitations. Particularly when we're looking at hypothermia and frost bite. And that I think it's important for people to be aware of those limitations. I am not an -- I've done a lot of camping but I am not an expert in tents.

335. Q. Paragraph 36 of your affidavit, you have some more specific information on, I guess, some

of the limitations to using a tent.

A. Yes.

336. Q. Specifically, you're discussing here the air temperature within tents that are shaded with a sun umbrella tarp or a bedsheet.

A. Yeah. Yeah, this was particularly relating to summer and to problems with tents in heat.

337. Q. Okay, and so you cited a study which is a study found at Footnote 14 of your affidavit. This is the Karanja paper that's titled, "Sheltered from the heat: How tents and shade covers may unintentionally increase air temperature exposures to unsheltered communities."

A. Yes.

338. Q. We've pulled that up on the screen. And again, if you just confirm that we have the correct article here. This is the article cited at Footnote 14?

--- SCREENSHARE

A. Yes, I believe so.

339. Q. Okay, and can we mark that as an exhibit?

MR. LOKAN: Yes.

MS. PEREZ: Okay.

EXHIBIT NO. 9: Karanja study

BY MS. PEREZ:

340. Q. So if we scroll down to Page 6, this is under the section which starts on Page 4, it's the Discussion section. And I'm just moving down to some of the discussion on Page 6.

And here, the authors do note that:

"… Allowing heat to escape tents through minimizing covers and opening tent windows and doors to avoid trapping heat and moisture will support cooling …"

A. Yes.

341. Q. Okay. And so that means that in terms of a risk of increased air temperature inside a tent, it does depend on how -- what kind of tent is being used and how it's being used.

Would you ---

A. Yes.

342. Q. --- agree with that based on your ---

A. Yes.

343. Q. --- knowledge? Okay.

A. Well, I can't say specifically about what kind because I don't have that kind of background and this was referencing one tent. But how tents are used -- and which is why certainly my concern about encampments is when I have been to them and when I've seen pictures of encampments, often the tents are closed and not opened.

And I think there's issues around privacy, there's issues around use, there can be many issues. But I do not have -- have never had someone tell me that -- that this was something that was discussed with them in advance, and that they had a good understanding of the risks of being alone with their tent closed and what risks it could have.

But absolutely how it's used will, to a degree, mitigate some of the risk.

344. Q. Okay, and when you say that you've seen photos of encampments -- sorry, what did you say that you've seen photos of encampments ---

A. I said when I've been to encampments.

345. Q. Yeah.

A. And when I saw the pictures of some encampments, often I've seen that their zippers are closed. Now I cannot say if someone is inside them or not.

346. Q. Thank you. Thank you, that was my question. So having visited encampments and seen photos, you've seen tarps and other covers and zipped up zippers on the doors. But you don't know if there was someone inside at that time?

A. No, I don't.

347. Q. And if we just go back to Page 6 of this study, that same highlighted sentence. The second sentence in that paragraph says:

> "… However, future research must incorporate solar radiation and wind flow to assess the entire heat exposure situation. Furthermore, experiments that allow the opening of tent doors and in-tent mixing of air are crucial for the overall evaluation of the efficacy of tent-shading …"

So what I take from that, and tell me if I am wrong, is that the authors are saying we've made some preliminary findings here. But really this area of study requires more study.

A. I think that's the same with everything in medicine. But one thing they do say that is about the idea of heat -- of breath and heat flow. And when I did look, I have not been to 100 Vic. But one side

from what I could see right beside the railway track, is a wall that would prevent a natural breeze from taking place.

Having said that, I am not an expert on Vic or the tents that are used there. But I did recognize when I am looking at this and they talk about airflow, that that would be something that would be -- could be a concern in an area where you don't have airflow.

So when -- and I'll just leave it at that.

348. Q. Okay, and just in terms of the actual increase in temperature that's documented in this study, you've outlined it in your Paragraph 36, there's four -- sorry, three specific numbers. The highest of which is the 2.46 degrees Celsius.

A. Yeah.

349. Q. The study -- this article itself doesn't draw any conclusions on specific heat risks from a temperature rise of 2.46 degrees, correct?

A. No. No, no, it would -- it does -- it's referenced with respect to when the heat -- with a temperature within a tent becomes above body temperature.

So if the temperature is, you know, 35 degrees outside, then that can -- would mean it's higher risk because it gets above body temperature.

So it doesn't specify the risks, it's relative to body temperature and the ability for the body to dissipate the heat.

So the increase matters only with respect to what the temperature is, an ambient temperature.

350. Q. Okay. And then just in the interest of time, you've referenced in your affidavit at Paragraph 36 you reference another -- sorry, not Paragraph 36. Just give me one second.

It's at Paragraph 35, you're citing a study and you discuss ambient temperature, outer surface temperature, etcetera. Just in the interest of time, if you can recall, the study that you cite at Footnote 12 which is the Kow Lank (ph) study, "The thermal environment and thermal comfort of disaster relief tents and high temperature composite environments."

A. Yeah.

351. Q. That study specifically looked at disaster relief tents. Correct?

A. Yes.

352. Q. Okay, in what they were -- the authors referred to as a "high temperature composite environment." Correct?

A. Yes. Yes.

353. Q. Okay. And a high temperature composite

environment, what is that?

A. My understanding would be in temperatures that approach body temperature. So we're looking at 37 degrees Celsius for temperatures that would approach body temperature.

354. Q. Okay, so pretty -- that's really on the higher end of hot weather?

A. Yes. Yes, but as you are aware, we've had significant changes in weather patterns including having times when our temperatures have -- I can't tell you for sure for Waterloo. I have not looked at the data but certainly approaching 35 degrees has been an issue in the heat. We've had some heat waves in June of last year, I believe. We've had some heat waves.

So temperatures approaching areas which would be considered critical are now something to be a concern of in this area.

355. Q. And do you know what specific -- like what is a disaster relief tent?

A. I would not be able to describe that compared to a regular tent. I do think, though, that the tend to be a bit bigger and house more people. But I cannot tell you for sure what exactly would constitute it a disaster relief tent.

356. Q. And to your knowledge those are not the tents that we tend to see at encampments in Canada including at 100 Vic, correct?

A. No. But the mechanism of transfer of heat wouldn't change. To my knowledge, would not change depending on the type. So when we're talking about heat hitting a tent and how it transfers to the body, I don't have any reason to think that would be different, with different types of tents.

But this study specifically was about disaster relief tents. I certainly can say from being in tents in the heat that this -- this was the one that I could find that would describe why it feels hotter inside a tent than it is outside of the tent during hot times in the summer. And I did not find any other article that would substantiate that experience that I think most of us who have been in a tent in the summer recognize. This just described it.

357. Q. Okay, and in your affidavit, you discuss the risk of frost bite and you've ---

A. Yes.

358. Q. --- spoken about it already today. But in your affidavit, you don't discuss the comparator of the incidence of frost bite among people living rough, as I defined it earlier on, compared to the incidents

of frost bite amongst people living sheltered in a tent, in an encampment. Correct?

A. I did not find data that -- I can say that all of the patients that I have seen with severe frost bite, including losing limbs, were staying in tents at the time they got their frost bite. I am not aware of a study out that compares people who are unhoused as to the risk of frost bite.

359. Q. I am sorry, I cannot recall if Ashley asked you this question earlier. She did ask you questions about your patients and you described having a fairly high percentage of patients who are homeless.

Are your patients generally -- or can you say? Are they generally homeless individuals who reside in tents as opposed to sleeping rough?

A. In London, I can say that the vast majority of the people that I saw that were homeless outside of shelters, were sleeping in tents as opposed to sleeping rough.

In St. Thomas, I don’t think I can say. I think there is less encampments. I also have seen less injury but I would not necessarily equate that to where people are staying.

So in London, since encampments have been on the increase, most -- I would say the vast majority of

1 people I see unhoused that aren't in shelters are in
2 tents or encampments. Although not all of them, some
3 do live in doorways. Everyone I saw that had a frost
4 bite injury, had been in a tent at the time that they
5 got it. And the people that I saw with severe burns
6 had been in a tent at the time that they received
7 their burns.
8 360. Q. But you said that in St. Thomas you've
9 seen less injury. So most of the -- so can I assume
10 that most of the frost bite injuries that you describe
11 in your affidavit, you saw in your patients who were
12 in London?
13 A. Yes.
14 361. Q. Okay. So I'd just like to turn to
15 Paragraph 24 of your affidavit. This is the paragraph
16 where you state:
17 "… Hypothermia is a problem in
18 encampments and can lead to cardiac
19 arrest and death …"
20 And you've cited two sources to support
21 that statement. The first is at Footnote 45. And
22 this is a news article from Global News. So just when
23 I -- it's probably my lack of knowledge but when I
24 converted this article from the Web to a PDF, it
25 turned into 14 pages. Even though it's really only

about two pages.

--- SCREENSHARE

So if we could -- so first of all, can you confirm that this Global News article from -- is the news article cited in your affidavit at Footnote 45?

A. From what I am seeing, I believe so.

362. Q. Okay, you can -- we can look through it.

A. And I (indiscernible) so anyway. I'm -- that sounds right. So I think so.

363. Q. I mean, take your time. You can look through it. A lot of these pages are going to have very little on them. And in fact, I think the block are the end and aren't text of the article.

MR. LOKAN: We're content to mark it just -- and if for any reason, we find it's not the article, to advise subsequently. But I'm sure it is the article.

MS. PEREZ: Okay. So this is, just for the record, it's a Global News article posted January 18, 2024 and it's titled, "Frustrating and deadly: How the extreme cold is hitting Canada's homeless." And so

we'll mark that as an exhibit for identification.

MR. LOKAN: I think we can go further because she said it looked like it's right. So we can give it a number.

MS. PEREZ: Okay.

MR. LOKAN: The only qualification is if for any reason we find that's not what it was, we'd let you know. But I have no reason to believe it isn't.

EXHIBIT NO. 10: Global News article, January 18, 2024

BY MS. PEREZ:

364. Q. And, Dr. Koivu, you may want to take a few minutes to read through it. Just let me know.

But my question is from my reading of the article, the article does not state that hypothermia is a problem specifically in outdoor encampments but rather a risk to all persons forced to reside outside due to a lack of sufficient shelter beds in Toronto.

A. I would agree that it's about being outdoors.

365. Q. Okay.

A. Including in encampments.

366. Q. Thank you. And then, I am just going to take you to your Footnote 46. This is an article from the Invisible People website, titled, "Homeless people face hypothermia every winter: Here's how you can help." Posted November 18, 2020.

--- SCREENSHARE

And so again, if you could just confirm that this is ---

A. It looks like it.

367. Q. --- the document cited at Footnote 46? Okay. So if we can mark that as an exhibit to the cross-examination.

EXHIBIT NO. 11: Article at Invisible People website

368. Q. And again, if you need some time to review it, so just let me know. But again, my understanding from reviewing this article is it doesn't differentiate between people living rough or those living in encampments. It simply states that:

> "… Hypothermia is a risk for homeless individuals and those with unstable living situations …"

A. Actually, people outdoors are at risk of hypothermia. And it does not differentiate. Hypothermia is a risk if you're in an encampment or not in an encampment if you're outdoors. So it is about being outdoors, including in encampments.

369. Q. Thank you and then just turning to Paragraph 26 of your affidavit you describe in this paragraph the risk of severe burns from tent fires and talk about some of your own personal experience. And at the end, your last sentence here is:

"… I am aware of several people dying in tent fires …"

And you've cited three sources for that. First of all, Footnotes 47 and 48, I believe are actually the same. I think that's an error in your compilation of footnotes. Can you confirm?

A. I can look. Can I look at -- can I scroll down to my footnotes?

370. Q. Of course. Yes, it's -- I think they're both references to the CBC News article.

A. I know that there were times -- I was really trying hard to avoid that and ---

371. Q. That's okay.

A. --- sorry about that.

372. Q. I think -- so just for the record I

1 believe that they're both a reference to the CBC News
2 article posted April 16, 2024, titled, "One year after
3 daughter's death in London tent fire." Her parents
4 say, "Year-round crash beds can save lives."
5 A. Oh, yeah, they do, I'm sorry. I am
6 very sorry about that; they are the same article.
7 373. Q. That's ---
8 A. I've got them some place differently
9 but they are the same article.
10 374. Q. Okay, thanks. So there are two
11 footnotes here, really for this ---
12 A. They are the same. Yeah.
13 375. Q. Yeah.
14 A. Absolutely, they're the same article.
15
16 --- SCREENSHARE
17
18 376. Q. And we pulled it up for you in case you
19 want to review it. But just to be clear, in terms of
20 the information in this article referencing a fire,
21 this was not a fire that you yourself witnessed,
22 correct?
23 A. No, this is not a fire that I
24 witnessed.
25 377. Q. Okay, and you didn't treat the young

1 woman who died?
2 A. No, no. I did not.
3 378. Q. And so you have no direct knowledge of
4 this incident?
5 A. No, I thought -- I tried to word it as
6 things I have seen versus things I am aware of. And
7 this was how I tried to have the language. I have not
8 taken care of this person.
9 379. Q. And according to the article -- and
10 again, if you need some time to review it, just let me
11 know. According to the article, the reason this young
12 woman was in tent outdoors was that she could not
13 access a shelter bed.
14 A. That's correct.
15 380. Q. And then Footnote 49 which is the
16 second footnote to your Paragraph 26, this is a
17 Toronto Star article. The Toronto Star article dated
18 February 17, 2021 titled:
19 "…'This kind of living arrangement
20 outside is not safe,' acting fire chief
21 says as Toronto reports first
22 encampment fire fatality …"
23 So again if you can just confirm.
24 A. Yeah, it is the article.
25 381. Q. Okay.

A. Yes.

382. Q. And again, same types of questions, you didn't witness this fire or treat the man who died?

A. No. No, I did not.

383. Q. So you don't have any ---

A. He died ---

384. Q. Yeah.

A. No, I did not have any direct experience with this person and tried to separate that in the language in that paragraph. I am hoping that was clear. But thank you for allowing me to clarify have not taken care of either of these two people or been involved in -- and was not involved in this person's care as well nor had any direct involvement in their care.

385. Q. Thank you.

MR. LOKAN: So, Mercedes, you haven't asked for either of the last two to be marked as exhibits.

MS. PEREZ: No; no, I didn't.

MR. LOKAN: Okay, that's fine.

BY MS. PEREZ:

386. Q. Looking at Paragraph 28, you stated:

"… I am aware of risks from propane

1 tanks used to heat tents including
2 explosions causing injury and death and
3 carbon monoxide poisoning …"
4
5 --- SCREENSHARE
6
7 You've referenced one article from CBC
8 News from May 16, 2024. And so we put that up on the
9 screen for you again with my terrible PDF creation.
10 So a lot of extra pages, sorry about that. Can you
11 just confirm that the ---
12 A. Yes.
13 387. Q. It is? Okay. And again, you didn't
14 witness this fire or treat the deceased, correct?
15 A. No, that's why I put "I am aware of,"
16 not that I have experienced it.
17 388. Q. And this article refers to a fire but
18 not to carbon monoxide poisoning. Is that correct?
19 A. I believe so, yes.
20 389. Q. And so what is the source of your
21 comment that you are aware of risks that can cause --
22 from propane tanks that can cause carbon monoxide
23 poisoning?
24 A. I think that would be a general
25 understanding in medicine that a propane tank can

1 cause carbon monoxide poisoning. And I have not
2 footnoted it within.
3 390. Q. Okay. But are you aware of any
4 incidents of that in tents and an encampment
5 somewhere?
6 A. I had a patient that likely experienced
7 carbon monoxide poisoning from a propane tank but
8 there was no explosion with that or any
9 (indiscernible). Their experience was consistent with
10 carbon monoxide poisoning. And they had a propane
11 tank but that is specifically just a report. I
12 understand propane tanks can cause carbon monoxide
13 poisoning and certainly within an enclosed
14 environment, that would be a risk.
15 I have not -- I am not involved with anybody
16 who died from carbon monoxide poisoning due to a
17 propane tank in a -- in a tent. That would just more
18 be a medical statement that a propane tank can cause
19 carbon monoxide poisoning. And I have had one patient
20 that expressed that as a concern.
21 391. Q. Sorry, so you had one patient who
22 expressed that as a concern or ---
23 A. Yeah, they thought that ---
24 392. Q. --- (indiscernible)?
25 A. --- they -- I don’t believe they were

1 diagnosed with carbon monoxide poisoning. I think the
2 thought was that they likely had a decrease in their
3 level of consciousness. And they felt that it was
4 partly related to the propane tank that they had in
5 their tent.
6 To be honest, I can't remember the details
7 of the medical experience prior to me seeing them.
8 But they did not have harms related to the carbon
9 monoxide poisoning. So I have not had anyone who have
10 had significant harms other than possible decreased
11 level of consciousness.
12 I could certainly go through -- no, I'll
13 just stop at that. That would be my experience and my
14 knowledge is that propane tanks can cause carbon
15 monoxide poisoning. As a physician that would be
16 something that I am aware of. But I am not
17 referencing it beyond this -- this specific article
18 which doesn't involve carbon monoxide poisoning as you
19 had pointed out.
20 393. Q. So if we move to Paragraph 30 of your
21 affidavit, this is where you discuss trench foot.
22 A. Yeah.
23 394. Q. And you cited one document which is
24 found at Footnote 4 of your affidavit. This is the
25 Bush (ph) article.

1
2 --- SCREENSHARE
3
4 A. Yes.
5 395. Q. It's titled just simply, "Trench foot."
6 A. Yes.
7 396. Q. So can you just confirm that what we
8 pulled up on the screen is the article you cited?
9 A. Yes. I believe so, yes.
10 397. Q. Okay. And so I'd like to have this one
11 marked as an exhibit to the cross-examination.
12 MR. LOKAN: Okay, that would be Exhibit 12,
13 I believe.
14 MS. PEREZ: Thank you.
15
16 EXHIBIT NO. 12: Bush article
17
18 BY MS. PEREZ:
19 398. Q. This article -- my understanding from
20 reading this article is that it does not anywhere say
21 that the moist environment created by condensation in
22 a tent is a risk factor for trench foot. Do you
23 agree?
24 A. It does not specify in a tent.
25 Certainly the moist environment in a tent is a risk

factor. Tents becoming moist -- and I believe this article does highlight that -- that a moist environment increases the risk of trench foot.

And I think from other things that I talked about with -- within tents and as I say I am not an expert in tents -- but when people are breathing in a tent, they have warm air. That warm air touches the -- the surface of the tent which is now cool, that will condense.

That's basic condensation so that's sort of a basic science that the warm air from breathing -- the moist air from breathing is going to condense and create a moist environment.

That footnote wasn't beside that but the footnote is beside that this can happen even in temperatures that are -- are not, specifically -- when we think about cold injuries, we tend to think of things that are, you know, zero degrees and colder.

But trench foot can happen even in warmer temperatures specifically when people have a moist environment. And that's where this reference comes in is discussing that you can have trench foot even in temperatures up to 16 degrees and very quickly.

399. Q. If we look at Page 2 of this article just at the top in the highlighted section, this is

under the section entitled, "Epidemiology." The authors state that military personnel continue to be the most commonly affected population.

And above it, they discuss I think the origins of the term, trench foot ---

A. Yeah.

400. Q. --- which (indiscernible) World War I soldiers.

A. Yeah.

401. Q. So you agree with -- you don't have any reason to disagree that military personnel continue to be the most commonly affected population?

A. I cannot say that that's accurate within Canada but I cannot -- I have no experience with military personnel to say that is or isn't true.

But my experience with trench foot has essentially been limited to people who are in encampments in tents. And I do not have experience working with the military or specifically with military personnel to -- to highlight that. I have no reason to think it's wrong but I have no experience with the military.

402. Q. Okay, well, if we just look at the one comment here that does relate to the homeless population. It's the last sentence in this section.

It says:

"… In everyday clinical practice, the homeless population is also susceptible to trench foot due to lack of shelter and prolonged exposure to moist and cold environments …"

So that's something you would agree with, I take it?

A. And I -- yes.

403. Q. Okay.

A. As long as we're looking at "lack of shelter" meaning lack of a physical structure of shelter. Yes.

404. Q. Trench foot is most common -- would it be fair to say that trench foot is most commonly caused by cold, damp feet, especially people who face prolonged exposure to wet socks and footwear?

A. Yes.

405. Q. Okay. So when you say that your experience with trench foot is limited to people living in encampments in tents, you can't say that the trench foot was caused by the tent as opposed to them just spending the day and maybe the night in wet socks and footwear?

A. I have not seen the same incidence in

1 people who were -- almost that weren't in a tent. But
2 to know for sure why they're feet are wet, I can say
3 that the moist environment of a tent would increase
4 the risk. I can't say that any individual didn't
5 change their socks. But I have not seen trench foot
6 and had not seen it until I saw people in encampments.
7 So I have other homeless people that I have
8 no reason to think are changing their socks more or
9 less often. Perhaps people going into shelters are
10 changing their socks more often. But I don't have any
11 reason to know that that would be a difference in
12 populations that I've seen.
13 406. Q. Right, but your experience -- again,
14 just going back to how you described your patient
15 group, if I can put it that way -- is -- I mean, a
16 majority of them have been people in -- living in
17 encampments and in tents, right? You can't
18 (indiscernible).
19 A. I have the experience of the
20 unsheltered, yes. But I see both sheltered and
21 unsheltered patients. So I see a lot of the patients
22 who are sheltered. Of unsheltered, the majority are
23 in encampments. Of the sheltered -- of the homeless
24 population that I've seen that is sheltered or
25 primarily use a shelter, I have not seen trench foot.

407. Q. Right. So you're comparing -- based on your own personal experience, you're comparing sheltered individuals, for example, in shelters ---

A. Mm-hmm.

408. Q. --- to unsheltered individuals, the majority of whom live in tents.

A. Yes.

409. Q. You're not comparing it to people living in encampments versus homeless people living rough on the streets?

A. No, I am not comparing it to people living rough. I couldn't tell you if they had more or less. Theoretically, they might have less but I have not -- I've not had a patient who wasn't in a tent that got trench foot. But that doesn't mean that that's an exclusive possibility.

410. Q. And so when you speak in your -- I am just going to kind of group it all together. You can tell me if this unfair and I can try to break it up. But when you talk in your affidavit about the risks of adverse weather events, those adverse weather events are also dangerous to people living rough, correct?

A. For the most part, yes, they are also dangerous to people who are living rough.

411. Q. And the (indiscernible) ---

A. (Indiscernible) unsheltered is definitely a risk and however you are unsheltered, is a risk. Trench foot I would question that there might be more risk. But being unsheltered is a risk factor and being in encampments doesn't, in my experience, decrease that risk, but being unsheltered definitely. All unsheltered people are at risk of problems related to exposure.

412. Q. And that would apply to individuals who can access a shelter that for nighttime sleeping but have to leave the shelter during the day and maybe spend, you know, 12, 14 hours outside during the day?

A. It's interesting because that -- I have not seen that in people who are sheltered, take shelter during the night. You're right, in theory, people could have an incident related to the elements during the day.

But during the day, there's a lot more opportunity for people to be somewhere that is warm whether it's a shopping mall, whether it's, you know -- I'm thinking of the areas, you know. There are other options for people to be in during the day.

Being outside particularly being outside with a decreased level of consciousness is going to increase people's risk of a problem. There are more

1 options available to people during daytime hours as to
2 where they can go to find warmth.
3 And the highest risks certainly have been
4 about warming shelters after hours because there is
5 less availability of places people can go.
6 413. Q. Okay, and just to be clear, in your
7 affidavit you haven't provided any opinion or
8 information about what forms of shelter might be
9 accessible to a homeless person during the day.
10 A. No, no. No, I haven't. I can say that
11 I haven't had anyone who's being in a shelter at night
12 have the same problems that I've seen with people who
13 are living in encampments.
14 And perhaps that's because when they're in
15 an encampment, they tend to stay there both day and
16 night. And so it increases their risk of overall
17 exposure.
18 I can say that why I felt this was important
19 was because people that I'd seen in encampments in
20 tents that had had such severe injuries did not
21 understand the risk of their environment. Did not
22 understand or appreciate their risk of getting frost
23 bite that could lead to an amputation of both legs.
24 And I have not seen this in people who -- I
25 didn't see it all before the encampments. And I don't

1 see it in people who primarily go to shelters.
2 414. Q. Okay. At Paragraphs 39 to 42 of your
3 affidavit, you discuss dehydration, rhabdomyolysis ---
4 A. Rhabdomyolysis, sorry.
5 415. Q. Thank you. Rhabdomyolysis, kidney
6 failure. And at Paragraph 41 specifically, you say
7 that:
8 "… The combination of heat, dehydration
9 and methamphetamine increases the risk
10 of kidney failure …"
11 A. Yes.
12 416. Q. And so do you know the incidence of
13 methamphetamine use among residents at 100 Vic?
14 A. No. And I cannot say that I know the
15 incidents of methamphetamine use. I know it's high in
16 London but I don't know in Waterloo.
17 417. Q. Okay, and ---
18 A. I think so. I read something. Now --
19 I feel like I read something that said that it has
20 increased in that area but I do not have data on 100
21 Vic.
22 418. Q. Okay, and the articles that you've
23 cited in these paragraphs, so the articles at Footnote
24 31, 22 and 25 as ---
25 A. They do not ---

419. Q. --- well as the paragraphs themselves, they don't address at all the risk of these conditions developing specifically in homeless individuals living in encampments, correct?

A. That is correct.

420. Q. Paragraph 45, you discuss that many infections are caused by exposure to rodent droppings. And I just wanted to ask you about the citation. So the first citation it's to Footnote 18 which is the Liu paper which is -- specifically, we looked at it already.

It's about communicable disease among homeless in California but does not mention -- unless I missed it, it doesn't mention rodent-related infections. Am I incorrect about that?

A. It -- I hope I haven't made -- so that was number 18?

421. Q. Yes.

MR. LOKAN: That would be a good one for an undertaking if the question is whether there is anything in reference 18 on the rodent infections.

MS. PEREZ: And that would be fine with me to answer that by way of undertaking.

1 **UNDERTAKING**

2 BY MS. PEREZ:

3 422. Q. And you may want to answer the next
4 question by undertaking as well. The second citation
5 is to Footnote 27 which is the Roncarati article that
6 we also already looked at which was about mortality
7 among unsheltered homeless in Boston. And which again
8 on my reading of it, does not comment on rodent-
9 related infections.
10 So if you can confirm ---
11 A. Yeah. I do not -- yes, I think you're
12 right. I think I have the wrong references on there.
13 I am quite concerned that I -- you are correct, that I
14 do have the wrong references and in 18 and 27.
15 I think there are other references that I
16 missed because I got the wrong ones there. But the
17 ones that you're saying I specifically do think you're
18 right that they do not apply here; they are incorrect.
19 MR. LOKAN: That can answer by way of
20 undertaking.
21 THE WITNESS: Okay.
22 MS. PEREZ: Thank you.
23 **UNDERTAKING**
24 BY MS. PEREZ:
25 423. Q. And the last two citations at Paragraph

45 which are Footnotes 56 and 57. These are two newspaper articles. One from the Peterborough Examiner and the second from CBC News.

And neither of which, again, based on my review, specifically talk about the risk of infections caused by exposure to rodent droppings. Rather, they talk about rodents near homeless encampments. And so again, maybe you want to answer that by way of undertaking?

UNDERTAKING

MR. LOKAN: Yeah.

THE WITNESS: Okay.

MR. LOKAN: We will.

MS. PEREZ: And I am cognizant of the time but I am getting to the end. And some of my questions have been asked already. So just give me a second because I'm skipping through some questions.

MR. LOKAN: Sure. If you can keep it to three or four minutes, we'd appreciate it.

BY MS. PEREZ:

424. Q. Okay, so just moving to Paragraph 53 and here you're discussing injection drug use in encampments increasing the risk of infectious

1 complications. And you've cited two sources, the
2 first is at Footnote 3 which is an article by Ball.
3 A. Oh, yes.
4 425. Q. "Sharing of injection drug preparation
5 equipment as associated with HIV infection." And I
6 think you reference this risk at length earlier in a
7 response to some questions from Ashley.
8 A. Yes.
9 426. Q. But this article doesn't mention
10 encampments at all.
11 A. No.
12 427. Q. Nor substance ---
13 A. No, but it -- yeah. It's specifically
14 about the risk of sharing paraphernalia.
15 428. Q. And then the second is your footnote at
16 -- is a Footnote 66 which is a CTV News article that
17 discusses concerns from local residents in Dartmouth,
18 Nova Scotia about drug paraphernalia. And outside
19 bathroom use that they attribute to an encampment.
20 But again, it doesn't talk about an
21 increased risk of infectious complications. Is that
22 fair?
23 A. It's fair. And I think what I want --
24 I was trying to highlight other issues. This is
25 specifically the sentence and perhaps by linking it

with references doesn't make sense to the sentence. But it my experience, I have absolutely saw increase in -- I had not seen spine infections regularly. And then in started seeing spine infections after we had an encampment.

And so my concern and why exactly, you know, is it the drugs that are being used, is it the conditions? But I can say is that I certainly saw a spike in severe infections and that's why I put it in my experience, number -- reference 3 is also something I was involved in that publishing.

But my experience was that I saw an increase in sepsis in spine infections in people who were -- in injection drug users when they move from various other locations to the encampment.

429. Q. Okay. And then are you aware of any typhus outbreaks at homeless encampments in Canada, the ---

A. Yeah. Sorry.

430. Q. Okay, yeah, the one reference in your affidavit is to a typhus ---

A. Yeah.

431. Q. --- outbreak in Los Angeles, correct?

A. Yeah. Yes.

432. Q. And then at Paragraph 59, you discuss

1 directly-observed therapy as the treatment for some
2 types of TB -- a tuberculosis infection.
3 A. Yeah.
4 433. Q. So first of all, you're aware that
5 public officers of health in Ontario can order a
6 person detained for the purpose of receiving directly
7 ---
8 A. Yeah.
9 434. Q. --- observed therapy, if necessary,
10 under the *Health Protection and Promotions Act*?
11 A. Yeah.
12 435. Q. You're aware of that? Okay. And so
13 that would -- that power is available not only to
14 treat the person but also to prevent the spread of
15 infection.
16 A. Yes.
17 436. Q. Correct? Okay.
18 A. And again, given that you -- in order
19 to provide directly-observed therapy, it's -- it would
20 be helpful to know the location where the person can
21 be found. And so it would be presumably easier to
22 find a person residing at an encampment than living
23 rough out on the street somewhere. Do you agree?
24 A. As far as finding a person, yes. As
25 far as identifying that they had TB, that might be a

1 more difficult thing.
2 So if we're talking about identification of
3 someone with TB, I think that within an encampment
4 that is more difficult. If we're looking at the ease
5 with which someone could go on-site than being in one
6 specific place, has some potential for a benefit.
7 But my point in this was more to counter the
8 concerns about shelters being a negative place for TB
9 which is sort of thought of. And that in fact that a
10 shelter can have many forms of support to help
11 mitigate the risks of spread of disease and to help
12 improve the chance of treatment of disease. So that
13 -- that those treatments are available.
14 And those -- mitigating the risks such as
15 social distancing and masks, clean linen, etcetera,
16 all of those are things that are about what safeguards
17 can be available at a shelter.
18 437. Q. Okay. But doesn't being outdoors
19 significantly reduce the risk of TB transmission?
20 A. Being outdoors decreases the risk of
21 transmission but being within a group increases the
22 risk of transmission. So people within an encampment
23 are in fairly closed quarters as far as their location
24 and their interacting with each other. So there
25 certainly can be risks from being close -- in close

1 proximity with other people.
2 But you're right, being outdoors does -- and
3 not having good ventilation is something that supports
4 a decrease risk in getting TB.
5 438. Q. Okay. Just moving to Paragraph 67 of
6 your affidavit, this is where you reference that Nikoo
7 study from Vancouver.
8 A. Yeah, yes.
9 439. Q. Okay, so if we could put that up on the
10 screen. So this is the Nikoo, "Chronic physical
11 health conditions in the homeless" study. Can you
12 just confirm that this is ---
13 A. Yeah.
14 440. Q. --- as study at Footnote 21?
15 A. Yeah.
16
17 --- SCREENSHARE
18
19 441. Q. Okay, and so if we can mark this as an
20 exhibit to the cross-examination. So in Paragraph 67
21 that -- you're okay, Andrew, with marking that as ---
22 MR. LOKAN: Yes.
23 MS. PEREZ: Okay, thank you.
24
25 EXHIBIT NO. 13: Nikoo study

1 BY MS. PEREZ:
2 442. Q. So in Paragraph 67, you reference the
3 study from Vancouver that you say:
4 "… Compares chronic physical health
5 conditions among people experiencing
6 homelessness who were sheltered with
7 those who were not sheltered including
8 living in encampments …"
9 If we look at the method section of
10 this study which is found on Page 5, so in the
11 highlighted section it says:
12 "… Fifty percent of participants were
13 recruited from emergency shelters and
14 50 percent were recruited from living
15 homeless on the streets …"
16 It doesn't mention anything about
17 encampments, just that half the participants were
18 homeless on the streets, correct?
19 A. In this paragraph, yes. And I believe
20 that there is no reference specifically to encampments
21 other than that they were sheltered and unsheltered in
22 this -- in this particular article. And living on the
23 streets would include encampments but not specifically
24 encampments alone.
25 443. Q. Okay, and if we go down to Page 13, and

again this is -- I've highlighted the section right at the bottom of the page. It says:

"… Living on streets was associated with increased frequency of all categories of chronic health conditions except infectious and respiratory tract conditions …"

A. Yeah, and they were -- they were equal. So, yes, they weren't -- so "living on the street" was associated with an increased frequency of the chronic health conditions. Those ones were equal in both groups.

444. Q. Okay. And does this -- and maybe now that you've explained it a little bit in your answer, I just thought, was there an inconsistency between this statement that I just pointed you to and the comment in your affidavit at ---

MR. LOKAN: Where are we ---

MS. PEREZ: --- Paragraph 67 -- sorry.

BY MS. PEREZ:

445. Q. Where you say:

"… There were no instances where being in a shelter posed a risk over not being sheltered …"

You're saying they were equal?

A. Yeah, they were equal.

446. Q. Okay. Okay.

A. I tried to word that -- wordsmith that, but, yes.

447. Q. Okay, and I just wondering, why did you attribute -- like in your Paragraph 67, you attribute the findings of the study specifically to people not sheltered including living in encampments, when that's not mentioned in the article? Is it just because there's no specific definition of ---

A. Yes.

448. Q. --- "homeless on the streets"? Okay.

A. Yes. When they -- and I think there was a paragraph that -- that -- how they've defined it as sheltered versus unsheltered, and unsheltered -- sometimes people think of a tent as a shelter. So I think that that's why I think it's important to recognize of unsheltered -- tents are not considered a shelter. People living on the street includes sheltered -- include people who are in encampments. I would have to look back. I've jotted notes down when I looked at each thing.

But I believe that the word "encampment" is not used in this. It's -- it definitely separates

1 "sheltered" from "unsheltered." And I've pointed out
2 that unsheltered would include those who are in
3 encampments.
4 449. Q. Okay. And I am at the end. I think I
5 have three more questions. So first of all, you --
6 just in reference to the paragraphs in your affidavit
7 where you speak about the risk of violence. You would
8 agree that stabbings, beatings, shootings and theft
9 also occur in shelters, correct?
10 A. I think violence can occur within a
11 shelter. I am not aware of that -- I have not had
12 experience with shootings within a shelter. I have
13 not had aware of -- experience with -- from my
14 patients that have been stabbed, it has been outside
15 of a shelter. But absolutely, violence can occur
16 within a shelter.
17 450. Q. And in fact, there have also been
18 murders that have occurred in shelters in Ontario.
19 Would you agree with that?
20 A. There have been murders in shelters and
21 murders outside of shelters, including in encampments
22 in Ontario.
23 451. Q. Okay, and so my final question relates
24 to a final article that I am going to take you to. So
25 this is with reference to your Paragraph 71 where you

say that:

"… Studies have also found that shelters have also provided protection from violent crimes when compared to unsheltered …"

And you cite Footnote 86 which is the Niamafi (ph) article. This one is titled, "Sheltered versus non-sheltered homeless women." So we've pulled that up.

MS. CAHILL: Sorry, I don't have that one, Mercedes.

MS. PEREZ: Oh, you don't have that one. Okay.

MR. LOKAN: Do you want that just produced by way of undertaking?

MS. PEREZ: Sure, I mean, my question is just a simple one and similar to ones I've asked previously. Well, first of all can this be -- sorry, let me start over.

BY MS. PEREZ:

452. Q. The question for the undertaking would be that this study doesn't differentiate between women residing at encampments and women living rough on the streets.

A. That I can answer. That does not differentiate.

453. Q. Okay. So thank you, Dr. Koivu, we are at the end of my questions. And again, thank you for your patience. I know we've gone over the time that we allotted for you today.

A. Okay, thank you for the opportunity to answer your questions.

MR. LOKAN: I have a couple of brief re-exam questions. So if you can stay another couple of minutes ---

THE WITNESS: Yes.

MR. LOKAN: --- Dr. Koivu.

RE-EXAMINATION BY MR. LOKAN

454. Q. First, you were asked some questions about steps people can take to increase ventilation in a tent that's overheating.

A. Mm-hmm.

455. Q. Do you recall that?

A. Yes.

456. Q. Do you have any comment on how that might work with people staying in tents who have taken sedating drugs?

A. I think that my concern is it can be

very, very different to be in a tent because you're trying to separate yourself from others than if you're in a tent, like camping.

So if you've taken a sedating medication, you are trying -- you're being in an environment where you're actually trying to exclude others, you're at high-risk of not being aware of how hot it gets. And I've absolutely seen heat injuries and hypothermia including Rhabdomyolysis as a result of people who have been in tents and taken sedating medication, and weren't aware of how warm the tent was.

So absolutely, the things you can do to mitigate the risks are things a), you have to know and b), you have to be capable of doing. And I think both are problematic, that people don't know, don't understand.

If they did know, I think they would pick a different location for an encampment that would allow more air flow than the one from what I can see from the pictures where there's a large wall. So absolutely, I think that there is definitely risks for people who are unconscious from sedating medication.

457. Q. Okay. You've been shown a number of articles and sources today by both Ms. Schiutema and Ms. Perez. And you've been asked a number of

1 questions. Were any of those sources or any of those
2 questions cause you to change your opinion as set out
3 in your affidavit?
4 A. No. I -- no, it caused me to proofread
5 a little closer but as far as what I have witnessed,
6 why I came forward, I can tell you this was not
7 something that is -- that is easy to do. But the
8 harms and suffering that I have seen related to people
9 being in an encampment, particularly to people who
10 didn't understand the risks, that thought that because
11 people were encouraging them to be there, that they
12 were safe.
13 And the harms that I have seen are very
14 real, very palpable. And so it's always tricky to
15 find the right data to support the harms that you've
16 seen when it's so visceral and so real. But the
17 suffering that I have seen is real and I have not --
18 you know, the questions haven't -- I don't think I --
19 I might have to wordsmith things and be careful.
20 I do think I have an incorrect footnote but
21 as far as my concerns about encampments being places
22 that are not safe, that I have not changed how I feel
23 about that.
24 458. Q. Thank you; those are my questions.
25 MR. LOKAN: So you may go now, you're done.

1 THE WITNESS: Thank you.
2 MR. LOKAN: Off the record.
3 MADAM REPORTER: We're off.
4
5
6
7
8 --- ADJOURNED
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

THIS IS TO CERTIFY that the foregoing is a true and accurate transcription of my recordings and notes, to the best of my skill and ability.

_____

Barbara A. Pollard
Certified Court Reporter

Photostatic copies of this transcript are not certified and have not been paid for unless they bear the original signature of Barbara A. Pollard, C.C.R., and accordingly are in direct violation of Ontario Regulation 587/91, Courts of Justice Act, January 1, 1990.

EXHIBIT “A”

See lines 206-209 of transcript, p.52 of Transcript, p.13 of PDF.

COURT FILE NO. CV-21-77187

ONTARIO

SUPERIOR COURT OF JUSTICE

BETWEEN

KRISTEN HEEGSMA, DARRIN MARCHAND, GORD SMYTH, MARIO MUSCATO, SHAWN ARNOLD, BRADLEY CALDWELL CHRISTINE DELOREY, GLEN GNATUK, TAYLOR GOGO-HORNER, CASSANDRA JORDAN, JULIA LAUZON, AMMY LEWIS, ASHLEY MACDONALD, COREY MONAHAN, MISTY MARSHALL, SHERRI OGDEN, JAHMAL PIERRE, LINSLEY GREAVES and PATRICK WARD

Applicants

-AND-

CITY OF HAMILTON

Respondent

The Cross-Examination of Dr. Sharon Koivu, on an Affidavit dated July 26, 2024, taken upon affirmation in the above action this, 6th of September, 2024, conducted via videoconference hosted by the offices of Nimigan Mihailovich Reporting Inc.

APPEARANCES

For the Applicants

SUJIT CHOUDHRY

Haki Chambers Global

For the Hamilton Community Legal Clinic

SHARON CROWE

CURTIS SELL

For the Community Legal Clinic of York Region

MICHELLE SUTHERLAND

NONYE OKENWA

BENJAMIN HOGNESTAD

For the City of Ham lton

BEVIN SHORES

JOJO JOHNSON

Gowling WLG (Canada) LLP

I N D E X

	PAGE
WITNESS DR. SHARON KOIVU	
Cross-Examination by MR. CHOUDHRY	6

INDEX OF EXHIBITS

NO./DESCRIPTION		PAGE
1	Minutes of the Meeting of the Standing Committee of Health dated May 6, 2024.	21
2	National Post Article, Dr. Sharon Koivu, special to the National Post, dated June 10th, 2024.	27
3	Canadian Affairs Article dated July 8, 2024.	32
4	Toronto Sun Article, August 18, 2023.	37
5	London Free Press Article, Harms of safe drug supply programs outweigh benefits Addiction specialist.	44
6	Boston Study.	58
8	City of London Community Encampment Response Plan, dated June 25th.	92

GUIDE TO UNDERTAKINGS, ADVISEMENTS, and REFUSALS

This should be regarded as a guide and does not necessarily constitute a complete list

UNDERTAKINGS

(None noted).

UNDER ADVISEMENTS

(None noted).

REFUSALS

[1] 68/11.

5

--- Commencing at 9 35 a.m.

DR. SHARON KOIVU,

THE WITNESS HEREINBEFORE NAMED,

Having been duly sworn by me to testify to the truth,

testified on their oath as follows, to wit

CROSS-EXAMINATION BY MR. CHOUDHRY

1 Q. Good morning, Dr. Koivu. As we discussed off the record, I'm going to go through a number of logistical issues that I think you've been given advance notice of. And this is sort of a standard spiel I use to begin with all of my cross-examinations in this matter.

So I will begin by introducing myself. My name is Sujit Choudhry, and I am one of the lawyers for the Applicants.

As you know, I am cross-examining you on your affidavit, which has been filed by the City of Hamilton in a court case regarding homeless encampments. Your affidavit and this cross-examination will be put into evidence before the Court and so it's therefore important to tell the truth and you affirmed that you will do so.

If you would like me to repeat a question, please do so. If you would like a moment to co lect your thoughts to answer a question, please take it. Although we know your time is valuable, it's not a race, so please

6

take a moment.

As I believe you've been asked, but I will ask you to confirm on the record, can you confirm you only have your affidavit and exhibits in front of you?

A. Yes.

2 Q. And you have no other -- sorry?

A. Yes. That's all I have. Now, I have on the screen my affidavit, right, with us. I have a hard copy of the affidavit, just my part, in case there was an Internet problem, but there's nothing else on it, and I wasn't going to refer to it unless we had some kind of problem with the internet. But I don't have anything else available.

3 Q. And, to be clear, Dr. Koivu, you're free to review to either the electronic copy of the affidavit or the written copy, whatever you want.

A. Okay. I wasn't sure.

4 Q. No. That's fine. The only thing you're not able to have are notes of any kind. And you can confirm that that's the case?

A. Yes, I can absolutely confirm that that is the case.

5 Q. Okay. And also can you confirm that you are alone?

A. Yes. I'm in my house, and I kicked my

7

husband out, so I am very alone.

6 Q. Okay. Good. Thank you. I appreciate it. And so I understand you've been a witness on a virtual cross-examination before; is that right?

A. Yes, that is correct.

7 Q. So I'm not sure what the lawyers in the other case did, but in this case, if I put materials to you that you don t have with you, or even if you do have them with you, I will put them up on the screen for screen share with zoom.

And please when I do, I don't know how big your screen is, so if you can't read it, tell me and I will enlarge it.

A. Okay.

8 Q. If you want me to scroll up and down the document, I can.

A. Okay.

9 Q. And if you need time to review it, I will proactively offer you time, and if you need more time, just tell me. Okay? Great.

A. Mm-hmm.

10 Q. So let's begin. So you have -- you are a witness in this hearing; correct?

A. Yes.

11 Q. In this matter?

8

A. Yes.

12 Q. Can you please explain what you understand your role to be in this proceeding?

A. My role is to give fair, unbiased, nonpartisan opinion based on my experience and my knowledge of the situation. And it's particularly pertaining to encampments versus shelter.

It's very important that what I say I answer truthfully and unbiased, with an unbiased perspective and will answer truthfully to your questions. And I made sure that that was mandatory for me to take this.

I will just say that when I was asked to be a witness, I realize now that that is also obviously part of being a witness, but it is very important to me that I give you a fair, unbiased and answer honestly to all of the questions.

And everything that I do is based on that.

13 Q. Okay. Good. Thank you.

And so I'd like to take you to you Exhibit A of your affidavit. So I'm going to use the screen share function now. So if you will give me a second, please.

A. Absolutely.

14 Q. Can you read the document on the screen?

I'm going to increase it a bit. Can you see that?
A. One second. Let me see if I can increase my screen somehow with the view options.
MS SHORES So, counsel, what I see on your screen is Dr. Koivu's affidavit, but not Exhibit A.
MR. CHOUDHRY Yeah, I'm not there yet, but I just want to just make sure that she can see the affidavit, and then I will take her to Exhib t A.
Can you see this, Dr. Koivu?
THE WITNESS I can see it, but I can't read it, and for some reason you are really small on my screen, and I'm trying to make you bigger.
MR. CHOUDHRY Can we just go off the record for a second?
-- OFF THE RECORD --
BY MR. CHOUDHRY
15 Q. So, Dr. Koivu, do you see on your screen your affidavit?
A. Yes, I do.
16 Q. Okay. So, Dr. Koivu, I'm just going to use the table of contents here and take you to Exhibit A, which is your curriculum vitae.
A. Yes.
17 Q. Do you see this document?
A. Yes.
18 Q. And can you confirm that this is your curriculum vitae?
A. Yes.
19 Q. So I'd like to just go through -- I'm going to enlarge this a bit. Can you read that?
A. Yes.
20 Q. So I'd like to go through your clinical appointments, if I could.
A. Okay.
21 Q. Okay. So it says that -- here that your first clinical appointment was in -- was as the Medical Officer of Health in Elgin St. Thomas; is that right. I am just highlighting it here.
A. I was working in St. Thomas Elgin General Hospital prior to that, so from 1985 to 2002 I also had privileges at St. Thomas Elgin General Hospital and worked at St. Thomas Elgin General Hospital.
22 Q. Well, let's get into that, because I don't see that on your CV, so we just want to make sure we have your complete background. In that --
MS SHORES I think it is under "other positions," counsel.
THE WITNESS It might be under "other positions."

BY MR. CHOUDHRY
23 Q. I see. Back here. Down here. Sorry. So these are the other positions you are referring to?
A. Yes.
24 Q. So you were a family practice physician --
A. Yes.
25 Q. -- from 1985 to 2002. And that was at -- it doesn t indicate here that that is at St. Elgin Hospital, as you described it.
Is that where you were?
A. My family practice was private, but during that time I had privileges at St. Thomas Elgin General Hospital, and I continue to have privileges at St. Thomas Elgin General Hospital.
Working in an independent family practice, I didn't think of it as a clinical appointment, but all of us at the time had privileges at the hospital. We ran the emergency department. I did all my own OB. It was a completely comprehensive family practice.
So in the statement of a family practice, it included a comprehensive family practice, which included working at St. Thomas Elgin General Hospital.
26 Q. Okay. So in 2008, you began working at the London Health Sciences Centre; correct? The London Health Sciences Centre?
A. Yes, that is correct.
27 Q. Am I correct in assuming that in 2008 you moved to London Ontario to take up this position?
A. No.
28 Q. Okay.
A. I didn't move. I was commuting at that time.
29 Q. I see. Okay. And did you move to London at some point?
A. Yes, I moved to London in 2013.
30 Q. Okay. And so it says here on your CV that you were -- from 2008 to 2021 you were a palliative care physician consultant at the London Health Sciences Centre; is that correct?
A. Yes, that is correct.
31 Q. Are you no longer a palliative care physician consultant at the London Health Sciences Centre?
A. That is correct. I am no longer a physician consultant at London Health Sciences Centre. And actually, f you keep going, I am now not working as of this June, which is after -- well, July, after this was written, I am no longer working at London Health Sciences Centre.
I have -- I did not renew my privileges to work at London Health Sciences Centre, and I am working

exclusively in St. Thomas at this time.

32 Q. I see. Okay. So let's just get some updates to this, if we could, because that's important for me to understand.

So it states on your -- so it states here on this CV, which was attached to your affidavit sworn in July of 2024, that you are at present, as of the time of swearing this affidavit, an addiction medicine consultant at the London Health Sciences Centre.

That information is out of date?

A. That information is out of date. I am very sorry about that.

33 Q. That's fine. It happens. So just so we can get on the record, so you were an addiction medicine consultant at the London Health Sciences Centre until what date?

A. Until June 30th.

34 Q. Of 2024?

A. 2024. Yes. That's right.

35 Q. And so are you able then -- and so do you currently have privileges at the London Health Sciences Centre?

A. No.

36 Q. It states in the CV that you are an addiction medicine consultant at St. Thomas Elgin General Hospital. Is that still the case?

A. Yes. That is still the case.

37 Q. So just to summarize here, is it fair to say that your addition medicine practice as a consultant is now based at St. Thomas Elgin General Hospital?

A. That is fair to say, yes.

38 Q. Okay. And are you able to explain why you left London Health Sciences Centre -- or pardon me, why you did not renew your privileges at the London Health Sciences Centre?

A. I would say it is multifactorial. One is that I now live in Port Stanley. I wanted to spend more time with my family, particularly with my mother, who was needing help.

I also wanted to be able to speak freely on issues that I felt were important, and I felt that it was very important to me that I have that freedom within St. Thomas. And in London, there was a request for me to speak through the Public Relations Committee.

I felt that overa l there were many reasons for leaving. I loved my position. I loved my job. I loved the team that I was working with, but felt that at this present time in my age and practice, I wanted to focus my practice in St. Thomas, which has a very different approach to addiction.

I would like to be able to expand my practice in St. Thomas and felt that this was really where I wanted to put my energy at this time.

39 Q. So, Dr. Koivu, you used the phrase issues that were important to you; is that correct?

A. Yes.

40 Q. Can you please explain what you mean by issues that were important -- that are important to you?

A. I think that issues that are important to me include things around problems that I'm seeing related to diverted drugs, being able to respond about things such as supervised injection sites, which I do support.

There are many issues in addiction that -- safe supply is one of them, but not limited, that I felt that I really wanted to be able to respond to questions about them if they came up and felt very supported by my colleagues, but also recognize that in London Health Sciences Centre, those things need to be run by PR.

It was one of many factors that made me make the decision that a good place for me to be working is in St. Thomas, which has had a very different approach to homelessness. It's had a different approach to people suffering with opioid use disorder. And this to me was an important fit for me.

41 Q. And when you say "questions that came up," questions posed by whom?

A. Questions that could be posed by particularly -- I'm going to say particularly f the media asked me questions, I wanted to feel free to respond, but not limited to that.

There can be -- even something such as being able to freely express myself in any forum, in medical forums. I just felt very supported in St. Thomas and felt that I didn't feel comfortable running -- I didn't feel comfortable running through the Public Relations Committee in London Health Sciences Centre to be having approval of things I say when a board member on the London Health Sciences Centre who, by virtue of being the chief of nursing, is also on the board of London Intercommunity Health, and I felt that there was a conflict of interest there that could affect my ability to speak freely.

42 Q. Okay.

A. Not my conflict of interest, but the board -- the London Health Sciences Centre.

43 Q. Okay. Thank you for that. We will come back to that in a moment.

So I want to just focus in a bit on the time that you were at London Health Sciences Centre where

you were both a palliative care physician consultant and an addiction medicine consultant. And if I understand correctly, that would have been from between 2012 and 2021 where you practiced in both areas; is that right?

A. Yes.

44 Q. And during that time, what percentage of your practice would you say was devoted to palliative care and what percentage was devoted to addiction medicine?

A. At the beginning of that time period, more of my practice was devoted to palliative care. It was actually in palliative care that I became interested in addiction.

I started seeing people who were dying from infectious complications of injection drug use and recognized that we had a -- in spite of being a tertiary care centre, there was very limited addiction support at the hospital.

So initially, my involvement was highly palliative care, and over time, it became almost exclusively addiction until it was exclusively addiction.

45 Q. Okay. We will come back to that as well. And then -- so in your role as an addiction medicine consultant at London Health Sciences, is it fair to say that your practice was an in-patient practice?

A. Exclusively.

46 Q. Exclusively, okay.

And so, again, I would like to come back to that. And so just to be clear, I don't see on your CV any practice experience in the City of Hamilton; is that right?

A. I have not done medical practice in the City of Hamilton, that is right.

47 Q. Okay. Thank you.

So I would like to scroll down to your presentations, if I could. And I'm sorry if this gives you a bit of nausea. Sometimes it does.

A. Yes, vertigo.

48 Q. Yeah. Okay. Sorry. So do you see the title "Presentations" here?

A. Yes.

49 Q. Okay. And I see that the last presentation -- or the most recent presentation on this list is the 24th of May, 2018?

A. Well, that's for an invited lecture as a keynote speaker. That's very different from presentations.

50 Q. Oh, so you've given other presentations since then?

A. I think if you keep scrolling down, you will see them.

51 Q. I didn't see them.

A. Oh, okay.

52 Q. Well, if you can direct me to it, I would be happy to take you there. And you are free -- Dr. Koivu, you are free to refer to your CV, because it is an exhibit to your affidavit.

I am just scrolling through here as well. I see media appearances. I see symposia. Is this what you are referring to? And workshops? This is on the last page of your Exhibit A.

A. Can you go back to the top of where that is, "invited lecture"?

53 Q. Sure. I'm just going to scroll up. You tell me when -- I'm going to take you where I think you are referring to, and you can tell me if that is right.

A. I have given talks since 2017 or '18.

54 Q. Oh, you have?

A. Yes, I have.

55 Q. So this CV is not up-to-date?

A. Yes, I am missing talks that I have given. I have given presentations since that time.

56 Q. Okay. So it would be helpful -- so, counsel, we would like an undertaking to provide Dr. Koivu's updated CV that contains any missing information.

MS SHORES Yes. Of course.

---UNDERTAKING

MR. CHOUDHRY Thank you.

BY MR. CHOUDHRY

57 Q. So, Dr. Koivu, I want to ask you about a presentation that you gave recently to the House of Commons Standing Comm ttee on Health on May 6, 2024.

Do you remember that?

A. Yes, I do.

58 Q. And so, Dr. Koivu, I'm going to put up on this screen -- and we will mark this as Exhibit 1 to the cross-examination. This is the Standing Committee -- these are the minutes of the Standing Committee of Health of May 6, 2024.

MS SHORES So let me just interject with the respect to the marking of exhibits. We will mark this for identification, and you can put the question to Dr. Koivu to authenticate the document if she is able to do so.

-- EXHIBIT NO. 1 Minutes of the Meeting of the Standing Committee of Health dated May 6, 2024.

BY MR. CHOUDHRY

59 Q. Sure. So, Dr. Koivu did you testify before the Standing Committee of Health of the House of Commons on May 6, 2024?

A. Yes, I did.
60 Q. Have you ever seen these minutes?
A. No, I haven't.
61 Q. You haven't. Okay. So, Dr. Koivu, these are on the House of Commons website, and they are official minutes of the House of Commons Committee of Standing Health, and they include your remarks and questions and answers.
And so because you haven't seen these, I'd like to give you a minute to refresh your memory of what you might have said. And so I'm going to enlarge this here. Can you read that?
A. Yes.
62 Q. Right. I'm sorry. I can't --
A. It's now too big, actually.
63 Q. It is? Okay. So, fine. So tell me -- tell me when -- how is that?
A. I think -- yes, that's fine.
64 Q. Okay. So it begins here
"Dr. Sharon Koivu, addiction physician as an individual."
Correct?
A. Yes.
65 Q. Okay. So, Dr. Koivu, would you like a minute to just refresh your memory about this testimony that you gave? Or do you recall it?
A. Okay. Everything on the screen I can see.
66 Q. Okay. I'm going to scroll to the next -- can you go to the next page?
A. Yes.
67 Q. Okay. So I've got the top half of the page, and when you are ready, I can move down.
A. [Reading].
68 Q. Okay. Can I scroll down?
A. Yes.
This is not me.
69 Q. No, it's not. So to the bottom of the left-hand column is you. And then I'm going to move up, if I could, Dr. Koivu. You continue your remarks. So what's reported to be your remarks are here up to this point on the right-hand column.
A. [Reading].
Okay.
70 Q. Okay. Have you reviewed your remarks as reported?
A. Yes, I have. And --
71 Q. I'm sorry. And --
A. Yes, I have. I'm moving out, because -- I'm sorry. Okay. Yeah, I believe I have reviewed my remarks.

72 Q. To the best of your recollection, are these minutes -- are these minutes accurate?
A. To the best of my recollection.
73 Q. Okay. And so I want to take you to one statement here that I'm going to highlight. And for the record, it reports you as having said
"I have decided to speak out to bring a voice to the horrific suffering I have witnessed from safe supply."
Do you recall making that statement?
A. Yes.
74 Q. I want to ask you a question about the term that you used here, "speak out." When you used the term "speak out" here, do you do mean speak out directly to parliamentarians about safe supply?
A. In the term I'm using here, yes.
75 Q. Okay. In the term you are using here. Do you mean you use the term "speak out" elsewhere as well?
A. No. I don't believe that that is elsewhere in this document.
76 Q. Okay. And do you believe by speaking out here, do you mean speaking out on the public record about safe supply?
A. Yes. That would be accurate.
77 Q. So Koivu, I'd like to understand how you came to testify before the Standing Committee of Health. Were you issued an invitation --
A. Yes.
78 Q. -- by anyone to testify? Sorry.
A. I believe so, yes.
79 Q. And, Dr. Koivu, I'm sorry. I know you want to answer, and it's we're in a conversation.
A. Sorry.
80 Q. No, it's fine. I actually do it too much myself. But if you can just wait until I'm finished, and if I do the same for you. And if I don t, I'm sorry. But it helps the court reporter get the transcript down. So I will pose the question again.
Were you invited to testify before the Standing Committee on Health?
A. I'm trying to get the -- I mean, I want to make sure I'm answering this accurately. I was -- I requested to speak to the Committee, and then they invited me.
81 Q. I see. So do you remember when you contacted the Committee?
A. It was definitely before -- I think it was last -- oh, gosh. I'd have to look back. I think it was early on -- it feels like, I'm going to say, even December

of last year that I contacted the Committee.

82 Q. So you contacted the Committee in December of 2023?

A. I think so. I'm not -- to be honest, I'm not sure of that. I'm not sure of the accuracy of that. I know I contacted the Committee at a time when you were able to contact the Committee, and I don't remember exactly when that was.

83 Q. And can you explain why you contacted the Committee to offer to testify?

A. I think my understanding of this committee was that it was going to be reviewing safe supply and that it was -- my understanding was that it was a health committee and that it was going to be reviewing safe supply and it was going to be looking at the risks and benefits of safe supply, and I felt that I had important information to contribute.

84 Q. Okay. Thank you.

So, Dr. Koivu, I'd like to refer you back to your CV, if I could. So I'm going to go back. And there are a number of publications listed, which I will take you to in a moment.

Do you see that on your screen?

A. Yes.

85 Q. Is it too large or too small, or is it

okay?

A. That's fine.

86 Q. And so these are academic publications; correct?

A. That is correct.

87 Q. So you haven't listed on your CV any newspaper publications that you have; correct?

A. I don't consider those -- I don t consider those my publications at all.

88 Q. Okay.

A. And they aren t in the sense of basically when you are ta king to the press, they don t -- they print things sometimes limited, sometimes out of context. I wouldn t refer to things in the press as publications, and certainly they are not medical publications.

89 Q. Okay. Well, let me take you to an article in the National Post. And so this is an article that we will mark for identification purposes as Exhibit 2. And it's dated -- do you see at on your screen?

-- EXHIBIT NO. 2 National Post Article, Dr. Sharon Koivu, special to the National Post, dated June 10th, 2024.

THE WITNESS Yes, I do.

BY MR. CHOUDHRY

90 Q. And it says

"Dr. Sharon Koivu, special to the National Post."

Do you see that?

A. Yes.

91 Q. Did you write this article?

A. Let me see what the article is. I have written one op-ed in my life, and I wrote it to the National Post, so I'm assuming that's what this is.

92 Q. Sure. We can take a minute to have you go through it. And so for the record, do you see that it states here that it's published on June 10th, 2024?

A. Yes.

93 Q. And the title of this article is

"Dr. Sharon Koivu 'Safe supply' Has Only Worsened The Addiction Crisis In London Ontario."

Correct?

A. That's what it states. That is not the title I wrote. That is the title that the editor wrote.

94 Q. I see. What was the title that you wrote?

A. I don't remember, to be honest, but that is not the title that I wrote.

95 Q. Okay.

A. As I say, things that go in a paper are edited.

96 Q. Well, let's just look at what has been printed here. And I'd like you to indicate if this is, in fact, what you wrote.

So I think we will give you time to read this again. So I'm starting here on page 2. So tell me when you have finished reading this.

A. [Reading].

Okay.

97 Q. Okay. And this -- I will go to page 3.

A. Okay.

98 Q. And I'm going to scroll down to page 4.

A. [Reading].

Yes.

99 Q. And I'm going to scroll down again. Sorry This begins at the -- this is how this was printed.

A. [Reading].

Okay. We can move on.

100 Q. Sure. This is the next tranche of text.

A. [Reading].

Okay.

101 Q. Okay. And I'm going to continue until we finish. I'm sorry it comes in dribs and drabs like this.

A. [Reading].

Okay.

102 Q. Okay. And then this is where the article

ends.

A. [Reading].

Yes. Okay.

103 Q. Now, Dr. Koivu, you've now refreshed your memory. These are just kind of comments and garbage that it printed off. So that's the end of the article. Okay?

A. Okay.

104 Q. So, Dr. Koivu, I will now ask you this question again. Do you recognize this article?

A. Yes, I do.

105 Q. Did write the words in this article?

A. Yes, I did.

106 Q. And you stand by what you said in this article?

A. I think there was some editing, but I do stand by this article.

107 Q. Did you approve the publication of this article?

A. Yes.

108 Q. So I want to ask you -- and you didn't object to its publication after the edit?

A. No. I did not.

109 Q. No, you did not; is that correct?

A. I did not object.

110 Q. Okay. So I have two questions I want to put to you about this article. The first is on page 2. And it's this paragraph that I've highlighted just to aid you a bit. And I want to ask you a question about the last sentence. And it says

"I feel compelled to speak out about the harm safe supply is causing in my community."

Did you write those words?

A. Yes, I did.

111 Q. Can you please -- in this context, by "speaking out" did you mean speaking out publicly?

A. Yes, it does.

112 Q. And was it your hope in writing these words or making a submission to the National Post that your views would be read by members of the public?

A. Yes.

113 Q. I would now like to take you to page 7. And, again, I'd like to take you to just the final paragraph in your op-ed.

And I want to ask you a question about this sentence here. And it states, for the record

"To prevent further harm, a moratorium on funding and expansion of 'safe supply' programs must be put in place."

Did you write those words?

A. Yes.

114 Q. Is it your understanding that the provincial government funds safe supply program?

A. Oh, goodness, no. It's a federally funded program.

115 Q. Federally funded. And so were you advocating that the federal government impose a moratorium on funding and expansion of safe supply programs?

A. Yes.

116 Q. Thank you. Okay. So, Dr. Koivu, with the caveat you've just given that you can be at times misquoted in the press, I'd like to put to you other instances of speaking out, to use your words, just to kind of have you confirm whether, in fact, what you are quoted as having said is accurate or not.

So I'm now going to take you to an article that we will mark for identification purposes as Exhibit 3.

-- EXHIBIT NO. 3 Canadian Affairs Article dated July 8, 2024.

BY MR. CHOUDHRY

117 Q. It's an article that is entitled -- that appears in a publication called Canadian Affairs. And it's an article written by Mr. Liam Hunt, and it is dated July 8, 2024.

Dr. Koivu, have you read this article before?

A. No.

118 Q. You haven't. Do you recall being interviewed by Mr. Hunt?

A. Yes, I do.

119 Q. Do you happen to recall when you were interviewed by him?

A. I would say likely in June of 2024.

120 Q. Okay. So, Dr. Koivu, because you haven't read this, I'm happy to kind of let you read the article again before I ask you questions about it, if you would like. Would you prefer that I do so? But I have some very specific questions. It's rea ly your choice.

A. I guess --

MS SHORES I think she should be given the opportun ty to read the article, counsel.

BY MR. CHOUDHRY

121 Q. Of course. Absolutely. And that's why I offered.

So, Dr. Koivu, I'm going to begin. We are going to have to scroll through this again. So you can see, this is page 1. So just tell me when you have finished reading the headline and subtitle and then I can

take you through it.

A. Okay.

122 Q. Okay?

A. Yeah.

123 Q. Okay. So I'm just going to go here. And tell me when you finish this screen, and I will continue to scroll down.

A. [Reading].

Yes.

Keep going.

124 Q. Okay.

A. Okay.

125 Q. Okay. I will stop here.

A. [Reading].

Okay.

126 Q. Okay.

A. [Reading].

Okay.

127 Q. Okay. And then you go there.

A. [Reading].

Okay.

128 Q. Okay. And then we will go to the end.

A. [Reading].

Okay.

129 Q. Okay. So, Dr. Koivu, I want to take you to

a passage that begins -- two paragraphs, one that's at the bottom of page 4.

A. Yes.

130 Q. And one that runs from page 4 to page 5. So I just want to put those to you and ask you some questions about them.

So the author attributes the following view to you. The author states

"Koivu considers herself a lifelong progressive and has historically supported the New Democratic Party."

Is that a fair characterization of your views?

A. Well, I am going to say yes, historically, I have supported the New Democratic Party and that I have felt that -- I think that is accurate.

131 Q. Did you state that? Do you recall stating that to the author?

A. I'm sure that's a paraphrase, but I grew up -- my dad ran for the NDP in 1974. I knew Tommy Douglas, David Lewis, Ed Broadbent. So yes, I have traditionally been involved in what would be referred to as left-wing and particularly in the NDP.

132 Q. The author states then

"But she is concerned many left leaning politicians have ignored criticism of safer supply."

Did you express that view to the author of this article?

A. Yes. That would be consistent with what I expressed.

133 Q. Then there is a quote that is attributed to you in the next paragraph. The quote begins

" I went to a hearing in Ottawa of a standing committee to talk about addiction,' she said."

Do you recall stating that to the author?

A. I would have said that it was -- that I went to the hearing in Ottawa to discuss safe supply, but, you know, meaning that I might have -- to be honest, that's consistent with what I may have said.

134 Q. And then the author continues to quote you. Quote

"We had five minutes to give a talk and then two hours to answer questions."

And then there's the author's words

"But I didn't receive any questions from the NDP or from the liberals."

Do you recall making that statement to the author?

A. Yes.

135 Q. I'd like to now take you to another newspaper article that attributes quotes to you, and I want to confirm whether they are accurate or not.

So this is an article from the Toronto Sun, for the record. We will mark it for identification purposes as Exhibit 4.

-- EXHIBIT NO. 4 Toronto Sun Article, August 18, 2023.

BY MR. CHOUDHRY

136 Q. And the title here is

"LILLEY Addictions specialist calls on Ford to clean house at SRCHC."

And it's dated -- it states here that it is published on August 18, 2023.

Dr. Koivu, for the record, have you ever read this article?

A. No.

BY MR. CHOUDHRY

137 Q. You have not?

A. No.

138 Q. So, Dr. Koivu, because you haven't, I think it's only fair to let you read it before I ask you questions about t. I'm sorry. This will take time.

So, Dr. Koivu, I'm going to begin -- we will follow the same procedure. I'll put what I can on the screen, let you read it, and when you are done, we will move on to the next set of text.

So this is the beginning of the article. Can you read it? Is that too big or is that fine?

A. That's fine.

139 Q. Okay.

A. [Reading].

Okay.

140 Q. Okay.

A. Keep going.

141 Q. Okay.

A. [Reading].

Okay, okay.

142 Q. Okay.

A. [Reading].

Okay.

143 Q. Okay. Okay. And this is the end. And I will show you the rest of it is just material that turns up on PDFs. So why don't we finish here, and then I will scroll through the rest of this so you can see the rest of the page or the document.

A. Okay.

144 Q. And so then, Dr. Koivu, as far as I can

tell, this is just stuff that turned up on the PDF afterwards.

A. Okay.

145 Q. So now, I want to ask you some questions about this article, if I could.

Do you recall -- as I've stated before, the author of this article is a Mr. Brian Lilley.

A. Yes.

146 Q. Do you recall being interviewed by Mr. Lilley?

A. Yes, I do.

147 Q. Do you happen to recall when you were interviewed by Mr. Lilley?

A. In 2023, shortly after the shooting that led to the death of the woman in front of the South Riverdale. So I think August would likely be accurate, August of 2023.

148 Q. Okay. Thank you. So I'd like to take you to a couple of statements that are attributed to you, or views that are attributed to you. The first one is here at the bottom of page 3.

A. Yes.

149 Q. Mr. Lilley attributes the following view to you

"Specifically, Dr. Koivu takes

issue with the Centre's of philosophy published on the SRCHC website."

Did you take issue with the Centre's philosophy on its website in your interview with Mr. Lilley?

A. Yes.

150 Q. I'd now like to take you to a quote that's attributed -- first of all, a quote from the SRCHC. Just for context, it says

"It is a philosophy about being simply respectful of and to people who use drugs. No judgement, no expectations, and no desire for people to stop using drugs."

And then there's a statement -- there's a quote attributed to you immediately after that which says the following, quote

"That is like a cancer doctor refusing to offer a patient chemotherapy because it might be uncomfortable, Dr. Koivu said."

Do you recall making that statement to Mr. Lilley?

A. Yes, I do.

151 Q. And that statement is accurate?

A. This statement is accurate. It's somewhat out of context, but it's accurate.

152 Q. And so I'd like to -- yes, ma'am. Go ahead.

A. Can I -- I mean, the part of the statement that I have a problem with, and I said this, is specifically the no desire for people to stop using drugs. I support no judgement, no expectations -- I support no judgement absolutely, but no expectations and no desire for people to stop using drugs was the part of the philosophy that I took issue with. That is not clear in that statement.

153 Q. Okay. Thank you for that clarification. I'd like to now take you to another quote that is attributed to you. And this is on page 5 of the document. For the record, it says, quote

"With this policy, South Riverdale Community Health Centre is not working to improve lives, Dr. Koivu said."

Let's stop with that. Do you recall making that statement?

A. No, I don't. But it's quoted, so I'm going to say that I made the statement. I don't recall it specifically, but it is a quote here.

154 Q. Okay.
A. I do recall the next part, which is that they are promoting dependency on a service that should be meant to help them, that no expectation and no desire to stop using drugs, my concern is that they were promoting a dependency on the service and not facilitating patients to access recovery and treatment programming, as is indicated in supervised injection sites.
155 Q. Okay. And so, Dr. Koivu, before making this statement, or since then, have you visited the South Riverdale Community Health Centre?
A. No.
156 Q. No. Have you met with the physicians who are on staff at that centre?
A. No.
157 Q. Have you met with any patients who have -- or any individuals who have -- who are clients of that centre?
A. No.
158 Q. So I'd like to continue then to these quotes that are attributed to you. And these are on page 7. The first quote is
"There has to be a complete change in leadership, Dr. Koivu said."
Do you recall making that statement?

A. I don't recall specifically, but it is quoted, so I'm going to say I made that statement.
159 Q. Okay. And then I would like to take you to the next quote.
"Unfortunately, once people have drunk the Kool-Aid and think this is a good thing, it's hard to have the same workers recognizing the importance and value of facilitating a journey to recovery."
Do you recall making that statement?
A. Yes.
160 Q. And then finally, I would like to take you to -- I would like to just ask you a question. So you've said that you haven't -- you had not visited the SRCHC prior to giving this interview and making these statements; correct?
A. That is correct.
161 Q. And you have and done so since then; correct?
A. No, I haven't.
162 Q. And you haven't made an academic study of the work at the SRCHC, have you?
A. No, I haven't.
163 Q. Okay. So one more media quote here, Dr. Koivu, and then we will get back to your affidavit.

And I should also tell you at some point, if you need to take a health break or get a glass of water or so forth, just -- we are about to be at a natural time where you could if you want to, but it's really up to you. I'm happy to continue as well.
A. You can continue right now.
164 Q. Okay. But let us know if that changes. Okay?
A. Yeah. Thank you.
165 Q. So, Dr. Koivu, this last article is in the London Free Press. And I'm sorry that t's not -- can you read that?
A. Yes, I can.
166 Q. It's an article in the London Free Press that we will mark as Exhibit 5 for the purposes of identification.
-- EXHIBIT NO. 5 London Free Press Article, Harms of safe drug supply programs outweigh benefits Addiction specialist.
BY MR. CHOUDHRY
167 Q. The title is
"Harms of safe drug supply programs outweigh benefits Addictions specialist."
And then it states
"A London doctor at the centre of

a national political debate over opioid program said she had no intention of becoming a talking point for the federal Conservative party."
The author of this article is a Mr -- pardon me -- is Randy Richmond. Do you recall being interviewed for this article?
A. Yes, I do.
168 Q. Have you read this article before?
A. No, I haven't.
169 Q. Okay. So we are going to follow the same procedure.
I'd like to take you through the article so you can read it before I ask you some questions about it. So can you confirm that you have read this page?
A. Yes, I have.
170 Q. Okay. I'm going to scroll down now. Okay. And I'm very sorry about the way that this has come formatted. Can you read that? The article begins here.
A. Yes.
171 Q. Okay. Can you read that?
A. Yes.
172 Q. So let's -- tell me when you've finished this screen, and I will continue to scroll down.
A. [Reading].

Yes. Okay.
173 Q. Okay.
A. [Reading].
Okay.
174 Q. Okay.
A. Okay. Okay.
175 Q. Okay. So I have a couple of questions about the sentence that I have side-barred here in the final page of this article. The first sentence states
"Meanwhile, Koivu is cal ing for a moratorium on funding until there's more public discussion of the programs."
That's a statement or a view that's attributed to you. Do you recall making a statement like that to the journalist?
A. Yes, I did state that there should be a moratorium on funding safer supply -- or safe supply programs.
176 Q. The next sentence -- and I believe this is a typo. It says "Koivus," but it should be "Koivu." But it states
"Koivus [sic] said she approached local NDP and Liberal MPs, who consider her opinions, but can't get

A9019

her message beyond them to party leaders."
Did you tell the journalist that you had approached local NDP and liberal MPs?
A. Well, actually it's -- the NDP is an MPP.
177 Q. Oh, I see.
A. NDP is liberal. So in the writing -- in the same writing that I did speak to the l beral MP and the NDP MPP. And had I spoken to an NDP MP, it was specifically in the writing of London.
178 Q. So you approached the local NDP MPP and the local MP?
A. Yes. That is correct.
179 Q. And you approached them?
A. Yes.
180 Q. And then it says here
"But can t get her message beyond them to party leaders."
Did you ask want -- did you ask them to convey your message to party leaders?
A. I would say, yes. Certainly with speaking with the l beral MP, I felt that it was very important for the federal government to understand concerns that were happening in London. So yes, he had been initially very engaged.

And I have known both of those men for quite a while and have had a very good relationship with both of them and spoke to both of them about this. And yes, I was hoping that they would speak beyond the local level.
181 Q. Okay. Thank you. So, Dr. Koivu, I'd like to go back to your affidavit. And I'm on Exhibit A. Again, these are your publications. Do you recognize this publication list?
A. Yes, I do.
182 Q. And so there I see here 11 publications. Is that list up-to-date?
A. I believe there are more. I think I have about 14 publications, but -- I believe there are about 14 publications at this time.
183 Q. And those additional publications would be on the CV that we will be getting from you soon?
A. Sure.
184 Q. Sure.
A. I will put them on.
185 Q. Okay. And so, Dr. Koivu, I looked at the list of publications, and it seems -- I want to put to you that these publications are principally about drug use, about addiction and so forth. If you'd like, I can put specific article titles to you.

A. Is that a question? I'm not sure.
186 Q. No. I'm trying to characterize the body of your research. I count here one -- so Article 1, then Article 4, Article 5, Article 6, Article 7, and then Articles 8, 9 -- 8 and 9, and then Article 11 as all being about the health effects of injecting drugs; is that fair?
A. That would be more accurate than I think the first way you put it, so, yes.
187 Q. Okay. And would you say that that is the principal focus of your research?
A. That has been the principal focus of the research that I have been involved in.
188 Q. When you say you "have been involved in," what do you mean by that?
A. That I am involved in all of those studies, so, yes, I have -- research is -- I am a clinician and do research. And the research I have been involved in has -- which has been supported -- that doesn't sound right.
So, yeah. I guess the answer is, yes. The research I have done has been primarily around the complications of injection drug use.
189 Q. Okay. So, Dr. Koivu, I'd like to take you to your affidavit now. Excuse me. I'm going to scroll up. And you are free to have it in front of you, as I have said before.

A4735

So I just want to take you to paragraph 5.
And so this paragraph describes your work as an addiction
physician?
A. Yes.
190 Q. And just to confirm, it states that you've
primarily been providing inpatient addiction medicine
consultations; correct?
A. Yes, correct.
191 Q. And then it says here
"The patients that I see are
admitted to hospital and have a
substance use disorder."
Do you see that sentence?
A. Yes, I do.
192 Q. Okay. And so are you able to estimate how
many patients you have seen as an inpatient addiction
consultant between St. Elgin General Hospital and
London Health Sciences Centre?
A. You mean altogether?
193 Q. Could you estimate over the course of --
yes.
A. It's a hard question if you're looking at
number of consults versus number of patients, because some
patients come in -- okay.
194 Q. Could you give both figures, perhaps? This

is not a trick question. I'm just trying to understand
what the scale is of the patient population you have seen.
A. Thousands of patients.
195 Q. And just so I understand the logistics of
how this works, because you are an inpatient addiction
consultant, is it correct to say that patients are
admitted to hospital by a different service, so by
general --
A. Yes.
196 Q. Sorry. Go ahead.
A. Sorry. Yes.
197 Q. So, for example, they could be admitted by
general surgery?
A. Yes.
198 Q. Or they could be admitted by psychiatry?
A. Yes.
199 Q. And then they are referred to the addiction
consultant team?
A. Well, originally referred to me, and then
when we got a team, they were referred to a team.
200 Q. Okay. So they would be referred to you, or
when you had colleagues, to you or your colleagues on the
addiction consultant team; correct?
A. Yes.
201 Q. And your role, your treatment mandate is to

treat those patients for their addiction issues?
A. My treatment mandate includes meeting the
patients where they are, helping to keep them out of
withdrawal, helping to support them in hospital so that
they can stay in hospital for the treatment that is
required, and to help facilitate addiction treatment and
addiction recovery --
202 Q. Sorry. Go ahead.
A. I help facilitate addiction treatment and
recovery, therapy or I see people with multiple types of
addiction. So depending on the type of addiction, it is
about trying to help, meeting the patients where they are,
helping them to be able to stay in hospital, and helping
them to facilitate treatment, helping to coordinate with
community organizations and agencies and helping to
facilitate their journey into recovery if possible.
203 Q. Okay. But you don't treat them for their
other medical issues?
A. Generally not.
204 Q. So you don't treat them for their -- and
you are not a psychiatrist, are you?
A. No, I am not.
205 Q. Okay. And so -- and because you see these
patients on an inpatient basis, you don t follow up with
them in the community on an outpatient basis, do you?

A. No, I do not.
206 Q. Okay. And so in your role as an inpatient
addiction specialist, what percentage of your patients
would you estimate are unhoused or homeless?
A. That has increased over time. Initially I
would say that the number was fairly small. I would say
that that number has risen to close to 40 per cent.
207 Q. Okay.
A. In London, before I left London.
208 Q. I see.
A. In St. Thomas, it would be a different
number.
209 Q. What would the number be?
A. In St. Thomas it is a smaller number. I
would say most of the patients I see in St. Thomas are
housed.
210 Q. And when you see homeless patients, you see
them in the hospital; correct?
A. Yes, that is correct.
211 Q. So you don't attend on them in she ters;
correct?
A. I do not attend on them medically in
shelters, no.
212 Q. No. And you don't attend on them medically
in encampments, do you?

A. No. I don't.
213 Q. Okay. So, Dr. Koivu, there's a term that is sometimes used in the medical literature and also in this policy area called "living rough." Are you familiar with that term?
A. Yes, I am.
214 Q. So I'm going to put to you -- what do you understand that term to mean?
A. I think it has various meanings. So your meeting would be helpful, but living rough tends to mean living outside of a shelter.
So living rough can include living -- being homeless and living outside of a shelter system, outside of -- that would not include couch surfing or that sort of thing. It would be about living either -- it can refer to living in encampments, tents. It can refer to living outside, without the aid of tents or encampments.
Sometimes people will use it specifically to mean outside of even encampments. So how it is used can be variable.
215 Q. So, Dr. Koivu, that's very helpful. And I'm glad we are clarifying this.
So in this cross-examination, I'm going to use living rough in a narrower sense than you did. And so I will draw a distinction in some of my questions between

A9021

living in an encampment and living outside but not in an encampment, so specifically not living in a tent.
Is that clear?
A. Okay. If that's how you will use the term living rough to mean living on the street or living outside of a tent or an encampment --
216 Q. Yes.
A. -- which are both different, but okay.
217 Q. That's correct. Just to be clear. Okay. And so I want to take you to paragraph 10. And you state here
"Many the patients that I see[...]"
I assume you meant "many of."
"So many of the patients that I see are vulnerably housed or experiencing homelessness. I have seen patients who are living in homeless shelters in tent encampments and in both environments."
Correct?
A. Yes.
218 Q. Okay. What proportion of your addiction practice is devoted to shelter residents?
A. So of the homeless patients that I see -- and so the question is, how many are in shelters? So

40 per cent. That also has defin tely changed over time. Initially most of the homeless patients I saw would have been living in shelters.
That has changed. I'm going to say it's about -- 50 per cent are living in shelters, and 50 per cent are living mostly in encampments.
I do not have a population of patients that I see that I would say are specifically living rough --
219 Q. Okay.
A. -- as you have defined it.
220 Q. Thank you. That's helpful. I want to take you to paragraph 15. And it's about the scope of your expert opinion. And so it says here
"I have been asked to provide my opinion from the perspective of my area of expertise w th respect to health outcomes for people experiencing homelessness who live in encampments, as compared to in shelters."
Can you confirm that that is what you were asked --
A. Yes.
221 Q. -- to provide?
A. Yes.

222 Q. Okay. And so you have not been asked to provide your opinion on the health outcomes for people experiencing homeless -- or comparing the health outcomes of people experiencing homelessness living rough compared to those living in encampments or living in shelters?
A. No. Not as you have defined it, no.
223 Q. Okay. I'd now like to take you to paragraph 18. And so here I'm going to highlight the first sentence. It states-- pardon me. Sorry, the first two or three sentence I have highlighted. I'd like to ask you about the third sentence.
A. [Reading].
Yes.
224 Q. Okay. And so I'd like to ask you about the -- so the third sentence states for the record
"Unsheltered people experiencing homelessness have a 2.7-fold increased risk of mortality compared to those who are sheltered."
Correct?
A. Yes.
225 Q. And you cite to that -- for that reference for that proposition footnote 15; correct?
A. Yes. That is the Boston study.
226 Q. That's the Boston study. Okay. So I'm

A4737

1 going to take you to the Boston study. And so if you will
2 give me a second. And I'm going to put it up here.
3 We will mark this as Exhibit 6 to the
4 cross-examination.
5 -- EXHIBIT NO. 6 Boston Study.
6 BY MR. CHOUDHRY
7 227 Q. Can you read that for identification? Do
8 you recognize this paper?
9 A. Yes. Yes, absolutely I recognize the
10 paper.
11 228 Q. And so this is a paper that was published
12 in JAMA Internal Medicine. The title is
13 "Mortality among unsheltered
14 homeless adults in Boston,
15 Massachusetts 2000-2009."
16 You referred to this as the Boston study.
17 Is this the Boston study?
18 A. Yes. This is the study that I am referring
19 to that I am calling the Boston study, yes.
20 229 Q. Okay. And so I'd like to take you to a
21 couple -- did you review this article before reading --
22 before preparing your affidavit?
23 A. Yes, I did.
24 230 Q. Do you remember when?
25 A. I've -- I mean, I've read it previously. I

1 also read it more recently when I was doing my affidavit.
2 So I'm going to say around the -- as I was doing my
3 affidavit, this was one of the articles that I read.
4 231 Q. Okay. So I would like to take you to two
5 parts of the study. So scrolling down here. So the first
6 is -- so this is page 2 of the article. And I will just
7 reduce it a bit so it is all on one screen.
8 Do you see that?
9 A. Yeah, but --
10 232 Q. It's too small? I can --
11 A. I can read it, but I'm --
12 233 Q. No, no.
13 A. -- going to be staring closely. It's --
14 234 Q. That's not the intention. So let me
15 increase the size. Is that better?
16 A. Yes.
17 235 Q. All right.
18 A. Now I can only see one part, though.
19 236 Q. That's what I was trying to avoid, but
20 let's do it this way.
21 A. Can you scroll it up a little bit?
22 237 Q. Of course.
23 A. If you scroll the other way.
24 238 Q. Scroll down?
25 A. I guess down, yes.

1 239 Q. Yeah.
2 A. I might be -- now I can't quite get --
3 240 Q. Can you see the bottom, Dr. Koivu?
4 A. I'm missing the top. I'm not quite able to
5 see the whole thing.
6 241 Q. Okay. I know. Unfortunately, I can't do
7 that and have you make it readable. So --
8 A. No, you can go smaller. I can st ll read
9 it. You can go smaller than that and I should be able to
10 still read it.
11 242 Q. Okay. Tell me when to stop.
12 A. Okay. Yes. I can read both parts. I can
13 read both parts.
14 243 Q. Okay. Dr. Koivu, I'd like to take you to
15 the method section of the article.
16 A. Yes.
17 244 Q. It starts here.
18 A. Yes.
19 245 Q. Do you see that?
20 A. Yes.
21 246 Q. And I'd like to take you to the study
22 population --
23 A. Yes.
24 247 Q. -- paragraph. Can you just refresh your
25 recollection by reviewing that paragraph?

1 A. Okay.
2 248 Q. It begins at the bottom of the left column
3 and it goes up to the right column.
4 A. Yes.
5 [Reading].
6 Okay. Yes.
7 249 Q. Okay. And so would you agree that the
8 authors of the article did not break down the unsheltered
9 homeless population --
10 A. Absolutely.
11 250 Q. -- to those living rough and living in
12 encampments?
13 A. Absolutely. That is one of the, for lack
14 of the better word, weaknesses of this article is that
15 they didn't break it down. Absolutely.
16 I completely agree with you that a problem
17 with this article, with this study is that they did not
18 break down what you would describe as living rough versus
19 encampment.
20 So this is not -- you are right.
21 Absolutely.
22 251 Q. Okay.
23 A. That is a flaw of this study or a
24 limitation, I guess, is the right word that I'm looking
25 for, in the study.

252 Q. Well, on the topic of limitations, I want to take you to the limitation section of the study. And so I'm scrolling down. And so this begins on page 5 of the PDF with the title "Limitations."

Do you see that?

A. Yes.

253 Q. I want to take you to a passage on the limitation section on the next page. May I do that, or would you like to read this first?

A. No, that's fine. You can take me to the passage.

254 Q. Okay. Great. And so I want to take you to this sentence here. Additional limitations. And it reads, for the record

"Additional limitations included a lack of information about individual comorbidities or the chronicity of being homeless before and during the observation period. Both could have contributed to a more nuanced understanding of mortality risk in this population."

Do you see that?

A. Yes, absolutely.

255 Q. Okay. And so I want to put this into plain

English, if I could. So let me suggest something to you. And please let me know if this is accurate.

Are the authors stating here that they did not control for the comorbidities of the two homeless populations, those who are living in shelters and those living outside shelters?

A. I don't think this was a study where you control that in the sense that it's not a randomized controlled study. So I'm not sure "control" is the word, but I don't think they factored in or had the ability to know what the comorbidities and even the chronicity.

So I would say it's more things that could be -- contribute to living in a shelter or not living in a shelter, those sorts of comorbidities were not taken into consideration during this study.

256 Q. That's very helpful, Dr. Koivu. Let me kind of, again, in layman's terms, layperson's terms, put that point to you and see whether it's fair.

Is it fair to say that the authors did not observe chronicities or comorbidities and therefore could not factor those into their analysis of health outcomes?

A. Well, I wouldn't say they didn't observe them. They just didn't observe them before the observational period so that they couldn't say how they contributed to them.

So how this words is that they weren't able to say or they didn't observe prior, so specifically before -- you know, before or during, so they weren't observing them.

So I'm not -- so I think I'm agreeing, but not exactly. I think it is a wording thing. But, yes. They weren't -- the comorbidities and the chronicity of the illnesses weren t part of what they were looking at in the study and could be contributing factors that they did not take into consideration.

So I think we are saying the same thing. I just --

257 Q. Well, Dr. Koivu, just on that last point, did the authors not state that they didn t observe those either before or during?

A. Yes. It says before or during their observational period. Yes. So, yes, that's correct.

258 Q. So they didn t observe the comorbidities or chronicity during the observation period?

A. No, that is correct.

259 Q. So they had no information about them?

A. Yes, that is correct.

260 Q. And so they couldn t draw any conclusions about the role or lack of role of those chronicities or comorbidities on the outcome they observed; correct?

A. Yes, that is correct.

261 Q. Okay. Thank you.

I will take you back to your affidavit.

A. I think what is relevant in this study is those are the limitations. What is relevant in the study -- and I think -- you bring up a very good point, and I think you're going to be able to make that point with any study that we are extrapolating data and how we have that data interpreted. And there's going to be, I'm sure, more opportunities for you to do that.

I think what is also the strength of this study is that all of the people in the study had access to the same services.

So this is an American study. The types of services that they had access to are going to be maybe not similar to services in Canada, per se, but I think what was relevant about this study Is that they had access to the same services and yet found that 2.7-fold difference in mortality.

So there are limitations, I absolutely agree with you, there are limitations to the study. And you've pointed out limitations to the study. But I think the thing that for me is the strength of the study that makes it worth noting is that the people in the study were given access to the same services.

So it's not a matter of not having access.
It is not a matter of people who were in a shelter had
access to certain services that the other population
didn't.
And I think that is what makes this study a
valuable study. You are absolutely correct about the
limitations of this study.
262 Q. And just to pick up on the point that you
raised, this is an American study?
A. Yes, absolutely. And I think that that is
a really important point, because American healthcare is
different from Canadian healthcare.
And the -- so you are absolutely correct
that being able to completely extrapolate what happens in
Canada versus the States in many aspects are going to be
different.
I think what makes this study, as I say,
the most important part of the study is that people had
access to the same services, regardless of whether they
were sheltered or unsheltered. And I think that is the
part that's important. Those services may be somewhat
different, but that is the part that is most important.
263 Q. And just to go back to your affidavit, this
is the only study you cite for this statement.
A. Yes. It's actually in another paper, but

when I went back to that paper, I think it's the number 5,
Liu paper, they are actually -- they use the same
statement about mortality, the 2.7. I even think I saw
that in some of the affidavits.
But when you look at the references, they
are referring to that study, the same study. So I've seen
it in other articles. The one -- I think it's number 5,
that is from Liu is the author, I believe.
But if you actually read beyond their
statement of the 2.7, they are getting it from the same
study.
264 Q. Are you aware of any Canadian data?
A. No. No, I'm not aware of any. I think --
unfortunately, I'm not aware of -- I'm aware of the
Canadian study that looks at -- is the one from
Vancouver -- sorry, British Columbia, the Nikoo study that
looked at comparing sheltered to unsheltered, but that was
specifically about chronic illnesses. It is not about
mortality.
265 Q. I see. Okay.
A. I do not know of a study -- I would love to
see one -- I do not know of a study that is specific to
Canada. So that -- that is referencing the Boston study.
And any other references that I saw do go back and circle
back and they are referencing the same study.

266 Q. Okay. Good. And so thank you, Dr. Koivu.
I'd like to now take you to paragraph 20 of your
affidavit, which I have put up on the screen.
A. Yes.
267 Q. Just to refresh your memory.
A. Sorry. I'm looking at the wrong paragraph.
268 Q. That's okay. Can you see it here,
paragraph 20? It begins here.
A. Yes.
269 Q. Okay. And so this paragraph, it's fair to
say, is about the risk of frostbite?
A. Yes.
270 Q. That you -- and it's your evidence that
there are significant risk of frostbite to persons living
in encampments; correct?
A. Yes.
271 Q. But, of course, you are aware that shelters
don't provide 24/7 accommodation, are you?
MS SHORES Well, hang on, counsel. I
don't know that that's been established.
BY MR. CHOUDHRY
272 Q. Well, Dr. Koivu, what's your understanding
of the shelter accommodation?
MS SHORES She is not being presented as
an expert on the shelter accommodation.

There's a way you can propose that to the
witness that is both fair and proper and doesn't require
her to speculate on shelter policies.
BY MR. CHOUDHRY
273 Q. Well, Dr. Koivu, I would put it to you that
shelters do not operate -- they do not offer shelter
24 hours a day?
MS SHORES That's a refusal, counsel.
Again, you can put that proposition to her without asking
her to comment on shelter policies.
---REFUSAL
BY MR. CHOUDHRY
274 Q. Well, Dr. Koivu, if an individual -- do you
want to say something, Dr. Koivu?
A. I'm waiting for the question.
275 Q. So, Dr. Koivu, if an individual were
outside during the day, would they not also experience the
risk of frostbite?
A. Yes. The risk of frostbite, however, is
increased with the amount of exposure, the length of
exposure, the ability to also access a warm building, for
example. People who are outside during the day could also
go to a library during the day that isn't available at
night.
So, yes, the longer you are outside, the

more likely you are to have problems such as frostbite.
It also is worsened in environments in which the cold is
sort of maintained.
So -- and you could -- well, I guess in
answer to your question, if you are outside at any time of
the day for a long period of time, particularly if during
that period of time you are not conscious, such as being
asleep or taking a sedating medication, you are at risk of
getting frostbite at any time of the day.
Frostbite is not limited to nighttime.
However, the temperatures tend to be different at
different times of the day, as well as accessing warm
structures is different at different times of the day.
276 Q. And, Dr. Koivu, to be clear, you haven't
provided any evidence about access to warm structures
during the day, have you?
A. No, I haven't, and that's not my intent.
I'm just pointing out that when you're -- to the question
that you asked about daytime, I don't know the policy of
shelters. And I would say that access -- accessing a warm
environment decreases your risk of getting frostbite, and
not accessing a warm environment increases your risk of
getting frostbite, regardless of the time of the day.
277 Q. And, Dr. Koivu, would you agree that being
in a tent reduces the risk of frostbite relative to living

A9025

in the rough?
A. No. I have absolutely no data to support
that. If anything, if you are living in a tent,
especially a small, domed tent, then your own body heat is
going to be creating condensation on the tent, which can
actually increase moisture in the tent, which can be a
problem that can increase the risk of things, particularly
trench foot.
But the amount of protection in a tent --
at least the tents that I've -- tents are not designed to
be able to withstand temperatures to make a significant
difference once we are talking about freezing
temperatures.
278 Q. Have you -- can you cite a study for what
you've just said?
A. What I can say is I know of no study that
shows that tents are safer, that provide safety outside.
And having been someone who's done an extensive amount of
camping, which does not make me an expert on tents, I am
well aware of the limitations of a tent and do not know of
any study that would support what you have stated, which
is that a tent will offer an advantage over not being in a
tent once you are reaching the types of temperatures in
which frostbite can occur.
279 Q. Oh, interesting.

A. I am not a tent expert.
280 Q. Thank you for clar fying that.
Counsel -- sorry. Dr. Koivu, I'd like to
take you to paragraph 27, which is about trench foot. Do
you see it?
A. Yes, absolutely.
281 Q. All right. And so you don't refer
specifically here to the risk of contracting trench foot
inside or outside a tent, do you?
A. No.
282 Q. No?
A. No.
283 Q. Okay. All right.
A. But my topic was specific to people who
were in tents. So I was not making a comparison to people
who were not in tents.
As I have mentioned, the risk of being in a
tent, particularly because of how tents work where you get
condensation from body heat that's going to be
affecting -- essentially hitting the side of the tent and
creating moisture within a tent -- sleeping bags, for
example, can become quite moist just from body heat.
That's fairly standard. So absolutely the
risks of developing trench foot within a moist
environment -- and tents can be a very moists

environment -- are what I was referencing.
284 Q. Dr. Koivu, you've referred more than once
to condensation and body heat --
A. Yes.
285 Q. -- from iving in tents. Is that anywhere
in your evidence?
A. No. But my specific topic was about being
in a tent and not comparing it to outside of a tent.
So, no, this is in answer to your
questions.
286 Q. And is it a topic of your research
expertise?
A. No, it is not, and I am not a tent expert.
This is from my experience of being in a tent and from my
understanding of condensation and how condensation works.
287 Q. Sure. And, Dr. Koivu, just to be clear,
you're here to provide expert evidence based on your
professional experience and research capabilities, not in
your personal experience living in a tent. Can we clarify
that?
A. Absolutely.
MS SHORES Well, counsel, I'm going to
interject, because she's here for a cross-examination on
the expert evidence that she has given in her affidavit.
And as the witness just said in her

A4741

1 previous answer, she's answering the question that you
2 posed to her.
3 MR. CHOUDHRY Well, actually she has
4 answered the question by reference to knowledge that she
5 shouldn't be relying on to answer.
6 It's presupposing that any question put to
7 an expert witness that they should only answer based on
8 their expert -- on their expertise, not their personal
9 experience, counsel.
10 BY MR. CHOUDHRY
11 288 Q. So, Dr. Koivu, going forward, let's stick
12 to your expertise, if we could.
13 MS SHORES Well, counsel, she'll answer
14 the questions as best she can. And if there are disputes
15 over what's within her expertise, those can be dealt with
16 in due course.
17 I think she explained what the limitations
18 of her expertise were in answering your question. And if
19 you're going to put a question to her, then you should
20 expect that she's going to give an answer to t.
21 BY MR. CHOUDHRY
22 289 Q. And so, Dr. Koivu, just for the record,
23 you're not an expert on tents?
24 A. No, I'm not an expert on tents.
25 MS SHORES She has said that several times

1 now, counsel.
2 BY MR. CHOUDHRY
3 290 Q. Good. And I'm glad we've got it on the
4 record again.
5 So, Dr. Koivu, I'm going to take you now to
6 paragraph 58. You state here
7 "Most patients reported an increase in
8 drug use in encampments."
9 Do you see that statement?
10 A. Yes, I do.
11 291 Q. You don t cite any research to support that
12 statement, do you?
13 A. No. This is specifically patients have
14 reported to me.
15 292 Q. Okay.
16 A. And so this is --
17 293 Q. I see.
18 A. -- my experience, absolutely. This is not
19 something that I can say that has been well studied.
20 294 Q. And how many patients are "most patients"?
21 A. I am going to say every patient that we had
22 the discussion w th about their use within encampments
23 stated that they had an increase in drug use in the
24 encampments.
25 So of the people that were in encampments,

1 that conversation probably happened at least 75 per cent
2 of the time.
3 295 Q. But you don t provide any evidence about
4 the rates of drug use in shelters, do you?
5 A. No.
6 296 Q. Okay. I'd like to take you to
7 paragraph 49. Do you see that paragraph? It's about
8 sexual violence, sexual exploitation, and sexual traffic.
9 A. Yes.
10 297 Q. Dr. Koivu, I want to -- you cite -- the
11 only source you cite in this paragraph are the notes that
12 are marked as notes of 52, 53, and 54; is that correct?
13 A. Yes, that is correct.
14 298 Q. Okay. I want to take you to those sources
15 first, if I could. So I'm going to stop this screen
16 share.
17 And, Dr. Koivu, at this time, if you would
18 like to take a break, this would be an opportune moment,
19 or if you would like to continue, we can do so as well.
20 A. Okay.
21 --- RECESSED AT 11 27 a.m.
22 ---RESUMING AT 11 38 a.m.
23 BY MR. CHOUDHRY
24 299 Q. We are back on the record, Dr. Koivu.
25 So, Dr. Koivu, I want to take you back to

1 paragraph 49 of your affidavit. I won't put it back up on
2 the screen just now unless you would like me to.
3 When we last broke, or when we broke before
4 the break, I was asking you about the three references you
5 cited in footnotes 52, 53, and 54; correct?
6 A. Yes.
7 300 Q. I would like to take you to those
8 references, f I may.
9 A. Sure. Yes.
10 301 Q. Okay. So I'm going to share with you a
11 different -- a browser. And I have bookmarked these
12 pages. So if you will bear with me, I will pull them up.
13 So, Dr. Koivu, this is -- at footnote 52 of
14 your affidavit you provided a hyper ink.
15 A. Right.
16 302 Q. And the hyperlink takes us to this article?
17 A. Yes.
18 303 Q. Do you recognize this article?
19 A. Yes, I do.
20 304 Q. Okay. And so this is an article in the
21 Waterloo Region Record; correct?
22 A. Yes, it is.
23 305 Q. And it's dated December 12, 2022?
24 A. Yes.
25 306 Q. And this is a story about the risk of

grooming for sex trafficking in Waterloo; correct?
A. Yes.
307 Q. And do you have any first-hand knowledge of the risk for sex trafficking in Waterloo discussed in this article?
A. Not spec fically about Waterloo, no.
308 Q. And is your only knowledge of the risk of sex trafficking in Waterloo from this article?
A. Yes.
309 Q. Okay. Dr. Koivu, I'd like to now take you to the reference cited in footnote 53. This is an article that is from Edmonton City News. Do you see this?
A. Yes.
310 Q. Is this the article -- is this the web story, pardon me, that --
A. Yes.
311 Q. -- you cited in footnote 53?
A. Yes.
312 Q. And so is this story about a sexual assault of a minor in an encampment in Edmonton?
A. Yes, it is.
313 Q. Do you have any first-hand knowledge of the sexual assault discussed in this article?
A. No. I do not.
314 Q. So your only knowledge of this sexual

assault is from this story?
A. That is correct.
315 Q. Okay. Dr. Koivu, I'd like to take you now to the reference of footnote 54.
Dr. Koivu, do you see this article?
A. Yes, I do.
316 Q. It's in the Toronto Sun. It's dated October 1st, 2020, this title is
"Levy It took court action for Toronto to admit tent cities are problematic."
Do you see that?
A. Yes, I do.
317 Q. Is this the article you cited footnote 54?
A. I don't -- t could be. I am --
318 Q. Should I put --
A. I will go with yes. I know I cited this article. So I'm assuming that it was number 54.
319 Q. Okay. And Dr. Koivu, just to be clear, I just took these links from your affidavit.
A. Yeah. Yeah. And I'm sure then that it is the right number in the right place. I have definitely had this as a link.
320 Q. Okay. And so you remember reading this article, do you?

A. Yes, I do.
321 Q. And so this article, you would agree, is about human trafficking in an encampment in Toronto?
A. That is correct.
322 Q. And you don't have any firsthand knowledge about the human trafficking discussed in this article, do you?
A. No.
323 Q. Your knowledge about human trafficking discussed in this article is from this new story?
A. Yes, that is correct.
324 Q. Dr. Koivu, I'd like to take -- I'd like to stop this screen share for a moment. And I'm going to take you back to your affidavit for a minute, if I may.
Do you see that?
A. Yes.
325 Q. Okay. I'd like to -- I'm going to take you back -- I'm going to take you up in your paragraph -- pardon me -- up in your affidav t to paragraph 23.
And I'd like to take you to the last sentence in paragraph 23. Do you see it?
A. Yes.
326 Q. So you state there
"I'm aware of several people dying in tent fires."

And then you provide three footnoted references, 26, 27, and 28; correct?
A. Yes.
327 Q. Okay. So, Dr. Koivu, I'd like to take you to the -- those references are in your affidavit, if I could scroll down. Excuse me. Just give me one second here. Are in Exhibit C and 26, 27, 28 are listed here.
Do you see those?
A. I think 27. I have the wrong link. If I remember right --
328 Q. Oh.
A. -- there are a couple places where I have the wrong link, and that is -- yeah, that's one of them, because if you look at 26 and 27, they are the same. They are actua ly the same article.
So unfortunately, I had the wrong link for that. So 27 is the same as 26. There is no extra link there. That was the wrong link that I added.
329 Q. Sure. So we will take the links as they are, because this is in your affidavit. So the link for 27 is incorrect; is that correct?
A. Yes, you are correct. The link for 27 is incorrect.
330 Q. So I'd like to take you to the link for the articles that are listed correctly on your evidence in

footnotes 26 and 28, if I may. Okay. So I will just go
back to the browser.
Dr. Koivu, is this the article you cited
correctly in footnote 26?
A. Yes.
331 Q. It's a CBC article from London; correct?
A. Yes.
332 Q. And it says here it's dated April 16, 2024?
A. April 15th, but yes.
333 Q. Pardon me.
A. Sorry. The article is April 16th. The
woman died on April 15th.
334 Q. Right. And so actually, Dr. Koivu, does
the article not say that the death occurred on
April 15, 2023?
A. Yes, that is correct.
335 Q. Okay. And so --
A. This is referencing the memorial that they
had for this woman.
336 Q. I see. I see. And so were you an
eyewitness to this fire?
A. No. I was not an eyewitness to this fire.
337 Q. Did you treat the deceased?
A. No.
338 Q. And did you know the deceased?

A. No, I did not know the deceased. I knew
people who knew her, but I did not know her.
339 Q. Okay. And so your only knowledge about
this death is from this online news story?
A. No, that is not correct. I also knew
people who knew her.
340 Q. But your only direct knowledge of this
death is from this online -- you have no direct knowledge
of this death. You've learned about her death from other
individuals or from this new story?
A. I do not have direct knowledge of the
death. I have learned about it from other individuals in
London, as well as from the new story. I already knew
about the death before the news story, but I did not know
her. I did not witness it, nor see it individually.
341 Q. Thank you.
And so now I would like to take you to
another -- to the link that I believe is cited in
footnote 28. Do you recognize this story?
A. Yes.
342 Q. And this is the story you cited in
footnote 28; correct?
A. Yes.
343 Q. And so this is a Toronto Star story on a
tent fire death in Toronto; correct?

A. Yes.
344 Q. Were you an eyewitness to the fire?
A. No.
345 Q. Did you treat the deceased?
A. No.
346 Q. Is your only knowledge about this event
from the news story?
A. Yes.
347 Q. Thank you.
I'd like to now go back to your affidavit
and take you back -- take you to paragraph 25. Do you see
that?
A. Yes.
348 Q. And your evidence there is -- or you state
"I am aware of risks from propane
tanks used to heat tents, including
explosion causing injury and death and
carbon monoxide poisoning."
And you cite, again, to a footnote,
footnote 29; correct?
A. Yes.
349 Q. Okay. I'd like to take you to Exhibit C
where you list footnote 29. And, Dr. Koivu, is it true
that this source here is a CBC news article; correct?
A. Yes.

350 Q. Okay. And so I'm going to take you to that
article. Dr. Koivu, can you read that article?
A. Yes.
351 Q. Let me increase the size. Is that easier?
A. Yes.
352 Q. And so, Dr. Koivu, is this the article that
you cited in footnote 29?
A. Yes.
353 Q. And this is a CBC story on the propane
explosion?
A. Yes.
354 Q. Were you an eyewitness to the explosion?
A. No. I was not.
355 Q. Did you treat the injured?
A. It is possible that I treated people who
were injured from this explosion, but I do not know that
specifically. I have certainly treated people with burns,
that have been admitted to the hospital with burns. I
cannot say specifically to this article.
356 Q. So you can't confirm that you treated
individuals that were injured in this incident referenced
in this article?
A. That is correct.
357 Q. Okay. Dr. Koivu, I'd like to take you back
to your affidavit. And I'm going to take you to

paragraph 70.

And so do you see that paragraph?

A. Yes.

358 Q. Okay. So I want to take you to these two -- this -- these two sentences. You stated that

"I have not provided care for these people and have not had access to any other medical records."

Correct?

A. Yes.

359 Q. And

"I do not feel that I have sufficient information to have a medical opinion."

Correct?

A. True.

360 Q. And so, Dr. Lamont -- sorry. Pardon me. Dr. Koivu, just for the record, and so you would agree that without access to the medical records, you could not provide a medical opinion on Dr. Lamont's care of these patients; correct?

A. That is correct.

361 Q. Okay. Now, you have -- and so Dr. Lamont -- you describe Dr. Lamont's evidence and where she states that one patient -- she referred to one patient

as having suicidal ideations; correct?

A. Yes. And there were more than one patient that she stated had suicidal ideations, but in my affidavit I have referenced one.

362 Q. I see. And you no reason to disagree with her diagnosis, do you?

A. No, I do not. I don't know -- well, the same patient that she referenced as having severe suicidal ideations was also seen by Dr. O'Shea, and he did not mention suicidal ideations in his affidavit.

That doesn't -- I can't -- if it was -- the way it was worded by Dr. Lamont made it sound like it was a very significant part of her experience.

It wasn't mentioned by Dr. O'Shea. There is a discrepancy, but I do not have enough information to know where the discrepancy is or exactly what that discrepancy is, but I did note that there was a discrepancy between the two.

363 Q. I see. But you have no reason to doubt that Dr. Lamont diagnosed the patient as having suicidal ideations, do you?

A. Well, she may have -- yes, I will say that I have no reason to doubt that she diagnosed them with suicidal ideations, as she stated that she diagnosed them with suicidal ideations.

364 Q. Dr. Koivu, you refer to the Mental Health Act here.

A. Yes.

365 Q. Are you familiar with the Mental Health Act's requirements for involuntary institutionalized assessment?

A. My -- I believe I am fami iar with it.

366 Q. Have you ever committed a patient for involuntary assessment?

A. Yes.

367 Q. You have. And so you know that the threshold for involuntary assessment is very high?

A. Yes.

368 Q. And so do you know that it's possible -- wouldn't you agree that it's possible that a patient could have suicidal ideations without meeting that threshold?

A. I think it's possible, but once you start using words like "severe," I feel that I would have difficulty knowing why the word "severe" -- because people can have suicidal ideations, but to contemplate suicide, suicidality, and to have severe suicidal ideations would seem to be approaching the threshold.

And it's that relevant to that person's experience that is noted would make it seem like those are very relevant factors in this patient, that this patient's

suicidality is very important to the context, but I cannot say -- I cannot say more than that it is concerning that someone with severe suicidal ideations would meet the threshold.

I'm aware that the threshold is -- there is -- definitely the bar for that threshold is high to have involuntary institutionalization.

369 Q. So, Dr. Koivu, I'm not quite understanding. How is what you said not a medical opinion?

A. It's not an opinion about that particular patient, and it's just an observation that Dr. Lamont is stating that people have severe suicidal ideations, but has not felt that they were suicidal enough to feel that they needed to have a voluntary or involuntary assessment.

So I'm just commenting on her reference to severe suicidal ideations and balancing it with the fact that although she has used that word, she also did not feel they were severe enough to require institutionalization and institutionalized assessment.

I and just pointing out that fact. That's not a medical opinion about this case.

370 Q. Well, I guess that will be for the judge to decide.

So, Dr. Koivu, I'm going to take you to paragraph 71. And so, again, I want to note that you

1 repeated here that you haven't cared for the people she
2 describes in her affidavit; correct?
3 A. Yes.
4 371 Q. You don t have access to their medical
5 records; correct?
6 A. Yes. That is correct, yes.
7 372 Q. And so, therefore, you don't have
8 sufficient opinion to give a medical opinion; correct?
9 A. Absolutely. That is correct.
10 373 Q. But then don't you go on here then -- you
11 state here that
12 "The cause is not clear but is
13 consistent with tent fire."
14 Don't you?
15 A. Yes.
16 374 Q. So aren t you speculating here about the
17 cause on a burn on the back of that patient?
18 A. Yeah, absolutely. And that's probably -- I
19 definitely speculated based on what she wrote. That is
20 absolutely speculation on my part.
21 375 Q. Okay. And so -- but you would have no way
22 of knowing that for sure, would you?
23 A. No, absolutely not.
24 376 Q. So, Dr. Koivu, I just want to take you to
25 one last set of questions. And this is about the

1 City of London where I know you practiced medicine until
2 very recently.
3 And it's about the City of London's
4 encampment's policies. Are you fam liar with those at
5 all?
6 A. They have been changing -- they have
7 changed over time, so I'm not sure to what you are -- so I
8 would not state that I know the current -- currently what
9 the encampment policies are.
10 I do know that currently where I have seen
11 a number of patients that had been in encampments behind
12 the pharmacy that I referenced, they are no longer able to
13 be there, and if they are there, they are removed.
14 I have seen them as recently as in August,
15 but I also am aware that they are removed. At the time
16 that I wrote this and am referencing that, those
17 encampments were present, but I do know that that has
18 changed with the new guidelines.
19 MS SHORES Counsel, I'm going to interject
20 before your next question. I've been giving you quite a
21 lot of leeway in this examination, and I will continue to
22 do so, but I do not see the relevance of the City of
23 London's encampment policies. So perhaps you can help me
24 with where you are going.
25 MR. CHOUDHRY Sure. I'd like to know what

1 Dr. Koivu -- Dr. Koivu has offered a number of views. Her
2 affidavit is about encampments and the health risks that
3 she -- they pose. And I'd like to ask her for her views
4 about the City of London's encampment policy and
5 whether --
6 MS SHORES That's completely irrelevant.
7 MR. CHOUDHRY Well, I disagree, counsel,
8 so I will put the question to the witness, and you can
9 then decide if it's relevant or not.
10 MS SHORES Very well.
11 BY MR. CHOUDHRY
12 377 Q. So, Dr. Koivu, this is a -- I've put on the
13 screen -- we'll mark this as Exhibit 8 for examination
14 purposes.
15 -- EXHIBIT NO. 8 City of London
16 Community Encampment Response Plan, dated June 25th.
17 MS SHORES It will only be marked for
18 identification.
19 MR. CHOUDHRY Yeah.
20 BY MR. CHOUDHRY
21 378 Q. It's a statement, and it seems to be a
22 public announcement from the City of London website about
23 a Community Encampment Response Plan, dated June 25th.
24 Are you familiar with the Community
25 Encampment Response Plan?

1 A. No.
2 379 Q. You are not?
3 A. No.
4 380 Q. Okay. So you are not aware of any -- so
5 didn't offer any views about this to London City Counc l?
6 A. No.
7 381 Q. And you weren't aware of it?
8 A. No. And I'm not sure that that is current,
9 but --
10 382 Q. Well, Dr. Koivu, since you raise the
11 question of currency, it says Tuesday, June 25th, 2024.
12 And then it states here
13 "London City Council has endorsed
14 the Community Encampment Response
15 Plan."
16 A. Okay.
17 383 Q. And this is the latest document I could
18 find.
19 A. Okay. There's lots in the paper that seem
20 to make -- that seem like things are changing and that
21 it's --
22 MS SHORES I'm going to interject again,
23 because the policies that may or may not be in place in
24 the City of London or how they may or may not be evolving
25 is completely irrelevant to the issues in Hamilton.

BY MR. CHOUDHRY

384 Q. Okay. And so, Dr. Koivu, just again, just to confirm, this is for Exhibit 9, the Community Encampment Plan, you haven't seen this before, have you?

A. No, I have not.

385 Q. Okay.

MS SHORES Exhibit 9, again, will only be marked for identification. The witness has just said she's never seen this before.

And I'm again going to state that the policies regarding encampments in the City of London are irrelevant.

MR. CHOUDHRY Thank you.

Dr. Koivu, those conclude my questions. Thank you very much for your time.

MS SHORES All right. Off record.

---The Examination concluded at 12 00 p.m.

I hereby certify the foregoing is a full, true, and correct transcription of all of my oral stenographic notes to the best of my ability so taken at the Cross-Examination of DR. SHARON KOIVU, given under oath before me on the 6th of September, 2024.

Amy Armstrong, CVR-RVR

Certified Realtime Verbatim Reporter #7305
Certified Commissioner of Oaths
Certified this 9th of September,2024

Reproductions of this transcript are in direction violation of the O.R. 587/91 of The Administration of Justice Act January 1, 1990, and are not cert fied without the original signature of the Certified Court Reporter. Absence of this certification and signature is indication this document has been reproduced without the permission of Nimigan Miha lovich Reporting Inc., and as such is not an original document.

Ex # 1 m/d/y 09/06/2024 Pg 1 of 19
Exam of Dr. Sharon Roy A9032
Heegsma et al v City of Hamilton
Nimigan Mihailovich Reporting Inc.

44th PARLIAMENT, 1st SESSION

Standing Committee on Health

EVIDENCE

NUMBER 114

Monday, May 6, 2024

Chair: Mr. Sean Casey

A4748

A9033

A4749

Standing Committee on Health

Monday, May 6, 2024

● (1545)

[*English*]

The Chair (Mr. Sean Casey (Charlottetown, Lib.)): Welcome to meeting number 114 of the House of Commons Standing Committee on Health.

Before we begin, I would like to remind all members and other meeting participants in the room of the following important preventative measures.

To prevent disruptive and potentially harmful audio feedback incidents that cause injuries, all in-person participants are reminded to keep their earpieces away from all microphones at all times. As indicated in the communiqué from the Speaker to all members on Monday, April 29, the following measures have been taken to prevent audio feedback incidents.

All earpieces have been replaced by a model that greatly reduces the probability of audio feedback. The new earpieces are black in colour, whereas the former earpieces were grey. Please use only an approved black earpiece. By default, all unused earpieces will be unplugged at the start of the meeting. When you are not using your earpiece, please place it face down on the middle of the sticker for this purpose, which you will find on the table, as indicated. Please consult the cards on the table for guidelines to prevent audio feedback incidents.

Also, the room layout has been adjusted to increase the distance between microphones and reduce any chance of feedback from an ambient earpiece.

These measures are in place so that we can conduct our business without any interruptions and to protect the health and safety of all participants, including the interpreters. Thank you for your co-operation.

In accordance with our routine motion, I'm informing the committee that all remote participants have completed the required connection tests in advance of the meeting.

I would like to welcome our panel of witnesses.

We have with us here in the room Dr. Sharon Koivu, addiction physician. Online is Dr. Bernadette Pauly, scientist with the Canadian Institute for Substance Use Research and professor at the School of Nursing, University of Victoria. By video conference, representing the Thunderbird Partnership Foundation, we have Dr. Carol Hopkins, chief executive officer. Finally, also by video conference, representing the Vuntut Gwitchin First Nation, is Chief Pauline Frost.

To all of our witnesses, thank you for being with us.

Parliament Hill is a place where rumours are a constant. I heard a rumour today that there's going to be a vote in roughly 45 minutes. If that happens, the meeting is likely to be interrupted, and we will be asking you to stay a little later than you might have anticipated. If you are able to stay with us to ensure that everyone gets a chance to fully converse on these matters, it will probably result in your time with us being extended from 5:30 until 6 o'clock or a little later. I'll give you a heads-up for that.

We can now go ahead with our opening statements, beginning with Dr. Koivu.

You have the floor for the next five minutes. Welcome to the committee.

Dr. Sharon Koivu (Addiction Physician, As an Individual): Thank you, Mr. Chair and members of the committee.

I have been a physician for 39 years. I have my certificate of added competence in palliative care and addiction medicine from the College of Family Physicians of Canada. I began working in addiction medicine in 2012. Until 2021, I was the sole health care provider offering comprehensive consultations in addiction medicine at the London Health Sciences Centre, where, in 2023, an interprofessional addiction team was established. I also provide addiction consultations in St. Thomas.

I have decided to speak out to bring a voice to the horrific suffering I have witnessed from safe supply.

Early in my addiction career, I identified a link between injecting long-acting hydromorphone capsules and developing a heart valve infection. An infectious disease specialist I worked with found a link between injecting these capsules and getting HIV. When this specialist and the department chair took our findings to the community agencies, we were initially criticized and called fearmongers.

Fortunately, we established community engagement and developed an integrated response. As part of the response, in 2016, the London InterCommunity Health Centre developed a program that provided high-risk sex workers using hydromorphone capsules with short-acting hydromorphone tablets, also called Dilaudid. This was the inception of the safe supply program in London. I initially supported the program. It is important to note that we did not have a problem with illicit fentanyl at this time.

Prior to the safe supply program, I rarely saw people with spine infections. In the following summer, I saw five patients in one month. The numbers continued to climb. The common thread among patients was that they were injecting Dilaudid tablets. Many told me they were buying Dilaudid diverted from the safe supply program.

Some patients were in the program. I had patients who were housed, using clean equipment and only injecting Dilaudid developing horrific infections. Spine infections cause perhaps the worst suffering I have ever seen. Not only are they unbearably painful, but they can also cause paraplegia or quadriplegia.

In June 2018, I had my first patient tell me that he left his apartment to live in a tent near the pharmacy, close to the safe supply clinic where much diversion takes place, because the safe supply pills were cheaper and more abundant near the source. I lived in the neighbourhood and watched this encampment grow.

Since safe supply began, I have been involved in about 100 hospitalizations of patients with spine infections. That's currently about one per month. However, spine infections are only a small part of the suffering we see. About 30 patients per month are admitted with another severe infection. Of patients admitted with opioid use disorder, 25% were receiving a safe supply prescription and 25% reported using diverted Dilaudid. Only 4% of the consultations we did were for unintentional overdose.

Generally, in hospital, we start patients on home medications. If we did this for safe supply patients, the results could be fatal. This is dangerous for patients and very stressful for health care providers.

For example, patient one was prescribed eight milligrams of Dilaudid, D8s, which was 40 tablets per day, along with 100 milligrams of long-acting morphine in nine capsules per day. When they were given less than half of their prescribed dose, they had a severe respiratory depression—that is, toxicity. Patient two has frequent admissions requiring intubation. They were prescribed 28 D8s per day. They tolerated about six to eight and said they never took more than 12 in a day.

The patient population has changed. I see more young patients and many more men. Now, most start opioids recreationally and not with a prescription for pain, as was the case in 2012. I am also repeatedly hearing disturbing stories that people with prescriptions are vulnerable to violence.

Importantly, as I mentioned previously, when safe supply started in 2016, we did not have a problem with illicit fentanyl. We do now. Many patients have told me that they sell or trade much of their prescribed safe supply to buy fentanyl. Others not in the program have told me that their dealer has claimed to be out of Dilaudid and has sold them fentanyl, starting them down this path.

● (1550)

Safe supply appears to be contributing to the illicit fentanyl crisis. Safe supply is not reducing illicit fentanyl or its harms within a community. Our hospital experience also shows that safe supply is preventing patients from choosing opioid agonist therapy and the opportunity for recovery.

I would like to mention a program that is showing significant benefits. The Central Community Health Centre in St. Thomas has a low-barrier approach using subcutaneous buprenorphine, also called Sublocade. They are having success serving a very similar population to that of the London InterCommunity Health Centre, without the unintended side effects. It should be a model that we are discussing.

Of note, while I have broad shoulders, I found some of the comments made by Dr. Sereda on February 26 about me and cardiac surgeons to be misleading, and I look forward to an opportunity to address this.

Thank you for your work and your time. *Meegwetch*.

The Chair: Thank you, Dr. Koivu.

Next is Dr. Pauly for five minutes.

Dr. Bernadette Pauly (Scientist, Canadian Institute for Substance Use Research, and Professor, School of Nursing, University of Victoria, As an Individual): Good afternoon. Thank you for the opportunity to be here.

I am Dr. Bernadette Pauly. I'm a professor in nursing at the University of Victoria and a scientist at the Canadian Institute for Substance Use Research. I'm a member of the research team conducting the B.C. provincial evaluation of prescribed safer supply.

Prior to the introduction of the prescribed safer supply policy, evidence of the need for that intervention was well demonstrated by the overdose deaths caused by the unregulated drug market. However, it's critical to generate evidence of ethically justified interventions and determine whether or not prescribed safer supply reduces overdose risk. To answer that question, our team designed a rigorous mixed methods study using state-of-the-art approaches combining administrative and primary data.

In January 2024, the team led by Dr. Slaunwhite and senior scientist Dr. Nosyk published the first-ever population-level study in the British Medical Journal, a high-impact journal. Everyone receiving risk mitigation safer supply prescriptions was included in the study and was carefully matched with people not receiving them on multiple variables, including receipt of opioid agonist treatment. For those receiving opioids through this program, the risk of dying from any cause was reduced by 61% and the risk of dying of an overdose was cut in half. If they received four days or more, their overdose risk was further reduced to 89%. This is known as a dose-response relationship, and the finding was independent of opioid agonist treatment. A similar pattern was found for stimulants, but the sample size was smaller so there was less certainty. This protective effect continues week after week as long as they're able to access a prescription.

However, only 7.6% of those with an opioid use disorder and less than 3% of those with a stimulant disorder received the intervention during the period of study. There was limited implementation, with implementation occurring mainly in urban areas like Vancouver and Victoria and among prescribers who had larger caseloads of people with substance use disorders and more complex problems. While the intervention did not fix all their issues, nor was it expected to, it was protective for reducing risk of overdose death and all causes of death.

In a qualitative analysis, we found that prescribers were hesitant to take up the intervention out of fear of audit from regulatory colleges, as well as criticism and censure from colleagues. Where there were networks of prescribers who had support, there was increased continuity of prescribing. However, prescribing alone is an inadequate response to a systems issue, namely prohibition and an unregulated, unsafe supply of drugs.

The intervention was often difficult to access. Participants in the qualitative arm of the study reported the need to climb a steep staircase with many steps. Often, potential participants did not know about the risk mitigation guidance or safer supply. When they got their hopes up, they had to find a prescriber and navigate highly medicalized systems to get an appropriate prescription, and then pick it up daily to keep it. This required self-advocacy and fortitude. In a primary survey of 197 people, less than half of participants received a prescription sufficient to reduce withdrawal. Reducing withdrawal is a minimum requirement, so there's room for improvement.

Prescribed safer supply is a not a competitor to OAT or any form of treatment. It provides a pathway for people to access a life-saving intervention as part of individual recovery journeys. It does not replace or threaten the need for treatment. In fact, as part of a system of care, treatment options must be available for people if and when they are ready. In spite of this, the number of people dispensed a prescription in B.C. is decreasing.

Fears of diversion causing death are unfounded. Hydromorphone was detected in 3% of overdose deaths in 2023. It's unregulated fentanyl that's responsible for 85% of the toxic drug deaths. The root problem driving this emergency is toxic drugs, which is a consequence of prohibition. The unregulated market is accessed by those with substance use disorders and those without.

● (1555)

We need to expand access to alternatives beyond the health care system to ensure safe and regulated access to substances of known safety, quality and composition. We should be scaling up, not scaling back, safer alternatives to the unregulated drug market and looking to end prohibition.

Thank you. I look forward to the questions and comments.

The Chair: Thank you, Dr. Pauly.

Next, on behalf of the Thunderbird Partnership Foundation, we have Dr. Carol Hopkins.

Welcome to the committee. You have the floor.

Dr. Carol Hopkins (Chief Executive Officer, Thunderbird Partnership Foundation): [*Witness spoke in Lunaape*]

[*English*]

I'm Carol Hopkins of the Lenape nation in southwestern Ontario. I'd like to acknowledge the lands that you are joining us from and that we're all coming together on today.

In 2023, the number of first nations deaths due to drug poisoning was 36 times those in the general population in Ontario. In eight short years, from 2016 to 2023, first nations deaths due to the toxic drug supply grew at a rate of 33 times those seen in the Ontario population.

During the pandemic, from 2019 to 2022, 28% of first nations people used opioids in a harmful way, and 18% used methamphetamines to survive in an environment where there were no resources for housing, food security or income security. Those who reported food insecurity were two times more likely to use methamphetamine, according to a survey that Thunderbird ran. Forty per cent of first nations people reporting methamphetamine use felt hopeless to change their lives. It was this hopelessness that increased their risk for using opioids in a harmful way.

This population also reports a high rate of trauma, grief and loss, with a lack of resources close to home to support their mental wellness. The use of fentanyl, benzodiazepines and xylazine has been increasing across all regions of Canada, including in first nations. They are core to the opioid and toxic drug crisis that we are talking about today. The impact of these drugs requires community-based health resources that often first nations communities lack. First nations communities that declare a state of emergency report no capacity for preventing deaths due to the toxic drug supply. They also report their vulnerability to gangs, gun violence and murders, as well as human trafficking, which is now present in many first nations communities for the first time.

The war on drugs, including the criminalization of people for their health and social needs, has been a long-standing experience of first nations people in Canada, who are only 5% of the population yet represent 32% of those incarcerated. Indigenous women represent 50% of the incarcerated population. The war on drugs and incarceration have not increased safety from the toxic drug supply, have not reduced crimes of survival for people who live with opioid dependency and have not eliminated the illicit and toxic supply.

Indigenous Services Canada does not provide for physician or pharmacy services in first nations communities. We know those things are the responsibility of the provinces and territories. In this context, the opioid crisis and toxic drug crisis do not depend on geography. Rural and remote first nations communities are not exempt from the toxic drug supply or opioid crisis. The crisis is about a lack of equitable, available and accessible health care for first nations, with access to primary health care, physician services, pharmacies and public health resources. These are all necessary components of a response to the toxic drug crisis. Live-in drug treatment aimed at abstinence is not the evidence base for addressing opioids, and it is not the first line of evidence-based intervention. Abstinence-based programs will not change drug dependency or address physical withdrawal from opioids.

Where live-in treatment programs have additional resources—for example through provincial health authorities, harm reduction networks and first nations-governed culture-based and land-based services—and have options for readmitting or keeping first nations people on a continuous basis, clients have gone on to gain employment, obtain housing and maintain their own wellness.

Buprenorphine treatment is initiated by the community's primary care physician, when they are lucky enough to obtain a partnership; by addictions physicians through telemedicine; or by fly-in locums, who dispense daily under supervision. It has proven to be effective, along with a recovery program involving community mental health workers who provide both conventional counselling and culturally relevant healing practice. This comprehensive approach has enabled many patients or first nations people to stop or manage their opioid use and return to work, school and family. A year after such programs have been initiated, criminal charges and medevac transfers decreased, the needle distribution program dispensed less than half its previous volume and rates of school attendance increased.

● (1600)

Addressing the opioid crisis has been challenging for first nations communities, most significantly because of inconsistent support and resources to community-governed and culturally relevant treatment. One study of community-based opioid misuse reported that among adults aged 20 to 50, 28% were on buprenorphine or naloxone, double the rate of adults in the community living with type 2 diabetes.

First nations people have the right to live—to live life. They have the right to the sacred breath of life, and that has to be our focus in any drug policies that are humane and sensible for first nations communities.

First nations communities require increased capacity for reducing harms related to opioids, opioid analogs, methamphetamines and xylazine, such as consistent support; access to prescribers, pharmacies, safe housing, food security and medication to address withdrawal; and a choice to continue to use drugs safely. Harm reduction kits and resources are needed. Human resources are also needed—

The Chair: Dr. Hopkins, I'm sorry to interrupt. If I could get you to wrap up, you will get a chance to expand on your presentation in questions and answers.

Dr. Carol Hopkins: Human resources are needed in community. The existing resources of treatment centres can also play a role, but they need additional resources and capacity.

Thank you.

● (1605)

The Chair: Thank you.

Last but not least, from the Vuntut Gwitchin First Nation, we have Chief Pauline Frost.

Thank you for being with us. You have the floor.

Chief Pauline Frost (Vuntut Gwitchin First Nation): Thank you. I appreciate the opportunity today.

I am the chief of a very small community—

The Chair: Excuse me, Chief Frost. I'm sorry. The bells are ringing, and that means we're obligated to vote unless we have unanimous consent to continue.

Do we have unanimous consent to allow Chief Frost to finish her opening statement before we head off to vote?

Some hon. members: Agreed.

[*Translation*]

Mr. Luc Thériault (Montcalm, BQ): Mr. Chair, while we're at it, to avoid interruptions, could the volume in the room be lowered a bit so that I can hear the interpretation better without having to turn up the sound? It's too loud in the room.

We should be doing tests at the beginning of every meeting to solve the problem. This isn't the first time I've had to intervene. I haven't interrupted the witnesses more often out of courtesy. However, the discussion is becoming difficult to follow.

[*English*]

The Chair: Okay.

Chief Frost, I'm sorry for the interruption. Go ahead and finish your opening statement. We'll likely suspend once you're done.

You have five minutes.

Chief Pauline Frost: Okay. Thank you.

As the former minister of health and social services for the government of the Yukon, I was responsible for identifying the opioid crisis, as well as the COVID pandemic. At the same time, I worked as a lead negotiator for my first nation, a small, isolated aboriginal community in north Yukon. We signed our self-government agreement 30-some years ago. We exercise our inherent right to self-determination. We have responsibilities for the general welfare of all citizens, our community, the land and the resources. As an isolated community, we're a resilient people, resilient in that we are connected to our roots, our traditions. At the same time, we are deeply affected by the opioid crisis and the toxic drug overdoses in the Yukon and across this country.

The serious challenges that we face and the high cost of living.... Food security is huge. Fiscal capacity is limited in our communities, causing significant challenges in addressing mental health. Substance use challenges have arisen in our history due to colonialism, racism and intergenerational trauma. All of this is a priority for my community.

In April 2020 and 2023, we declared a state of emergency and substance use crisis in my community. The reason is that we've suffered significant loss due to opioid, alcohol and drug use and abuse. Over the last five years, we've lost 15 Vuntut Gwitchin citizens linked to substance use.

Because of the small community, this is very complex, and it affects everybody, with compound impacts and effects. Every person in my community has been affected in one way, shape or form. Because we're an isolated community, our citizens are required to travel out of the community for amenities and medical supports. Therefore, we tend to see impacts and effects when they get to the city. There's an urban centre effect on average on northern isolated people.

We have worked tirelessly to support our citizens the best we can with healing and wellness. Our approach has been comprehensive and non-judgmental. We commit to facilitating easier access to treatment services. We set aside, last year, almost a million dollars for supporting our citizens to access treatment programs. That comes out of our FTA base funding that we get for programs and services.

Ensuring consistent availability of counsellors both locally and remotely is a priority for me as a chief. We are developing aftercare programs that provide supports to our community.

What I'm saying here is that we are working hard to combat substance use in our communities. We are utilizing the Yukon's Safer Communities and Neighbourhoods Act to address and combat drug trafficking and bootlegging. We've asked for changes to the security designation for our northern airports so they can implement passenger baggage and freight screening for northbound routes, equivalent to what's seen southbound. In other words, the drug traffickers can come into our community without restrictions whatsoever because we're remote fly-in.

Our tools are limited, but we are making significant headway, and we have sent over 70 people to a treatment facility in the southern parts of B.C. because the Yukon is not equipped. Treatment options are not available to us in the Yukon; we have limited availability. We need more. My first nation needs support to implement programs and improve the wellness of my people.

As we are on the ground, we know what's happening. We have the flexibility, but we are also trying to address the crisis. Adequate and secure funding for life-saving interventions is not going to save us. It's not going to help us. We need more supports in addressing the illicit drug overdoses and for program services.

We looked at a piecemeal funding program available to us through the federal government and the territorial government, which is not sufficient. We just asked last year, at the Prime Minister's forum, for direct access to funding and support. Put it in our base, and let us provide services. We don't have that flexibility. There needs to be consideration of the political, social, economic and cultural pressures that we're facing.

● (1610)

I want to quickly say that we've just finished a coroner's inquest in the city of Whitehorse, Yukon, for four overdose deaths at the emergency shelter facility. Two of those individuals were residents of my community.

We are proud of our community, because we are resilient. We've done amazingly. We own an airline. We don't have a housing crisis. However, our people are directly affected. We have to make a meaningful difference in the services that are provided, and the only way forward is by working together and jointly addressing this. We have looked at options, like a safe exchange in our community. We've educated our citizens. We have looked at alternative options. We are looking at recovery withdrawal supports in our community. We also have to look at a distribution program.

Everything we need to do is about building on healthier families and healthier communities. For the first time, we are actually focusing on our young people now, and we have a youth wellness program. We're bringing our youth together, and facilitators are coming in—

The Chair: Thank you.

Chief Pauline Frost: *Marsi*. I appreciate this time.

The Chair: Thank you, Chief Frost. We're going to suspend now to allow members to vote.

You can expect the suspension to last for about half an hour. Then there will be probably about an hour of questions, more or less. Stretch your legs. We'll be back once we've voted.

The meeting is now suspended.

● (1610)

_____(Pause)_____

● (1700)

The Chair: I call the meeting back to order.

We've finished the opening statements and are now ready to move to rounds of questions.

We're going to begin with the Conservatives for six minutes.

Dr. Ellis.

Mr. Stephen Ellis (Cumberland—Colchester, CPC): Thank you very much, Chair.

Thank you to the witnesses for their patience.

Dr. Koivu, I listened carefully to your opening statement. When we look at patients—you described a couple of them—we're really not offering them any therapy other than opioid therapy. Perhaps there are other things in addition to that.

For the sake of those listening at home, we all know that people who take opioids will eventually get habituated or used to the dose they're on and will require escalating doses. If that's the kind of medicine we're going to provide, is it not fair to say that we're providing these folks with palliative care?

Dr. Sharon Koivu: Absolutely. That is one of the significant problems with opioids. As you take them, your brain has changes in neurochemicals. What you're taking, your brain becomes used to. That becomes your normal. To get the same effect, you have to increase the dose you're taking. To get the same euphoria, you have to continue to increase the dose.

Perhaps even more importantly, when your brain readapts to this new level of normal, you have to take opioids. If you miss them, your brain will miss them and you'll go into what's called withdrawal, which is a horrific experience. You get severe pain, anxiety, nausea, vomiting and diarrhea. You can feel like you're literally going to die. You keep thinking you need more and you need a higher dose. Whenever you're in a scenario where you're taking an opioid regularly, you're always chasing the high, your dose continues to escalate and you're always trying to medicate away from the withdrawal.

An important thing that isn't always mentioned, which I want to add, is that as your brain regulates and gets used to a certain amount of opioids, you can generally tolerate it if you're well. If you develop pneumonia, endocarditis or any other illness that affects your cardiorespiratory system, that same dose can be toxic or fatal. When you're taking an opioid, it could be that you're always taking the same dose of your Dilaudid or fentanyl, but if you develop pneumonia or sepsis, that dose could become toxic because your brain wants more than what your body can tolerate.

When you are in a position of getting a treatment that's given to you daily to keep you going from one withdrawal to another, it's not allowing your brain an opportunity for recovery. You're staying in a cycle in which you are absolutely dependent on the medication, and you can be at risk of developing tolerance, needing a higher dose and needing a dose that will eventually be more than you can handle. From the cases that I mentioned in hospital, patients were being prescribed substantially more than they could tolerate when we had them in a position where we could see what they were taking. Had we given them the amount they were prescribed, it would have been fatal for them.

Mr. Stephen Ellis: Thank you very much for that, Dr. Koivu.

It's interesting that you started talking about dosages. When we looked at patient 1—I wrote this down—they had 900 milligrams of morphine and 320 milligrams of hydromorphone. Using an opioid calculator to look at the overall dose of milligrams of morphine, that would be equivalent to about 2,500 milligrams of morphine. Is that correct?

● (1705)

Dr. Sharon Koivu: That is correct.

Mr. Stephen Ellis: Looking at that for the average Canadian and again doing the math, that's about 640 Tylenol 3s. You don't have to trust me on that, but I used the same calculator to do it.

The reason I talk about this is people often think it's just one tablet of eight milligrams of Dilaudid. It's a bit concerning that for those who don't use opioids on a regular basis, even though it's one tablet, it's still a significant amount of opioid.

Maybe, Dr. Koivu, you can talk a bit about that.

Dr. Sharon Koivu: Absolutely.

One tablet is also equivalent to four Percocet or 20 milligrams of OxyContin. Those are doses we consider fairly high during the opioid crisis. Taking two of them would essentially be considered relatively safe for most people. Even one can be considered toxic if someone is not used to taking it.

The numbers we're seeing are substantially higher than the milligram equivalent of morphine that I was seeing during the time when people were prescribing heavily for chronic pain. These are the highest doses I've ever seen.

Mr. Stephen Ellis: Very quickly, Dr. Koivu, if we're talking about 2,500-milligram morphine equivalents, what would be the recommended amount that a prescriber should be very cautious about going over? I realize this is a different patient population from even the usual chronic pain population, but what would be a guideline for Canadians listening out there?

Dr. Sharon Koivu: The guideline is the equivalent of 100 milligrams of morphine per day or less.

Mr. Stephen Ellis: And these people are receiving up to 2,500.

Dr. Sharon Koivu: Yes—or more.

Mr. Stephen Ellis: Thank you.

The Chair: Thank you.

We'll go now to the Liberals.

Dr. Hanley, you have the floor for the next six minutes.

Mr. Brendan Hanley (Yukon, Lib.): Thank you very much.

Thanks to all the witnesses for being here.

I'm speaking today from the traditional territory of the Kwanlin Dün First Nation and the Ta'an Kwäch'än Council in Whitehorse, Yukon.

Dr. Hopkins, I want to address the bulk of my questions to you.

Unfortunately, Chief Frost had to leave early during our vote, but I noticed that you were listening acutely to her testimony and you were nodding. I wonder if you can indulge me. Was there anything in particular that resonated, based on your knowledge and experience, from Chief Frost's testimony as chief of an isolated northern community?

Dr. Carol Hopkins: We typically assume that the issue with resources and capacity to respond to the toxic drug supply is remoteness, that it's geographical. We are not asking for or expecting hospitals to be built in every one of our communities, but the Canada Health Act says there should be universal access to health, and its objective is accessible health care without barriers to our wellness.

I mention this because there are lots of Canadians who live in rural and remote communities, but we are talking specifically about first nations people. They have a right to access health care close to home, where they need it. When it's not available there, they will find it someplace else, which often draws them to urban environments.

In urban environments, they don't always have access to the appropriate health care they need when they have opioid dependency or addictions to methamphetamine or other stimulants or even to sedatives like benzodiazepines, which I mentioned, or the "tranq" drug xylazine, which is not a controlled substance. All of them have substantial effects on people when they don't have any health care resources close to home.

That isn't just because of geography. That has to do with decision-making. If the Canada Health Act says there should be universal access to health care for every resident in Canada no matter where people live, then where are the policies that ensure access to physician care, prescribers, nurse practitioners, pharmacies, public health resources and harm reduction resources when they exist for the rest of the population? Why are those not made available to Canadians and first nations populations no matter where they live?

Often this is referred to as a jurisdictional issue. Who's responsible? The Canada Health Act is clear: Our rights as defined in treaties, the Constitution and now the UN Declaration on the Rights of Indigenous Peoples do not erase our rights under the Canada Health Act. This is a decision, a policy decision, not just a matter of geography.

● (1710)

Mr. Brendan Hanley: If you don't mind, I'll jump in there, because my time is limited.

One thing Chief Frost referred to was having spent a million dollars of base funding from the VGFN to, in this case, send people out for treatment. I can't speak specifically to the number of individuals, but I think she mentioned 70.

We know that often when people go outside for treatment and come back into a community, they are at high risk not just for overdose but for relapse because the community supports—the aftercare—aren't there. Following up on your previous point, do you know of or could you describe models of care that work within a small community? Maybe there are success stories you know of or have seen about how care can be delivered within a community so that you have continuity through aftercare.

Dr. Carol Hopkins: There are communities, no matter how big or how small, remote or isolated, that have partnerships with local health authorities, physicians, prescribers and nurse practitioners, who deliver services by flying into the community from time to time or by monitoring their patients through video conferencing. There are partnerships with the chief and council and direction through a band council resolution on how health services are operating through the health centre, as well as these kinds of partnerships with elders and cultural practitioners. It's clinical support and medication, together with culture-based resources, that have made a difference.

I gave an example of a community in northern Ontario where that significantly reduced crime and the number of kids going into child welfare. Kids showed up to school with food in their stomachs, houses were filled with furniture, toys and food, and life returned to normal, because it's a whole-of-community approach and because the community, through a number of partners, had the resources it needed to respond to the whole population. It's not just about the impacts on the individual who uses drugs. It's about the impact on the family and the whole community.

The Chair: Thank you, Dr. Hanley. That's your time.

[*Translation*]

Mr. Thériault, you have the floor for six minutes.

Mr. Luc Thériault: Thank you, Mr. Chair.

Thank you to the witnesses for being here.

Personally, I have no preconceived ideas about the crisis we're trying to understand and fix by means of recommendations. In listening to the various witnesses, though, I end up feeling a little confused. There seems to be no scientific consensus. In fact, increasingly, there appears to be a division within the scientific community or among the professionals working in the field.

Professor Pauly, you talked about safe supply, which saves lives. I guess that was the purpose.

First, does safe supply necessarily have to be temporary? If so, how can we assess that?

Second, why is access to opioid agonist therapy at odds with the impact of safe supply?

● (1715)

[*English*]

Dr. Bernadette Pauly: These are two very important questions.

I just want to speak for a second about the split in scientific evidence that the member referred to. There isn't actually a split when you look at what is considered peer-reviewed evidence or evidence that's been reviewed by multiple scientists in the field.

Our team did a study where we looked at all of the evidence for safe supply. There are close to 40 of these types of peer-reviewed articles, and the evidence is overwhelmingly positive: It connects people to a safer alternative, reducing overdoses; connects them to health care and other types of supports, as needed, like housing; and reconnects them back to family and community. I just wanted to mention that evidence.

Should safe supply be temporary? This is a good question, because when it was introduced in British Columbia, it was introduced as a temporary measure. However, it became clear that we needed it as part of a systems response. I really want to emphasize this piece about a systems response. In British Columbia, we had some evidence early on that when we combined multiple interventions, like take-home naloxone with opioid agonist treatment and overdose prevention, it showed some really good results. However, it wasn't enough. Safer supply comes in as another form of intervention within a comprehensive approach.

As to your question about why there's opposition, I personally don't understand why safer supply is being scapegoated, because the real harms here are coming from a very toxic and unregulated drug market. That is what's killing people.

[*Translation*]

Mr. Luc Thériault: For example, what's your opinion on Dr. Koivu's statement regarding scientific consensus around safe supply?

[*English*]

Dr. Bernadette Pauly: Our evidence has shown that it reduces overdose deaths, and I can point to other studies where it has not been shown to increase rates. Rates of addiction have not been increasing since we introduced safer supply. The description that Dr. Koivu gave is about the ever-escalating need for increasing dosages. That's not what I see happening in the way that prescribers in British Columbia are practising. In fact, in our study, we found that safer supply medications were, at least in the first 18 months, at a lower dose than we see with traditional opioid agonist treatment.

I do a lot of qualitative research. I interview people who are receiving safer supply, and I often ask them about their goals. I would say that, frequently, what they talk about is the goal of getting off safer supply. That might include using safer supply for a period of time and maybe transitioning to OAT, but they have a plan because they too want to live a full life and have a high quality of life. Those kinds of goals are, I think, really important.

That's some of the reality that I see within the work I'm doing.

● (1720)

The Chair: Thank you, Dr. Pauly.

Next is Mr. Johns, please, for six minutes.

Mr. Gord Johns (Courtenay—Alberni, NDP): Thank you all for your testimony.

I'll start with you, Dr. Pauly.

You heard from Dr. Koivu. She raised concerns about infectious complications for people using safer supply. Is this something you found in your research with people who were injecting fentanyl and then switching over to safer supply, or people who started on safer supply? Is this what you're seeing in your research as well?

Dr. Bernadette Pauly: I'll give you a bit of background. When people are injecting from the unregulated and toxic drug market, there are additives. My colleagues on the panel have spoken to this and to how harmful the additives in the unregulated market are. They often cause abscesses and injections.

I believe the committee had a brief submitted by Dr. Gomes, who looked at administrative data for people receiving safer supply—this was in Ontario—and the rate of infections went down when they went into a safer supply program, likely because they were no longer injecting toxic substances from the unregulated market. However, they also would have had a connection to health care, and that's a really positive outcome of safer supply types of programs. In British Columbia, we have more injectable formulations, so if there is a concern about injection-related infections, that may be why those are being used more in British Columbia.

Mr. Gord Johns: Dr. Koivu, given what Dr. Pauly said, could you please submit, within 14 days, your own research to this committee that supports your claims on infections caused by hydromorphone?

Is it the will of the committee to get support for that?

Did the witness agree, Mr. Chair?

Dr. Sharon Koivu: I can—

The Chair: Well, if you've asked her to provide it and she agrees to provide it, I don't think you need everyone else's opinion.

Mr. Gord Johns: I wanted to make sure that was on the record.

Thank you so much.

I'm going to go to Ms. Hopkins.

You were a co-chair on the expert task force on substance use. The expert task force was unanimous in recommending that we scale up safer supply, stop criminalizing people who use substances and ramp up treatment on demand, recovery, prevention and education.

You had a really wide spectrum on the expert task force on substance use. Can you speak about your disappointment, maybe, with the government not following through with the recommendations and your experience with how important it would be to reinstate the expert task force and implement those recommendations?

Dr. Carol Hopkins: We're talking about using evidence, and the question is about whose evidence is more credible. That's quite a common conversation when it comes to first nations people, whose world view and culture-based evidence are typically set aside. However, that does not mean, for example, that culture and safer supply are completely incompatible.

Safer supply is one more tool in the tool box. There is no silver bullet. There is not one medication. There is not one strategy, method or form of care that will solve the opioid crisis or the toxic drug supply. There are many strategies that have to be used together in combination, like—

Mr. Gord Johns: I don't know if the question was heard properly. I apologize for that.

We just heard from the First Nations Leadership Council and the B.C. First Nations Justice Council. They're calling for an emergency cross-governmental and multilateral strategy that ensures the safety of people who use drugs.

Dr. Sayers, a BCFNJC member, said that “the toxic drug crisis needs to be treated and addressed as a public health issue, not a criminal justice issue.” Grand Chief Stewart said that how we're proceeding right now is “very much wrapped up in the destructive impacts of colonialism.”

Can you add your thoughts on those statements?

● (1725)

Dr. Carol Hopkins: I just want to emphasize the importance of safer supply. That's one tool that needs to be available to everybody.

In addition to understanding the context of first nations people, as I said earlier, we do not have the community-based resources necessary to address the impacts of opioid toxicity or the toxic drug supply. We don't have services close to home where people need them, when they need them. That often leads them to move, travelling off reserve for periods of time. Often, the crowds they find most welcoming are those involved in selling illicit drugs. Then they come back into the community, and now we're creating a new relationship that has significant impacts on families and the whole community.

For the first time ever, first nations communities are reporting murders, not by first nations people murdering first nations people, but by gangs from large urban environments coming onto reserves and committing these crimes. Gun violence and human trafficking have increased.

If we look at what the perception of that is, we could say that because of racism in Canada, first nations people will be blamed for those kinds of activities; they did this to themselves. That's the same sentiment for people who use drugs. They should just stop; they can just decide to. Why don't they choose something different when they're losing all these things? We're blaming the victims without supporting their right to health and social services.

The United Nations—

The Chair: I'm sorry. Thank you, Dr. Hopkins.

We'll go to Mrs. Goodridge, please, for five minutes.

Mrs. Laila Goodridge (Fort McMurray—Cold Lake, CPC): Thank you, Mr. Chair.

I want to thank all the witnesses for being with us and for being patient. It's unfortunate that Chief Frost had to leave us before we got a chance for questions. I found her testimony incredibly insightful.

Dr. Pauly, did the study you cited look at diversion as an issue?

Dr. Bernadette Pauly: That's such an important question, because it's definitely the issue that I would say is creating the most controversy.

I will speak to two ways in which.... While the study didn't directly look at diversion—

Mrs. Laila Goodridge: It didn't look at diversion.

Dr. Bernadette Pauly: No. I will explain—

Mrs. Laila Goodridge: It's yes or no. We have very limited time and I asked a very short question. The convention in this committee is that witnesses answer for about the same amount of time that the question took to ask.

Did diversion get looked at?

Dr. Bernadette Pauly: Diversion was not apparent, because there was a dose-response relationship. In other words, if people got more days of the medication, there was less risk of overdose, which suggests they were taking their medications.

There was a dose-sensitivity relationship. Higher doses meant less risk.

Mrs. Laila Goodridge: Thank you.

Dr. Bernadette Pauly: What this led to was people taking their meds in many cases.

Mrs. Laila Goodridge: Dr. Koivu, I'm sure you've seen the proposals coming out of the city of Toronto asking to move toward decriminalization for that city. Do you think that will have impacts on communities like London?

Dr. Sharon Koivu: I think anything that happens in Toronto is definitely going to have an impact on London. What we're seeing in London has been largely affected, I think, by decriminalization as it is.

We're certainly seeing a lot more open drug use. It's very common to see people injecting in parks, smoking fentanyl in parks and injecting Dilaudid in public spaces already, so I think that's something we'll have a problem with.

Mrs. Laila Goodridge: Really quickly, have you seen a change in the drug deaths in London since the so-called safer supply program came in?

Dr. Sharon Koivu: Absolutely.

I don't know how to answer that very quickly, but the first thing I'll say is that in 2016, our overdose deaths were equal to the province's. In 2022, for which we have information, the provincial rates went up by about 2.7% and London's went up almost fourfold. There's a significant increase in overdose deaths compared to the provincial average. There's also a significant increase in overdose deaths compared to the other community I work in just south of there, which had exactly the same rate in 2016 and now continues to be the same as the provincial average.

The other place where I see significant change is in youth. If you look at the youth population—this data is all available on Public Health Ontario's opioid tool—for people 15 to 24, London's rate was lower than the provincial average in 2016 and now it's substantially higher. It's the same with people 25 to 44. When I'm looking at people I would consider young, there has certainly been an increase in deaths.

The other thing is that hydromorphone is absolutely more common. It's twice as common to find hydromorphone in deaths in London than in the provincial average. Often, the provincial averages dilute things. If you go to Ontario, you'll find that where safer supply has been available, there are increases over provincial averages.

● (1730)

Mrs. Laila Goodridge: Thank you. I appreciate that.

I'm now going to move a motion that I put on notice on Friday. It says:

> That the committee invite the Minister of Mental Health and Addictions and Associate Minister of Health before the committee for no less than two hours; and that the study of the opioid epidemic and toxic drug crisis in Canada be extended by six meetings to invite further witnesses

I think it is absolutely incumbent on us, as we've been hearing testimony and seeing the entire situation shift, that we have more witnesses come so we can explore some of the public safety and other aspects that we have not been able to fully explore through this committee. I understand that we've had some conversations about amendments.

With that, I will cede the conversation.

The Chair: Thank you, Mrs. Goodridge.

The motion is in order. The debate is on the motion.

Dr. Ellis has the floor.

Mr. Stephen Ellis: Thank you very much, Chair.

I appreciate the comments from my colleague on the need to continue this discussion. It's important that we underline for Canadians the fact that some controversy exists here. Not all of it is based on science and much of it is based on opinion, which is not necessarily helpful when we know there are good scientific-based arguments. Many of my colleagues may not like that those exist, but they do.

It's important to continue on this road to enable this committee to understand that some of the science that has been referenced here does not answer the questions that we need answers to. It's also important to understand that the Government of British Columbia has asked for an end to the decriminalization experiment, which has certainly been outlined by communities such as New Westminster, Richmond, Campbell River, Kamloops and Sicamous. As Canadians hear more and more about the experiment, Canadians are fearful for their own communities. They're fearful for their communities because of contamination from used paraphernalia. They are concerned because of the potential for exposure of drugs to children, and we've heard even to pets in some areas.

The other thing that I've heard directly from Canadians is they are concerned about the loss of accessibility to their downtowns. That's a concern that we heard very clearly from a deputy chief constable in Vancouver, who testified at this committee not that long ago. She made it very clear that the decriminalization experiment has led to the loss of downtowns. Substances are being used outside of businesses, outside of residences, on transit and near schools, parks and beaches. The deputy chief constable's testimony noted that police were powerless to stop this type of activity.

The Minister of Mental Health and Addictions has spoken very forcefully about this in the House of Commons and in the media in attempting to explain away the request by the Government of British Columbia to end the experiment. I find that interesting, because it was the Government of British Columbia that came to the federal government asking for the experiment, but we all know, even though this is not scientific in a sense, that when an experiment is going awry and the people in charge of the experiment say they need to end it, it needs to end. When doing a scientific experiment such as a randomized controlled trial, if the lead investigators understand that something has gone awry, they don't continue the experiment. They stop it, and they don't wait for days and days to stop it. They stop it immediately when those signals are out there.

I'm very disappointed in the NDP-Liberal government, and specifically in the Minister of Mental Health and Addictions. The British Columbia government has asked for the experiment to end, and now there are negotiations with the NDP-Liberal government to continue the experiment. If we want to talk about this and we use the metaphor I used, even though I realize it's not scientific, then we know clearly that the experiment must end now for the betterment of this country, because it's a failed experiment. We've heard that over and over. We know it's a failed experiment. The B.C. government knows it's a failed experiment.

The question that I have—

● (1735)

Mr. Gord Johns: I have a point of order, Mr. Chair.

Mr. Stephen Ellis: —is this: When will the NDP-Liberal government will know it's a failed experiment?

The Chair: Dr. Ellis, there's a point of order from Mr. Johns.

Mr. Gord Johns: Mr. Chair, just for clarification, the B.C. government has not asked to stop decriminalization in British Columbia—

Mr. Stephen Ellis: Excuse me, Mr. Chair, but that's not a point of order.

The Chair: Thank you, Mr. Johns. That is not a point of order. It's a question of debate, so I'm going to cut you off there.

Mr. Gord Johns: Mr. Chair, I think it's been ruled by the chair—

Mr. Stephen Ellis: Thank you very much, Mr. Chair.

When my colleague wants to have the floor, he can raise his hand and have his turn. He should know that. He's been here long enough. Even though perhaps he is ideologically motivated by his wacko comments, we need to continue on with this.

That being said—

Mr. Gord Johns: Mr. Chair, on a point of order, it is completely unacceptable for a member to be calling another member wacko.

The Chair: Mr. Johns, please contain yourself. He said that your comments were wacko. That may be unpleasant to hear, but it wasn't an attack on you. Your interruptions do not constitute points of order. I would ask that you wait your turn. You are on the speaking list; you're third.

Dr. Ellis, go ahead.

Mr. Stephen Ellis: Thank you very much for that, Mr. Chair.

I don't mean to disparage the member. As I said, his comments are wacko. I think it is important to understand that the citizens of this country no longer want to tolerate ongoing difficulties with the experiment. It has been termed by my friend and colleague Dr. Hanley from the Liberals as an experiment from the outset. It was part of the motion of this study here at the health committee.

I'll end my comments there. Thank you, Mr. Chair.

The Chair: Thank you, Dr. Ellis.

Madam Brière, please go ahead.

[*Translation*]

Mrs. Élisabeth Brière (Sherbrooke, Lib.): Thank you, Mr. Chair.

First, Dr. Ellis is clearly conflating decriminalization with drug use in public spaces.

Second, the government of British Columbia didn't request an end to decriminalization. Rather, it asked that its request be reviewed.

Regarding the motion, since the minister has already appeared before the committee and there will be a four-hour committee of the whole in the House before the end of the month, and given our upcoming trip next week during which we'll have the opportunity to meet people on the ground and ask all our questions, I suggest amending the motion to read as follows: “that the study of the opioid epidemic and the toxic drug crisis in Canada be extended by two meetings to invite further witnesses.”

[*English*]

The Chair: All right, we have an amendment. The amendment is in order. The effect of the amendment is to replace identifying the minister and the number of meetings, simply bringing it down to two additional meetings to hear from witnesses.

The debate is now on the amendment, and Mr. Vis has the floor.

Mr. Brad Vis (Mission—Matsqui—Fraser Canyon, CPC): Thank you, Mr. Chair.

I won't take too much time. I am a British Columbian, and it's nice to see you again. It's been a few years.

The Leader of the Opposition mentioned the Abbotsford Soccer Association in question period today. My son was playing on the weekend, and I asked Coach Gill, the youth coordinator for the first kicks program, about what was taking place and the letter that was featured widely in our local regional media.

Decriminalization in British Columbia has led to widespread chaos. There were kids who saw a woman get raped at our soccer field last year, and she was on drugs when it happened. The stuff is devastating. My office is adjacent to Haven in the Hollow, which was a homeless shelter that became a safe injection site. During the pandemic, it became a place where people could openly do any drugs they wanted and consume alcohol. It brought chaos to the neighbourhood where my office is. The Legion came to me a few weeks ago. It's less than a block away from the site, and every day they have to ask people not to consume meth, crack and other hard drugs on site.

The decriminalization order put forward by the government was very clear that it wouldn't apply to those types of places, but since it has been unleashed, the consequences have been grave for the residents of the Fraser Valley. I'll note as well, in the context of decriminalization, that in the health region where I reside, the Fraser Health region, we had, I believe, last year—and don't quote me on this—one of the highest per capita death tolls after Northern Health in British Columbia. At the same time as we had a record number of deaths proportionate to the rest of the population in British Columbia—the second- or third-highest number—there was no increase in funding to help people get clean and help people access a detox bed and a site that would give them the treatment they needed.

Decriminalization is killing a lot of British Columbians, and I would encourage everyone to vote for this motion. I think it's a good one.

Thank you for your time.

● (1740)

The Chair: Thank you, Mr. Vis.

Next we have Mr. Johns, and then it's Dr. Powlowski and Monsieur Thériault.

Mr. Gord Johns: Thank you.

First, in terms of extending the number of meetings, there are lots of reasons why we should have more meetings.

I look at Fort McMurray. They had an all-time high drug poisoning death rate in the last year. Alberta's death rate from toxic drugs has gone up 17% over the last year. They're on a trajectory to pass British Columbia by June. There are 43.3 deaths per 100,000. British Columbia is at 46.6 deaths per 100,000. Lethbridge has triple the toxic drug death rate of British Columbia. That's all without decriminalization and without safer supply. Regina has a 43% greater death rate per 100,000 than British Columbia.

It is absolutely a tragedy what is happening in the provinces without safe supply and without decriminalization. We are seeing a literal disaster happening. It's a health emergency. In fact, up in Alaska, which neighbours those provinces, there was a 45% increase in toxic drug deaths last year. It's a Republican state without safe supply and without decriminalization.

We're constantly hearing about the need to.... We heard from the police chiefs association that the diversion of safer supply is not what's killing people; it's deadly fentanyl. We heard from Dr. Pauly today that 85% of deaths are from fentanyl, and only 3% of people who died had traces of hydromorphone.

The police were clear that criminalizing people who use substances causes more harm. That's what we heard from the expert task force and the police chiefs association, and what we continue to hear from chief medical health officers, including every single chief medical health officer on Vancouver Island. They have been unequivocally clear that criminalizing people causes more harm and that safer supply reduces deaths.

We have peer-reviewed data that the very small amount of safe supply that is used to replace toxic street drugs—which are unregulated, and manufactured, marketed and sold by organized crime—reduces the risk of toxic overdose deaths. We have had a multitude of reports. I believe the chief medical health officer for Toronto is also asking for the government to consider decriminalization.

We've heard from the police chiefs association repeatedly about the fact that there is no going back on criminalizing people. “Those days are gone.” That is a quote from the president of the British Columbia Association of Chiefs of Police. They were looking for tools in British Columbia to move people out of public spaces so that they could make sure the public felt safe. At the same time, they were clear that they want to see more safe consumption sites.

I'm disappointed that we won't be in Lethbridge, because Lethbridge is where they closed a safe consumption site, and Lethbridge is ground zero in Alberta. It has the highest death rate in the province of Alberta. It has three times the toxic drug deaths that we're seeing in British Columbia. In Medicine Hat, there are 63 deaths per 100,000. That is almost 40% greater than the death rate we're seeing in British Columbia, and it's almost the highest death toll we've seen in any health authority in British Columbia.

I just wanted to highlight these really important reasons why we need to have more meetings. I support having two more meetings. I hope we can centre one of those meetings on getting a purely indigenous perspective. I think we should invite Ms. Hopkins back, out of respect, since this meeting might be cut short and her testimony might be cut short and minimized. I would hate to see that happen, especially when we know that indigenous people in my home province are seven times more likely to die from a toxic drug overdose. In her community, it was 36 times more.

● (1745)

We also heard from Ms. Petra Schulz from Moms Stop the Harm, when she testified, that the recovery model in Alberta is just a name. We heard that for a nation south of Lethbridge that was promised a therapeutic treatment centre, the only shovel that's gone in the ground was a ceremonial one three years ago. People are waiting. They're waiting up to six months to get help in certain parts of Alberta. That's if they want help.

The goal should be to keep people alive. Harm reduction, treatment and recovery go hand in hand. We don't need to have one without the other. This is a crisis that is ravaging North America. It is skyrocketing in Conservative provinces and Republican states. We need to change direction. We need to work collectively.

In Portugal, politicians were successful when they got out of the way and let the experts lead with evidence-based policy, evidence-generated policy and peer-reviewed research. That's how they moved forward. I can't think of another health issue where politicians are having their say like this and interfering with what is truly a health issue.

I support going to two meetings. I also wanted to make sure that my comments were on record.

The Chair: Thank you, Mr. Johns.

Dr. Powlowski, please go ahead.

Mr. Marcus Powlowski (Thunder Bay—Rainy River, Lib.): I would like to get back to the expert witnesses we've invited here and not listen to other MPs wax on about their views on this subject. I was certainly tempted to move a motion to adjourn debate, but I won't.

Can we not all decide to vote on this? There seems to be unanimity. Let's vote and let's get back to the witnesses. We are doing a study on this subject. We invited these people here to ask their opinions, and I'd like to get their opinions.

Thanks.

The Chair: Thank you, Dr. Powlowski.

[*Translation*]

Mr. Thériault, you have the floor.

● (1750)

Mr. Luc Thériault: Mr. Chair, I find it quite ironic that a motion is being tabled to hold more meetings and hear from further witnesses, while our witnesses are being sidelined today. We had many questions to ask them.

I'll be brief, so as not to contradict my previous statement. I said I was willing to extend the duration of this study. I believe we can trust ourselves. We want to present recommendations that will matter and not just be shelved. We'll be going to see what's happening on the ground. I would have been very comfortable with extending our study. If, one day, we realize that we need four meetings, we'll hold four meetings.

However, for today, I would like to hear what the witnesses have to say. This isn't the first meeting that has been interrupted by a motion. We should perhaps take a look at how the committee works. I would rather discuss our business in a subcommittee than during a study, where we make a spectacle of ourselves in front of witnesses about our understanding of the issue. I find it disrespectful. I'll stop there.

I'm ready to hear any proposals. However, when we have witnesses with us, let's ask them questions so that they can provide information.

In two and a half minutes, I would like to ask the remaining witnesses what they think of the situation in Vancouver and what they think of criminalization being reinstated in British Columbia.

The Chair: Thank you, Mr. Thériault.

[*English*]

There are no further speakers on the list. I presume that we are ready for the question.

The question is on the amendment. Just to be specific, the amendment is to delete the following words from the motion: “That the committee invite the Minister of Mental Health and Addictions and Associate Minister of Health before the committee for no less than two hours; and”. It would also change the word “six” to “two”.

The amendment would be the following: “That the study of the opioid epidemic and toxic drug crisis in Canada be extended by two meetings to invite further witnesses.”

All those in favour of the amendment?

(Amendment agreed to)

(Motion as amended agreed to)

The Chair: The motion is adopted unanimously.

Thank you, everyone. That brings us back to the witnesses.

Mrs. Goodridge, you have 47 seconds left in your turn.

Mrs. Laila Goodridge: Thank you for that, Mr. Chair.

I'll go really quickly to Dr. Pauly.

More people are dying in British Columbia despite both safe supply and decriminalization. Why do you think that is?

Dr. Bernadette Pauly: They're dying because 85% of deaths are caused by a toxic, unregulated drug market, and we haven't adequately scaled up interventions like harm reduction and treatment. It's a combination of those things that will reverse the trend.

Mrs. Laila Goodridge: Do you believe recovery from addiction is possible?

Dr. Bernadette Pauly: I believe recovery is absolutely possible, and it is an individual journey. There are many pathways to recovery.

The Chair: Thank you, Mrs. Goodridge.

I'll go to Dr. Powlowski, please, for five minutes.

Mr. Marcus Powlowski: Dr. Pauly, I'm sorry for putting you on the spot, but help the committee out. In response to Mr. Thériault, who said that the experts seem to have different opinions as to the evidence for safe supply, you said that you did a peer review and it seemed to pretty overwhelmingly show the benefits of safe supply.

Let me just point out what else our committee has heard. We asked Health Canada to appear before the committee. We had the experts who I think were behind approving B.C.'s request, and they seemed to be in favour of safe supply. They themselves admitted that there wasn't very good evidence for the benefits of safe supply. I would note the B.C. health officer, in a review of prescribed safer supply, said:

> Most of the limited published peer-reviewed studies lack a control or comparison group and the actual intervention received by study participants is in most cases a combination of broader access to wrap around health services including [safe supply] and primary care, making it difficult to attribute any benefits to PSS alone

They suggested that they need to have more studies.

The Stanford-Lancet commission, which looked at the opioid crisis—and I would point out that these aren't a bunch of right-wing fanatics—in their study said, “the evidence clearly shows the folly of assuming that population health inherently improves when healthcare systems provide as many opioids as possible with as few possible regulatory constraints as possible.” They, too, were against safe supply. We talked to the head of that commission, and he said the problem with safe supply is that basically you're replicating what has caused the problem to begin with, which was doctors prescribing too many narcotics, people getting on them and then people having trouble getting off them.

Do you continue, though, to say that no, the evidence is clear that safe supply is good?

● (1755)

Dr. Bernadette Pauly: I really appreciate that question about the science, because it has been very confusing and disturbing to see the way that some of the debates have played out.

To begin, many of the citations that you provided preceded 2020 and were from the very early days of the development of the body of evidence on safer supply. Since 2020, it's doubled. In fact, some of the strongest evidence has emerged in about the last six to 12 months. Our team is obviously at the forefront of producing evidence in British Columbia, where we are seeing positive impacts.

Yes, I stand by my statement. After a review of over 40 studies, the findings were overwhelmingly positive. What I really want to urge this committee to do is separate ideology from evidence. I don't think any of my colleagues wouldn't say we need more treatment, yet we know there are still challenges with treatment. People come out of treatment and do relapse. We need to look at what kind of comprehensive system we're creating instead of creating these ongoing tensions.

I'll stop there if you have a follow-up.

Mr. Marcus Powlowski: The B.C health officer's report was quite recent, as was Health Canada's, and after looking at the evidence, I certainly wasn't overwhelmed with it. However, let's change the subject.

Your study wasn't a randomized control trial, which is the gold standard, and the validity of your results depends on how well you matched the people getting safe supply with those who weren't getting safe supply.

One of my concerns with your study—and you can correct me if I'm wrong—is the comparison group, the people who weren't in safe supply. You got those names from various places, one of them being the discharge abstract database, which, in my understanding, is from hospital records of people who had been admitted for either a diagnosis or something to do with using opioids. My concern is that in your comparison group, you have a sicker population, because they've been in the hospital recently, either because they overdosed—

The Chair: Dr. Powlowski, you're out of time. If you could get to a question, we can get a short answer.

Mr. Marcus Powlowski: She's heard my question. I guess I get no response for her answer, but am I wrong?

Dr. Bernadette Pauly: Is it possible for me to answer?

The Chair: Do so as succinctly as possible, Doctor.

Dr. Bernadette Pauly: Okay. Thank you.

Our study came out after the provincial health officer's report, as did a number of other studies. On the control group, multiple linked databases were used to generate, through two different methods, the control group, matching on multiple variables. I'd be happy to refer you to Dr. Nosyk's seminar, which explains extremely well how the matching occurred and the similarity between the two groups.

● (1800)

[*Translation*]

The Chair: Mr. Thériault, you now have the floor for two and a half minutes.

Mr. Luc Thériault: Thank you, Mr. Chair.

In a previous meeting, we heard from Dr. Morin, who told us that addictions are complex chronic diseases. This complicates matters because multi-pronged action is required. Furthermore, we're told that relapse is part of the process. British Columbia is trying to correct course, in a manner of speaking.

My question is for Ms. Hopkins, but Ms. Pauly can also weigh in if there is time.

How do you see the situation in British Columbia, and what do you think about the government's desire to correct course? In your opinion, must this lead to "recriminalization"?

[*English*]

Dr. Carol Hopkins: Absolutely not. Thank you for the question.

The expert task force on substance use and mental health recommended safer supply and decriminalization, but they also said that it should be within a full spectrum of supports for people who use drugs or substances, or who wish to enter into a recovery journey.

The task force clearly recommended a more comprehensive and responsive system. When you provide people with the medication they need to live life every single day but they don't have a home, they don't have income security or food security, and they don't have people they can rely on to support them.... Every person needs another person to support them and to be a champion for their belief in their ability to succeed in life, whatever that means from their perspective. Those comprehensive supports are absolutely necessary as an addition.

As I said, there's no silver bullet. There are many instruments that will support change and will keep people alive. Safer supply and decriminalization are not a silver bullet. They're not meant to end the opioid crisis and the toxic drug supply, but they will keep people alive. They will ensure that human beings have the right to live life. That should be our goal: to make sure that human beings can continue to live life. There are many tools. There have to be many tools.

This is not an easy answer, and it's not an easy solution, but what we're seeing is a focus on one technique, one answer, and on criticizing it without considering the other resources that are necessary. When those other resources are in place, we've seen positive changes that have impacted families, their children and their communities. They increase safety, decrease the number of kids in child welfare, increase the number of kids going to school and increase safety in the community. I can't stress enough that a comprehensive approach is necessary.

The Chair: Thank you, Dr. Hopkins.

Dr. Carol Hopkins: Thank you.

The Chair: We'll go to Mr. Johns, please, for two and a half minutes.

Mr. Gord Johns: Dr. Pauly, you talked about the effectiveness of safer supply, and you cited some really important information. Can you also talk about why safer supply hasn't been scaled up? What are the barriers you're seeing?

Dr. Bernadette Pauly: This is a really important question. Without a doubt, part of the barrier is the politicization of safer supply and blaming it for what is a problem of the toxic and unregulated drug market. Safer supply is part of a comprehensive solution.

Some of the challenges related to increasing access—

The Chair: Excuse me, Dr. Pauly, but we're having a problem hearing you here.

Dr. Bernadette Pauly: I'm sorry. Is that any better?

● (1805)

The Chair: Yes. Please go ahead.

Dr. Bernadette Pauly: What I was saying is that part of the reason that safer supply hasn't been scaled up is it's been highly politicized. That's a harmful narrative when the real problem is a toxic and unregulated drug supply.

In terms of scaling up, we've had quite a lot of insight from the research we've done around prescribers, and particularly the idea of prescribers not being attacked or feeling criticized by their colleagues and recognizing the importance of the intervention and the support of regulatory colleges. One interesting finding is that nurse practitioners are three times more likely to prescribe safer supply. In that finding, there are opportunities to remove barriers, particularly in rural and remote communities. I'd also mention that in British Columbia, the First Nations Health Authority has a virtual substance use and addiction program, which was found to facilitate access for people in rural and remote communities.

We haven't talked much about non-prescriber-based models, but I wanted to highlight that in British Columbia, only a portion of the people who died of an overdose actually had an opioid or substance use disorder. We have to remember to consider alternatives that provide access and that are appropriate and well regulated for people who are accessing the toxic drug market and don't necessarily meet that criteria.

The Chair: Thank you, Dr. Pauly.

Thank you, Mr. Johns.

Next we will go back to Dr. Ellis for five minutes.

Mr. Stephen Ellis: Thank you very much, Chair.

I know it's been a bit of an up-and-down meeting for the witnesses. I appreciate your patience with all of us.

Dr. Koivu, I'd like to go back to the concept of safe supply. Maybe you could, for the benefit of Canadians out there, talk a bit about the specific difference between opioid agonist therapy and safe supply. Of course, we know that opioid agonist therapy has a significant amount of scientific literature supporting it. Could you explain the difference? I think that would be important to Canadians.

Dr. Sharon Koivu: Thank you for that question.

Opioid agonist therapy is about having people on a treatment that can stabilize them neurochemically, having them not chase what we talked about earlier with withdrawal and really allowing for recovery. The two main types of opioid agonist therapy are methadone, which has been around for years, and buprenorphine. Buprenorphine was not available at the time the study in London was started.

Buprenorphine is a chemical, an opioid. As to how it works, as you increase the dose, you don't get an increase in negative effect. It is the drug most proven to decrease the risk of overdose. When people are on it, they have a decreased risk of overdose from taking it and from taking other substances.

Buprenorphine now comes in a daily sublingual formulation. It also comes in an injectable formulation that is usually referred to as Sublocade, which is given every four weeks. This is a game-changer because it allows people to get their lives back and get back to the community. Not having to worry about accessing a pharmacy daily is certainly helpful in remote communities as well. It provides a healing of the brain to allow people to have recovery and function normally.

Safer supply programs are about continuing to give opioids at doses that aren't witnessed. I think it's important to recognize that when people are started on methadone and Suboxone, we check what they're able to take. We understand their tolerance. We work with them as we're witnessing what they're taking and we know what they're taking. When people are started on safe supply, that is not the case.

I'm going to be a bit more specific about my own community. A dose can continue to go up without reflection on whether it's a safe dose for a person or a safe dose for the community. It's generally given to them on a daily basis. Sometimes it's every few days. Then the dose is escalated. In my community, generally that's at request, without any evidence that it's what they need. Even when there is evidence that they don't tolerate their dose, it isn't necessarily decreased.

People will continue to have to go to a pharmacy, usually on a daily basis. It means that they're continuing to, from a neurochemical perspective, chase withdrawal. It is about continuing somebody in an addiction. They're maintaining their addiction. They're being maintained in a state where they are addicted to the medication.

● (1810)

Mr. Stephen Ellis: Thank you very much for that, Dr. Koivu.

I have a final question. I'm not sure if you know the answer to this or not, Dr. Koivu.

Our understanding from other testimony is that the street price of Dilaudid at eight milligrams has dropped significantly, which is evidence—perhaps not scientific—of diversion. Is that the experience in your community as well? Maybe you could talk about the price.

Dr. Sharon Koivu: Absolutely.

It's a market-driven economy. As there has been more diversion and more available.... My understanding from patients and from living in the area is that in 2016, a D8 was about $20. If you're close to the supply—close to where more diversion takes place or the core of London—then it varies, but it's usually about one to two dollars. As you get farther away, it's more expensive.

It really is about supply and demand. As the supply has gone up and there's more and more Dilaudid available in London, and from the amount of tolerance people have compared to what they're prescribed, certainly the amount I'm hearing about.... The numbers are certainly over a million D8s in a year, and as that number has gone up, the price has definitely gone down.

The Chair: Thank you, Dr. Koivu.

[*Translation*]

We will now move on to the last speaker.

Ms. Brière, you have the floor for five minutes.

[*English*]

Mrs. Élisabeth Brière: Thank you, Mr. Chair, and thank you to all of our witnesses.

Dr. Hopkins, I have one question for you. What does supporting the voice of people who use drugs mean to you?

Dr. Carol Hopkins: Many people who are experts in their field have expertise and know the science behind their expertise. They publish. They know their work very well. We rely on them often for evidence so that we make informed decisions. We don't typically understand or give credit to the experience of living life every day with the types of conditions we're talking about: living with a dependency on opioids, having to survive the processes of coming to the right dosage for them and how people feel about that. Every person's being, their physical being, is different from every other person's. The type of medication needed, the amount of medication needed to address the issues of dependency, and the neurotransmitters that are significantly changed because of the types of drugs being used are all in the story of lived and living experience. It's a credible source of evidence.

If you listen to people who use drugs, you will find similarities. Whether you're talking to somebody in Vancouver's Downtown Eastside or somebody from a first nations community in northern Ontario, they've never met each other, but they will describe the same experiences of withdrawal. They'll talk about their tolerance of incremental increases to their addictions medicine. That's credible evidence.

Listening to their voices means that we give credit to people, not because of their status in life because they're using and not because we're judging them or discriminating against them. We're listening to them because they can tell us a real story that is mimicked across the country. That's important evidence. Listening to those voices is just as important, if not more substantial, to the decisions that need to be made about the health care system and the wraparound services that are provided to any population of people to ensure they can continue living life without the mental anguish and physical anguish that go with withdrawal.

People don't wake up every morning wanting to die. They get to those hopeless stages when we have opinions that form decisions and when we make decisions without looking at all the variables that impact something like we are talking about: safer supply and the toxic drug crisis. We can look at any one perspective and say that one perspective is credible evidence, and it may be, but if we don't look at it in the context of the determinants of health, for example, and how people learn to survive every day, then we're shortsighted and we end up making decisions as though we're God. Not one of us has the right to decide who gets to live, who is expendable and who should die.

● (1815)

[*Translation*]

Mrs. Élisabeth Brière: Thank you.

You say that every individual is different and needs to follow their own path.

Do you think that a more holistic approach, which includes the four pillars, is the best option for responding to the current overdose crisis?

[*English*]

Dr. Carol Hopkins: Absolutely. We need every tool and every strategy that is instrumental for ensuring life. Not one individual can live on this earth all by themselves. We live in relationship to others. We live in relationship to the land and the environment. We have to consider those elements and those four pillars.

We have a substance use strategy in Canada that includes harm reduction. Now we have to figure out what that means. We have to ensure harm reduction, but not only for individuals. We have to ensure we make decisions, policies, resources and programs that reduce harms to families and communities. That does not mean erasing the right to medicine, the right to mental wellness, the right to live and the right to the sacred breath of life. We have to provide and look at life from a holistic perspective. We can't afford to say, “You as a population don't have the right to life” or “You as a population, because you use drugs, don't have the right to health.”

The outcome of the UN declaration on the world drug problem—which Canada supported—was that, instead of a war on people, we had to ensure the right to prevention and treatment. Unfortunately, we couldn't get harm reduction in the declaration at that point. However, this year, the UN Commission on Narcotic Drugs had a vote that passed, putting harm reduction in international drug treaties. Now it matches what Canada has said, and we have to invest.

The Chair: Thank you, Dr. Hopkins, Dr. Pauly and Dr. Koivu.

When we invited you, we told you that we would have you out by 5:30. You've been very generous and patient with your time and very thoughtful in your presentations. Our study will be better because of your contributions. Thank you so much for being with us here today.

Is it the will of the committee to adjourn the meeting?

Some hon. members: Agreed.

The Chair: The meeting is adjourned.

4781

Get unlimited online access to National Post for only $1.25/week. Subscribe Now>>

Get unlimited online access to National Post for only $1.25/week. Subscribe Now>>

A9051

This advertisement has not loaded yet, but your article continues below.

Ex # 2 m/d/y 09/06/2024 Pg 1 of 13
Exam of Dr. Sharon Koivu
Heegsma et al v City of Hamilton
Nimigan Mihailovich Reporting Inc.

NP Comment

Dr. Sharon Koivu: 'Safe supply' has only worsened the addiction crisis in London, Ont.

Since the program started in 2016, patient deaths and infections have shot up, and prescriptions have been diverted to the streets

Dr. Sharon Koivu, Special to National Post

Published Jun 10, 2024 • Last updated Jun 10, 2024 • 5 minute read

Join the conversation

A4767

4782

A9052

A woman prepares to inject Dilaudid at her Windsor, Ont. residence on March 24, 2017. PHOTO BY DAN JANISSE/WINDSOR STAR

I have been a practicing physician in Ontario for 39 years, the last 16 of which have been in London. I have served in many capacities, including having a family practice and working as an acting medical officer of health. Since 2012, I have worked in addiction medicine. I feel compelled to speak out about the harm "safe supply" is causing in my community.

London is home to Canada's first "safe supply" program that started at London InterCommunity Health Centre in 2016. It was, in part, a response to a public health emergency of tricuspid valve endocarditis, HIV and hepatitis C related to the injection of hydromorphone capsules. The goal was to provide high-risk sex workers using these hydromorphone capsules with an alternative: short-acting hydromorphone tablets, also known as Dilaudid.

STORY CONT NUES BELOW

A4768

This advertisement has not loaded yet, but your article continues below.

I lived close to the health centre, and I initially supported the program. We did not have a problem with illicit fentanyl at the time.

The program later expanded to include people potentially at risk of overdose from illicit drug use. Clients are often prescribed 30 to 40 Dilaudid pills per day, many of which are being diverted. This is fuelling the use of illicit fentanyl, which began appearing on the streets of London in 2018, leading to an increase in overdoses. I am repeatedly hearing disturbing stories that people with prescriptions are vulnerable to violence. Diversion appears to have shifted from being sold to individuals to being sold to organized crime as more is appearing in large amounts in police seizures.

It is also causing significant harm to the patients I serve. From 2012 to 2017, I rarely saw patients with spine infections. In the summer of 2017, I saw five patients in one month. The numbers continued to climb. The common thread among most of them was that they were injecting Dilaudid tablets. Most told me that they were buying diverted Dilaudid from clients of the "safe supply" program, while others were in the program directly.

NP
Platformed
This newsletter tackles hot topics with boldness, verve and wit. (Subscriber-exclusive edition on Fridays)

youremail@email.com **Sign Up**

By signing up you consent to receive the above newsletter from Postmedia Network Inc.

STORY CONT NUES BELOW

4784
This advertisement has not loaded yet, but your article continues below.
A9054

I had patients who were housed, using clean equipment and only injecting Dilaudid, developing horrific infections. Spine infections cause perhaps the worst suffering I have ever seen. Not only are they unbearably painful, but they can also cause paraplegia or quadriplegia. Since 2017, I have been part of the care team in about 100 hospitalizations of people with injection drug-related spine infections.

In June of 2018, I had my first patient tell me that he had left his apartment to live in a tent near the pharmacy and "safe supply" clinic from which much diversion takes place. This was because "safe supply" pills were cheaper and more abundant near the source. After he moved to this encampment, he, too, developed a spine infection from injecting Dilaudid.

Over the past year, we have seen about one patient per month with a spine infection. Half of these were receiving a "safe supply" prescription and half reported buying diverted Dilaudid. About 30 people per month are admitted with another severe infection. Of patients admitted with opioid use disorder, 25 per cent were receiving a "safe supply" prescription and 25 per cent reported using diverted Dilaudid. Only four per cent of our consults were for an unintentional overdose.

STORY CONT NUES BELOW

This advertisement has not loaded yet, but your article continues below.

The failure of "safe supply" was predictable. Purdue Pharma's OxyContin helped start the addiction crisis, and Dilaudid, which is also manufactured by Purdue, is an even stronger and more addictive

A4770

4785

opioid. I and many of my addiction physician colleagues have been warning about the pending harms from the start.

A9055

Public Health Ontario data shows that the harms we've been warning about are very real. Prior to the start of the "safe supply" program, the Middlesex-London area was principally less than or equal to the provincial average rates for measured harms from opioid toxicity (i.e., emergency room visits, hospitalizations and deaths). Since the "safe supply" program started and expanded, the harms experienced in Middlesex-London have escalated substantially, beyond the rates experienced in the rest of the province.

The rate of death from opioid toxicity is of utmost concern. In 2014, Ontario had a rate of death from opioid toxicity at 4.9 per 100,000 people. Middlesex-London had a rate of death from opioid toxicity that was much less, at 2.8 per 100,000 people — that's 43 per cent lower than Ontario's average. In both 2015 and 2016, London and the province of Ontario experienced equal rates of death from opioid toxicity.

STORY CONT NUES BELOW

This advertisement has not loaded yet, but your article continues below.

Since the onset of "safe supply," the rate of death from opioids has escalated at a much greater rate in Middlesex-London and has consistently remained higher than the Ontario rates. By 2022, opioid-related mortality in London had risen more than four times higher than the rate in 2015, 40 per cent higher than the rate for the province of Ontario.

This has particularly affected youth and young adults, ages 15 to 44. Lives lost in these age groups were generally less than the provincial average, but since "safe supply," they are much greater.

It has also been costly to the emergency department. In 2014, emergency department visits were lower than average. In 2015, they were five per cent higher in Middlesex-London than the rest of

A4771

4786

Ontario. From 2020 to 2022, emergency department visits were, on average, 80 per cent higher.

A9056

Interestingly, London Health Sciences Centre has a $76 million deficit even after receiving a $95 million bailout from Queen's Park. While hospital budgets are complex and multifactorial, this deficit parallels the expansion of London's "safe supply" program. Instead of saving health-care dollars, "safe supply" is costly.

STORY CONT NUES BELOW

This advertisement has not loaded yet, but your article continues below.

Importantly, as I referenced previously, when "safe supply" started in 2016, we did not have a problem with illicit fentanyl in London. We do now. Many patients have told me they sell or trade much of their prescribed "safe supply" to buy fentanyl. Others, not in the program, have told me that their dealers have sold them fentanyl after claiming to be out of Dilaudid, starting them down that path.

Our hospital experience shows that "safe supply" is also preventing patients from choosing opioid agonist therapy and the opportunity for recovery.

Additionally, the percentage of people found to be positive for fentanyl at death has been very similar in Middlesex-London and the province of Ontario. However, in Middlesex-London, the percentage of people positive for hydromorphone has been 200 per cent higher than the provincial average.

The Public Health Ontario data is conclusive. "Safe supply" programs, evident from the London experience, are not effective at addressing illicit fentanyl or the tragic addiction crisis. "Safe supply" is not safe, and in fact, it substantially contributes to societal harm.

A4772

STORY CONT NUES BELOW

This advertisement has not loaded yet, but your article continues below.

We need a comprehensive, collaborative recovery-focused approach to the addiction crisis, including the expansion of evidence-based treatments that do not contribute to harm. To prevent further harm, a moratorium on funding and expansion of "safe supply" programs must be put in place. Finally, those currently in "safe supply" programs need the support of an effective exit strategy.

National Post

Dr. Sharon Koivu has been a physician in Ontario for 39 years and worked as an addiction medicine consultant for 12. In addition to front-line health care, her career has spanned teaching, research, leadership and advocacy.

RECOMMENDED FROM EDITORIAL

Adam Zivo: Tales of a safe-supply child soldier

COMMENTS

You must be logged in to join the discussion or read more comments.

Sign in

Create an Account

JOIN THE CONVERSATION

Postmedia is committed to maintaining a lively but civil forum for discussion. Please keep comments relevant and respectful. Comments may take up to an hour to appear on the site. You will receive an email if there is a reply to your comment, an update to a thread you follow or if a user you follow comments. Visit our Community Guidelines for more information.

TRENDING

1 Blue seats in economy class **Amy Hamm: Women-only plane seats a shameful feminist attack on men**

2 railway riot **51 years ago, a railway strike led to the most 'explosive' alcohol-fuelled 'rampage' on Parliament Hill**

3 anadian Pacific Kansas City **GO Transit warns service 'may be busier than usual' as national rail shutdown begins**

4 Fred Hahn **CUPE calls on union leader Fred Hahn to resign over 'antisemitic' video**

4789

5 Eugenio Ernesto Hernandez-

Passenger with bloody head wound arrested after refusing to deboard American Airlines flight

A9059

READ NEXT

A4775

4790

A9060

LATEST FROM SHOPPING ESSENTIALS

We have an exclusive Labour Day deal on Cozy Earth's luxe bedding & PJs

Save 30 per cent with a National Post reader code

38 minutes ago

SHOPPING ESSENTIALS

cozy earth discount code: woman sleeps in bed wearing cozy earth pajamas

A4776

4791

Must-have lunch boxes: Top picks for kids and adults

Just in time for the back to school season

20 hours ago
SHOPPING ESSENTIALS

Best lunch boxes for 2024: Top picks for kids and adults

A9061

The best online deals in the Canadian retail space right now

Reformation, Le Creuset and Article to name a few

22 hours ago
SHOPPING ESSENTIALS

Save on these online deals in Canada.

Review: Rove Concepts Uma Dining Chairs add sophisticated elegance

Elevating my space from boho to modern

1 day ago
SHOPPING ESSENTIALS

The Rove Concepts Uma Dining Chairs.

5 best hand creams to battle dry hands this fall

Five new or fan-favourite hand cream formulas to try.

1 day ago
FASHION & BEAUTY

PAUME Renewing Hand Serum.

A4777

Subscribe for $1.25/week

Manage Account

My Account

Manage My Print Subscription

Manage My Tax Receipt

ePaper

Contact Us

Advertise

Advertise With Us

Appointment Notice

Content Works

Partnerships

Resources

Classified

Remembering

Celebrating

Classifieds Marketplace

Careers

Coupons

Post a Classified ad

Local Directory

Sales

About Us

Postmedia Network

Financial Post

Canada.com

Canoe.com

Driving.ca

The GrowthOp

Winnipeg Sun

The London Free Press

Regina Leader-Post

Saskatoon StarPhoenix

Windsor Star

Ottawa Citizen

The Province

Vancouver Sun

Edmonton Journal

4793

A9063

Calgary Herald

Ottawa Sun

Montreal Gazette

Calgary Sun

Toronto Sun

Edmonton Sun

Follow us

Give us some feedback!

365 Bloor Street East, Toronto, Ontario, M4W 3L4

© 2024 National Post, a division of Postmedia Network Inc. All rights reserved. Unauthorized distribution, transmission or republication strictly prohibited.

Privacy - Updated Terms Copyright Digital Ad Registry FAQ Sitemap Contact us

A4779

4794

Ex # 3 m/d/y 09/06/2024 Pg 1 of 5
A9064
Exam of Dr. Sharon Koivu
Heegsma et al v City of Hamilton
Nimigan Mihailovich Reporting Inc.

CANADIAN AFFAIRS

Community

Leading addiction doctor warns of Canada's 'safer supply' disaster

Addiction physician Dr. Sharon Koivu has seen the effects of safer supply programs in her clinical practice and personal life — and is sounding the alarm

by **Liam Hunt**
July 8, 2024

(Dreamstime)

Read: 4 min

A4780

Dr. Sharon Koivu, an addiction physician and parent, believes her son might not have survived

4795

to adulthood if Canada's "safer supply" programs had been in effect during his adolescence.

A9065

Having worked on the front lines of Ontario's opioid crisis, she views these programs as a catastrophic failure.

In an extended interview, Koivu explained the unintended consequences of these programs, which offer free tablets of hydromorphone — an opioid about as strong as heroin — to vulnerable patients with a history of addiction. While advocates of safer supply claim these programs mitigate the use of more dangerous illicit substances, there is evidence that most users divert — that is, sell or trade — their hydromorphone to acquire stronger substances.

Safer supply was first piloted in London, Ont., in 2016, before being widely expanded across Canada in 2020 with the help of **generous federal grants**. While the program looked good on paper, Koivu, who provides addiction consultation services at a London-based hospital, saw a different reality: her patients were destabilizing, relapsing and fatally overdosing because of safer supply.

Koivu says that "one hundred percent" of her colleagues working in addiction medicine have noticed safer supply diversion. Some patients have told her they have been threatened with violence if they do not procure and divert these drugs. She estimates that, because of safer supply, tens of thousands of diverted hydromorphone pills — also known as "Dilaudid," "dillies" or "D8s" — are flooding into Canadian streets every day.

For context, just two or three of these pills, if snorted, are enough to induce an overdose in a new user.

This influx has caused the drug's street price to crash by as much as 95 per cent. While eight-milligram hydromorphone pills used to sell for $20 each several years ago, they can now be bought for as little as a dollar or two. These rock-bottom prices have ignited a new wave of addictions and relapses, and lured opioid-naive individuals into experimenting with what is essentially pharmaceutical heroin.

Koivu estimates that 80 per cent of her opioid-using patients now take diverted hydromorphone.

A4781

4796

"The biggest harm is that we've turned on the tap and we've made everything cheap, which is leading to a large increase in the number of people becoming addicted and suffering," she said.

A9066

"It is the most serious issue that I've seen in my lifetime."

Safer supply programs seem to regularly overprescribe opioids without considering patients' actual needs, Koivu says. Patients have come into her hospital with prescriptions that provide 40 eight-milligram hydromorphone pills a day, even though they can only tolerate 10 pills.

'That attraction is horrific'

Throughout the first few decades of Koivu's career, almost "everyone" in her patient pool developed addictions due to childhood traumas or from mishandling opioids prescribed for chronic pain.

Since the advent of safer supply, the origins of new opioid addictions have shifted toward social or recreational exposure. Concerningly, this exposure often occurs in patients' adolescent years.

"I'm seeing an increase in youth becoming addicted," said Koivu, who has had patients as young as 15 tell her their addictions began through diverted hydromorphone.

"Almost everyone I see who's started since 2018 started recreationally. It started as something that was at a party. It's now a recreational drug at the youth level."

Parents often seem completely unaware of the problem. Some have told Koivu they overheard their children discussing the availability of "D8s" at their high schools, only to later realize — when it was too late — they were referring to opioids.

"You can't walk into your house with a six-pack of beer. If you're smoking weed, people can smell it. But you can walk into your house with a lot of [tablets] in your pocket. So, it's cheap, really easy to hide, and is even called 'safe' by the government. I think that attraction is horrific."

A4782

"Our youth are dying at a higher rate … and we have a lot more hydromorphone found in [their

bodies] at the time of death."

While safer supply programs claim to make communities safer, Koivu's lived experiences suggest the opposite. She used to reside in London's Old East Village, where the city's first safer supply program opened in 2016, but moved away after watching her neighbourhood deteriorate from widespread crime, overdoses and drug trafficking.

"I moved there to support a supervised injection site," said Koivu. "Then I watched that community drastically change when safer supply was implemented. … I would go for walks and directly see diversion taking place. Homelessness is very complicated, but this has absolutely fueled it in ways that are unconscionable."

Koivu characterizes the evidentiary standards used by advocates of safer supply as "deeply problematic." She says many of the studies supporting safer supply are qualitative — meaning they rely on interviews — and use anecdotal data from patients who have a vested interest in perpetuating the program.

While Koivu has been blowing the whistle on safer supply programs for years, her concerns largely went unnoticed until recently. She has faced years of harassment and denigration for her views.

"When I came to say I'm concerned about what I'm seeing: the infections, the suffering, the encampments … I was literally told that I was lying," she said.

Last month, the London Police Service provided the National Post with data showing that annual hydromorphone seizures **increased by 3,000 per cent** after access to safer supply was significantly expanded in 2020. The newspaper has since raised questions about why this data was not released earlier and whether the police stonewalled attempts to investigate the issue.

Koivu considers herself a lifelong progressive and has historically supported the New Democratic Party. But she is concerned many left-leaning politicians have ignored criticism of safer supply. Many seemingly believe that opposition to it is inherently conservative.

"I went to a hearing in Ottawa of a standing committee to talk about addiction," she said. "We

had five minutes to give a talk, and then two hours to answer questions, [but] I didn't receive any questions from the NDP or the Liberals."

Although Koivu believes safe supply can play a role in the continuum of care for opioid addiction, she says it must be executed in a meticulous manner that prevents diversion and emphasizes pathways to recovery.

"It needs to be part of a comprehensive strategy to help people get their lives back. And right now, it's not."

Above all, it is Koivu's experience as a mother that drives her to criticize safer supply. One of her sons struggled with addiction as a young adult. Although he eventually recovered, the experience could have killed him.

"Had this program been around … my family could have been another statistic from a drug death. That drives me. Because it's very real, and it's very personal."

Editor's Note: This article has been updated to say Dr. Sharon Koivu provides addiction consultation services at a London, Ont., hospital. An earlier version said she managed an addiction clinic at the hospital. We regret the error.

© 2024 Canadian Affairs News Inc
Powered by Newspack

4799

A9069

Get unlimited online access to the Toronto Sun for only $0.50/week. Subscribe Now>>

Get unlimited online access to the Toronto Sun for only $0.50/week. Subscribe Now>>

Sections Search Subscribe for $0.50/week Sign In

Subscribe for $0.50/week

News Opinion Sports Entertainment Life Shopping Driving Remembering ePaper SUNShine Girls Puzzmc

1 Father of Georgia school shooting suspect arrested on charges,
TRENDING

2 'SO HOT': Erin Andrews makes her feelings about Leon Draisaitl's
TRENDING

3 SUI
TRE

Ex # 4 m/d/y 09/06/2024 Pg 1 of 13
Exam of Dr. Sharon Koivu
Heegsma et al v City of Hamilton
Nimigan Mihailovich Reporting Inc.

Ontario / Toronto & GTA / Columnists

LILLEY: Addictions specialist calls on Ford to clean house at SRCHC

Safe injection site tied to shooting and arrest of suspect has lost the plot by refusing to offering addiction treatment and recovery.

A4785

4800

A9070

Get the latest from Brian Lilley straight to your inbox

Sign Up

Brian Lilley

Published Aug 18, 2023 • 3 minute read

105 Comments

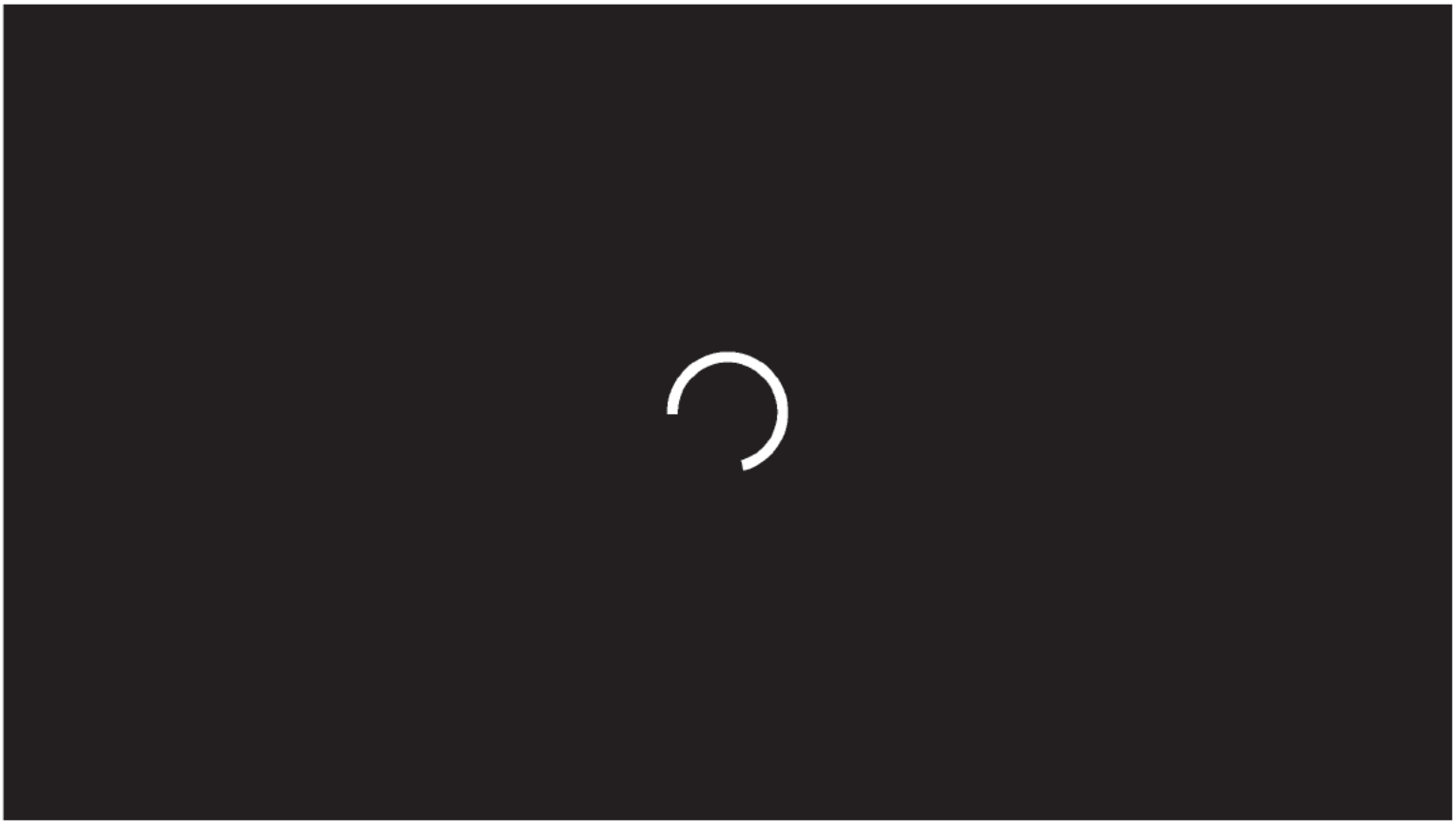
The South Riverdale Community Health Centre and safe injection site at 955 Queen St. E. on Friday, July 14, 2023. PHOTO BY JACK BOLAND /Toronto Sun

A doctor specializing in addictions says the ideology on display by the South Riverdale Community Health Centre shows it's time to replace the leadership of the organization. The

A4786

4801
A9071

SRCHC has been in the news for all the wrong reasons lately, starting with a shooting that took the life of an innocent woman on July 7 and the arrest of one of their safe injection workers on charges related to that shooting earlier this week.



They are currently under review by both the Ontario Ministry of Health, and as has been confirmed to the *Toronto Sun*, by Health Canada which grants them an exemption to dispense opioids as part of a "safe supply" program. It's the centre's stated philosophy though that has one addictions specialist concerned and calling for changes.

Dr. Sharon Koivu, a physician who helped open a safe injection site in London, Ont., and has shepherded many clients to treatment and recovery, says the people at the top of SRCHC have lost sight of the real goal.

Specifically, Dr. Koivu takes issue with the centre's philosophy published on the SRCHC website.

A4787

STORY CONT NUES BELOW

Do you think the Leslieville safe injection site should be closed down?

- Yes
- No

Vote

View Results

"It is a philosophy about being simply respectful of and to people who use drugs. No judgement, no expectations and no desire for people to stop using drugs," the SRCHC states.

"That is like a cancer doctor refusing to offer a patient chemotherapy because it might be uncomfortable," Dr. Koivu said.

She added that while treatment for addictions can be uncomfortable and painful at times, they save lives and that should be the focus of organizations dealing with addicts, not just

keeping them addicted. Dr. Koivu said the entire reason for bringing safe injection sites into being was to help guide people towards treatment, something the SRCHC policy would appear to abandon.

"With this policy, South Riverdale Community Health Centre is not working to improve lives," Dr. Koivu said. "They are promoting a dependency on a service that should be meant to help them."

Your Midday Sun
Your noon-hour look at what's happening in Toronto and beyond.

youremail@email.com Sign Up

By signing up you consent to receive the above newsletter from Postmedia Network Inc.

STORY CONT NUES BELOW

[redacted]

The philosophy, which has been posted to the organizations social media accounts and printed on official materials, is also contrary to provincial regulations for what the government calls "Consumption and Treatment" sites. According to provincial rules, such sites are required to offer "onsite or defined pathways to addictions treatment services."

The latest annual report issued by the centre boasts about the 868 visits per month for "safe drug consumption" with 129 overdoses reversed, just two calls to EMS and no calls to police. What the centre doesn't boast about is how many clients were directed to an addiction treatment or recovery program.

This philosophical break from provincial regulations and best practices for such sites should be enough to shut this facility down. If the Ford government isn't ready to go that far, they need to force out CEO Jason Altenberg, the entirety of the senior leadership in the harm reduction programs and demand the resignations of board members starting with chair Mike Wilson.

"There has to be a complete change in leadership," Dr. Koivu said, adding that some community level workers may need to be replaced as well.

"Unfortunately, once people have drunk the Kool-Aid and think this is a good thing, it's hard to have the same workers recognizing the importance and value of facilitating a journey to recovery."

RECOMMENDED FROM EDITORIAL

LILLEY: Doug Ford needs to shut down or take over safe injection site

Ontario Premier Doug Ford has long been skeptical of safe injection sites and capped the number in the province at 21. He's spoken out in favour of more treatment, something that clearly goes against the philosophy of the SRCHC, and many other activists on this file.

Seems some of those activists are deeply embedded in Ontario's Ministry of Health where multiple sources claim the health bureaucracy is pushing back against requests for options and action from Health Minister Sylvia Jones.

The Ford government, including the premier and minister Jones, need to find the strength

to do the right thing and either shut this facility down or fire everyone at the top. Anything short of that sends the message to the other facilities that following the rules and helping people get into treatment is no longer a priority.

The people of Ontario deserve better.

Plastic Surgeon Tells: If You Have Wrinkles, Do This Immediately (It's Genius!)

Beverly Hills MD | Sponsored

Learm more

SUNshine Girl Krista

Toronto Sun

Driver charged with fatally hitting Johnny Gaudreau, brother reportedly a U.S. Army vet

Toronto Sun

Here's The Average Price Of Gutter Protection For Houses In Canada

The Actual Cost May Surprise You

LeafFilter Partner | Sponsored

Get Quote

4807

A9077

Canadians In Ontario With No Life Insurance Are Taking Advantage Of This

Covered For Life | Sponsored

Learn More

Try This Reverse Mortgage Estimator (Only If You're Over 55)

CHIP Reverse Mortgage | Sponsored

Get Quote

Here's How Much Gutter Guards Should Cost You In 2024

Try this instead of gutter cleaning

LeafFilter Partner | Sponsored

Get Quote

COMMENTS

You must be logged in to join the discussion or read more comments.

Sign in

Create an Account

JOIN THE CONVERSATION

Postmedia is committed to maintaining a lively but civil forum for discussion. Please keep comments relevant and respectful. Comments may take up to an hour to appear on the site. You will receive an email if there is a reply to your comment, an update to a thread you follow or if a user you follow comments. Visit our Community Guidelines for more information.

A4793

4808

A9078

New River Cruises Coming to Ontario (Take A Look at The Prices)

Local Plan | Sponsored

Search Now

Here Are 47 of the Coolest Gifts for 2024

CoolGadgetGeek | Sponsored

Shop Now

Canadians In Ontario With No life Insurance May Be Surprised With This New Policy

Canadian Parents With Little Saved Could Leave Their Family With A Large Sum

Covered For Life | Sponsored

Learn More

A 60-Yr-Old Engineer Designed This Nail Clipper For seniors All Over The Wold.

Sherum | Sponsored

Learn More

Ontario Seniors Born Between1944 And 1983 Could Get This Benefit

Seniors Choice | Sponsored

SUNshine Girl Sunny

Toronto Sun

SUNshine Girl Ana

Toronto Sun

How Long Does $500,000 Last After 65 in Canada?

For those with a $500k portfolio, download this guide to learn if you are set to live your dream retirement

Fisher Investments Canada | Sponsored

Learn More

A4794

TRENDING🔥

1 Father of Georgia school shooting suspect arrested on charges, including second-degree murder

2 'SO HOT': Erin Andrews makes her feelings about Leon Draisaitl's fiancée known

3 SUNshine Girl Jynnie

4 Delta flight from Boston to Rome diverted after diarrhea disaster

5 MANDEL: Glamourous lawyer couple under suspicion for missing millions

4810

A9080

A4796

4811

A9081

LATEST NATIONAL STORIES

Subscribe for $0.50/week

News Opinion Sports Entertainment Life Shopping Driving ePaper Subscribe

Follow Toronto Sun

Advertise With Us Digital Ad Registry Site Map Contact Privacy - Updated Terms of Use FAQ Copyright My Account
Manage My Print Subscription Manage My Tax Receipt

365 Bloor Street East, Toronto, Ontario, M4W 3L4

© 2024 Toronto Sun, a division of Postmedia Network Inc. All rights reserved. Unauthorized distribution, transmission or republication strictly prohibited.

A4797

4812

Get unlimited online access to the London Free Press for only $0.50/week. Subscribe Now>>

Get unlimited online access to the London Free Press for only $0.50/week. Subscribe Now>>

A9082

This advertisement has not loaded yet, but your article continues below.

Ex # 5 m/d/y 09/06/2024 Pg 1 of 7

Exam of Dr. Sharon Koivu

Heegsma et al v City of Hamilton

Nimigan Mihailovich Reporting Inc.

News / Local News

Harms of safe drug supply program outweigh benefits: Addictions specialist

A London doctor at the centre of a national political debate over opioid programs says she had no intention of becoming a talking point for the federal Conservative party.

Randy Richmond

Pub shed May 20, 2023 • Last updated May 20, 2023 • 4 m nute read

Jo n the conversat on

(F e photo/Postmed a Network)

A4798

4813

A London doctor at the centre of a national political debate over opioid programs says she had no intention of becoming a talking point for the federal Conservative party.

A9083

But remaining silent isn't an option in the face of evidence the program is harming people, says Sharon Koivu, an addictions specialist and researcher at London Health Sciences Centre.

"I've done a lot of work in social justice, advocacy work, for essentially all my life. So, I've never been associated with anything right wing. I don't consider my position to be a political one, just a voice of concerns for the suffering that I've seen," Koivu told The London Free Press.

STORY CONTINUES BELOW

This advertisement has not loaded yet, but your article continues below.

Koivu's views on London's safer supply program recently were published in a National Post story and reiterated in recent attacks from Conservative Leader Pierre Poilievre on the federal Liberal addictions policies.

Poilievre introduced a motion in the House of Commons Thursday calling for an end to safe supply programs in Canada, saying funding should go to treatment instead.

"Crime and chaos, drugs and disorder rage in our streets. Nowhere is this worse than in the opioid overdose crisis that has expanded so dramatically in the last several years," Poilievre said.

A4799

4814

The opioid crisis claimed 34,455 lives in Canada from 2016 to September 2022, according to the latest Health Canada figures, with most of the deaths attributed to toxic street supplies of fentanyl that often include crystal meth and cocaine, Health Canada says.

A9084

About 473 people have died from opioid-related problems in London and surrounding Middlesex County from 2016 to the middle of 2022, with annual deaths increasing from 30 in 2016 to 130 in 2021, according to Public Health Ontario.

The safer opioid supply (SOS) program at the London InterCommunity Health Centre began in 2016 with a small group of street level sex workers and has increased to about 300 patients. The program provides patients with pharmaceutical grade hydromorphone, in the form of Dilaudid pills, so they can avoid dangerous street drugs.

Noon News Roundup
Your weekday uncht me roundup of curated nks, news h gh ghts, ana ys s and features

youremail@email.com Sign Up

By signing up you consen o receive he above newsle er from Pos media Ne work nc

STORY CONTINUES BELOW

This advertisement has not loaded yet, but your article continues below.

Research has shown safer supply programs can keep patients healthier as they work to their individual goals around addiction. A study released last fall concluded London SOS patients had fewer infections than people injecting drugs who were not in the program.

But Koivu said since London's safer opioid supply program began in 2016, the rates of infections in her patients and deaths among injection drug users have gone up. Dilaudid also has fuelled an increase in the use of fentanyl, including among younger people, and homelessness in London, Koivu contends.

"I believe the harms of the program outweigh the benefits. I believe the harms of putting all this money into the program at the expense of other programs outweighs the benefits. I want people to discuss it and decide as a society what's best," she said.

Safe supply supporters say they have research that shows the programs save lives and help people to stop injecting drugs, and in some cases, stop using at all.

Opponents have no statistics to back up their claims, supporters say.

RECOMMENDED FROM EDITORIAL

Poilievre slams 'so-called experts' pushing for government-funded supply of drugs to stop opioid crisis

Koivu questioned the research methods backing safe supply and said some statistics show at least a possible link between Dilaudid use and infections.

STORY CONTINUES BELOW

A4800

4815

This advertisement has not loaded yet, but your article continues below.

A9085

The rate and number of invasive infections among people with opioid use disorders in London has jumped since 2016, while rates in Toronto and Ottawa have increased at a much smaller rate, she said, citing records from the Office of the Chief Coroner of Ontario.

Koivu said she was an early supporter of the safe supply program when it first started.

"But I began seeing a significant increase in infections that were related to injection drug use, and specifically infections of the spine, some of them leading to some very significant consequences: paraplegia and quadriplegia. Eighty to 90 per cent of the patients with these infections were injecting Dilaudid," she said.

"The majority of the patients I saw were telling me they were buying diverted Dilaudid and that they were thinking it was safe."

She counted more than 100 patients with the infections in 2017, the first year after the safe supply program began, Koivu said.

She suspects Dilaudid crushed and injected contains particles in the suspension that cause damage to blood vessels, but doesn't have the research to back that up, or the research dollars to find out, Koivu said.

Dilaudid also leads to people seeking a greater high, and that has led to the spread of the more powerful fentanyl in London, she said.

"A lot of places where fentanyl is a problem also have safe supply programs. Trying to fix the problem of fentanyl by throwing more drugs at it is not working. It's not working for the people in the program, and it's not working for the community."

STORY CONTINUES BELOW

This advertisement has not loaded yet, but your article continues below.

A leading drug researcher and a London streetfront doctor are firing back at a recent surge of criticism – echoed by a city councillor and the leader of the Conservative party – about safer opioid supply programs: https://t.co/gwJzgViu3z#LdnOnt #cdnpoli

— London Free Press (@LFPress) May 18, 2023

The impact of Dilaudid and fentanyl has led to more people becoming homeless, with many people choosing to live in encampments close to the safe supply program at LIHC where they can buy diverted supplies, she said.

A4801

4816

Supporters of safe supply refute pretty much all of what Koivu says.

A9086

London's problem with homelessness has much do with an acute lack of shelter and supportive housing – both targets of a new community strategy developed over the winter – safe supply supporters say.

There's no empirical evidence of diversion being a large problem or Dilaudid causing infections, they say.

Meanwhile, Koivu is calling for a moratorium on funding until there's more public discussion of the programs.

Koivus said she approached local NDP and Liberal MPs, who considered her opinions, but can't get her message beyond them to party leaders.

Without the support from other parties, Poilievre's motion is bound to fail in a vote in the Commons.

rrichmond@postmedia.com

Twitter.com/RandyRatLFPress

COMMENTS

You must be logged in to join the discussion or read more comments.

Sign in

Create an Account

JOIN THE CONVERSATION

Postmedia is committed to maintaining a lively but civil forum for discussion. Please keep comments relevant and respectful. Comments may take up to an hour to appear on the site. You will receive an email if there is a reply to your comment, an update to a thread you follow or if a user you follow comments. Visit our Community Guidelines for more information.

TRENDING

1 Interim president and CEO — London hospital slashes management ranks, warns cost-cutting not done

2 New home constructio — So how is London doing on its goal to build 47,000 new homes?

3 Ryan Davies — Port Stanley man identified as deceased canoeist pulled from lake

A4802

4817

4 Paula Abdul **Paula Abdul cancels Canada tour, including London show**

A9087

5 Brockville General Hospital **LHSC bringing in executive who helped turn around Brockville hospital**

READ NEXT

A4803

4818

A9088

LATEST NATIONAL STORIES

A4804

JAMA Internal Medicine | Original Investigation

Mortality Among Unsheltered Homeless Adults in Boston, Massachusetts, 2000-2009

Jill S. Roncarati, ScD, MPH, PA-C; Travis P. Baggett, MD, MPH; James J. O'Connell, MD; Stephen W. Hwang, MD, MPH; E. Francis Cook, ScD; Nancy Krieger, PhD; Glorian Sorensen, PhD, MPH

Invited Commentary page 1248

Supplemental content

Ex # 6 m/d/y 09/06/2024 Pg 1 of 7
Exam of Dr. Sharon Koivu
Heegsma et al v City of Hamilton
Nimigan Mihailovich Reporting Inc.

IMPORTANCE Previous studies have shown high mortality rates among homeless people in general, but little is known about the patterns of mortality among "rough sleepers," the subgroup of unsheltered urban homeless people who avoid emergency shelters and primarily sleep outside.

OBJECTIVES To assess the mortality rates and causes of death for a cohort of unsheltered homeless adults from Boston, Massachusetts.

DESIGN, SETTING, AND PARTICIPANTS A 10-year prospective cohort study (2000-2009) of 445 unsheltered homeless adults in Boston, Massachusetts, who were seen during daytime street and overnight van clinical visits performed by the Boston Health Care for the Homeless Program's Street Team during 2000. Data used to describe the unsheltered homeless cohort and to document causes of death were gathered from clinical encounters, medical records, the National Death Index, and the Massachusetts Department of Public Health death occurrence files. The study data set was linked to the death occurrence files by using a probabilistic record linkage program to confirm the deaths. Data analysis was performed from May 1, 2015, to September 6, 2016.

EXPOSURE Being unsheltered in an urban setting.

MAIN OUTCOMES AND MEASURES Age-standardized all-cause and cause-specific mortality rates and age-stratified incident rate ratios that were calculated for the unsheltered adult cohort using 2 comparison groups: the nonhomeless Massachusetts adult population and an adult homeless cohort from Boston who slept primarily in shelters.

RESULTS Of 445 unsheltered adults in the study cohort, the mean (SD) age at enrollment was 44 (11.4) years, 299 participants (67.2%) were non-Hispanic white, and 72.4% were men. Among the 134 individuals who died, the mean (SD) age at death was 53 (11.4) years. The all-cause mortality rate for the unsheltered cohort was almost 10 times higher than that of the Massachusetts population (standardized mortality rate, 9.8; 95% CI, 8.2-11.5) and nearly 3 times higher than that of the adult homeless cohort (standardized mortality rate, 2.7; 95% CI, 2.3-3.2). Non-Hispanic black individuals had more than half the rate of death compared with non-Hispanic white individuals, with a rate ratio of 0.4 (95% CI, 0.2-0.7; $P < .001$). The most common causes of death were noncommunicable diseases (eg, cancer and heart disease), alcohol use disorder, and chronic liver disease.

CONCLUSIONS AND RELEVANCE Mortality rates for unsheltered homeless adults in this study were higher than those for the Massachusetts adult population and a sheltered adult homeless cohort with equivalent services. This study suggests that this distinct subpopulation of homeless people merits special attention to meet their unique clinical and psychosocial needs.

Author Affiliations: Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health, Boston, Massachusetts (Roncarati, Krieger, Sorensen); Center for Community-Based Research, Dana-Farber Cancer Institute, Boston, Massachusetts (Roncarati, Sorensen); Boston Health Care for the Homeless Program, Boston, Massachusetts (Roncarati, Baggett, O'Connell); Division of General Internal Medicine, Massachusetts General Hospital, Boston (Baggett, O'Connell); Centre for Urban Health Solutions, St Michael's Hospital, Toronto, Ontario, Canada (Hwang); Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, Massachusetts (Cook).

Corresponding Author: Jill S. Roncarati, ScD, MPH, PA-C, Dana-Farber Cancer Institute, 450 Brookline Ave, Room LW620, Boston, MA 02215 (jsr790@mail.harvard.edu).

JAMA Intern Med. 2018;178(9):1242-1248. doi:10.1001/jamainternmed.2018.2924
Published online July 30, 2018.

© 2018 American Medical Association. All rights reserved.

Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

A paucity of literature exists regarding the health status of unsheltered, urban homeless adults, also known as "rough sleepers." These elusive, yet highly visible unsheltered individuals eschew organized shelters and choose to sleep on park benches, in back alleyways, in doorways, under bridges, near train stations, and in abandoned cars.

In the United States, the unsheltered population constitutes more than a third of the overall homeless population, with an estimated 192 875 people sleeping unsheltered on a single night in January 2017.[1] Most of these individuals were men 24 years or older of white or non-Hispanic race/ethnicity.[1] Despite their visibility, this population wanders across our urban landscapes, and data on these individuals are difficult to gather. Previous studies of mortality have focused on the homeless population who primarily sleep in shelters, and these studies have found higher rates of death in homeless populations compared with nonhomeless populations.[2-9] Studies from the 1980s showed common causes of death to be from substance use disorders and unintentional injuries.[3-5] Studies from the 1990s revealed HIV/AIDS, when combined, to be a leading cause of death.[6,7] More recently, unintentional overdose was shown to have replaced HIV/AIDS as a leading cause of death in the homeless population.[10] Literature on the unsheltered population has shown that they have more risk factors for death, more behavioral health issues, more trauma, and poorer health than their sheltered counterparts.[11-13] However, these studies have not looked specifically at mortality outcomes for unsheltered individuals, whose unique blend of comorbidities and environmental exposures may place them at higher risk for death.

A better understanding of the demographics, mortality patterns, and causes of death among unsheltered individuals could inform social policy and clinical practice initiatives to improve outcomes in this vulnerable population. To address the current gap in the literature about this unique subpopulation, we conducted a 10-year, prospective cohort study using an unsheltered cohort from Boston, Massachusetts, that was established in 2000 and followed up through the end of 2009. We described the unsheltered cohort, examined causes of death, and calculated age-specific rate ratios and age-standardized all-cause and cause-specific mortality rates and compared this cohort with both the nonhomeless adult population living in Massachusetts and a cohort of homeless adults living in Boston who primarily slept in emergency shelters. We hypothesized that the unsheltered cohort would have higher all-cause and cause-specific mortality rates than the nonhomeless and sheltered homeless populations, and that those unsheltered homeless individuals would die prematurely from common but preventable and treatable causes, such as cancer, heart disease, and substance use disorders.

Key Points

Question What are the mortality patterns for unsheltered homeless adults who primarily sleep outdoors?

Findings In this 10-year cohort study of 445 unsheltered homeless adults, the age-standardized all-cause mortality rate was almost 3-fold larger than that for a cohort of homeless adults primarily sleeping in shelters and nearly 10-fold larger than that for the adult population of Massachusetts; both represented significant differences. Common causes of death were cancer and heart disease.

Meaning Interventions and models of care need to address the unique needs of the unsheltered homeless adult population to improve outcomes.

Methods

Study Population

The study population consisted of adults living outside who were primary care patients of the Boston Health Care for the Homeless Program's (BHCHP's) Street Team. Eligibility criteria for the study included the following: (1) sleeping outside for 1 or more nights during 2000; (2) 18 years or older by January 1, 2000; (3) at least 1 face-to-face encounter with the BHCHP's Street Team staff during 2000; and (4) a first and last name and either a date of birth or a Social Security number in the study database. Participants were excluded if there was a lack of identifying information in the study database. Of 568 records in the BHCHP's Street Team database, 445 unsheltered adults (78.3%) met the eligibility criteria. The study was approved by the institutional review board of Boston University Medical Center, Boston, Massachusetts. Participant informed consent was waived by BHCHP. The study posed minimal risk to privacy.

Study Design and Data Collection

We conducted a 10-year prospective study from January 1, 2000, through December 31, 2009. Data analysis was performed from May 1, 2015, to September 6, 2016. Data from face-to-face encounters with the BHCHP's Street Team were used for the study and stored prospectively. Face-to-face encounters for primary care consisted of a BHCHP's Street Team clinician meeting an unsheltered individual on the street or at an outside location during a daytime or nighttime clinical session. The clinicians of the BHCHP's Street Team documented these encounters on paper at the time of the visit and the notes were later transcribed by a research assistant into a database (Microsoft Office Access; Microsoft Corporation). Data collected at the initial and subsequent visits included the following information: first and last names, date and location of the encounter, date of birth, Social Security number, sex, race/ethnicity, medical and behavioral health diagnoses, and the name of the clinician performing the visit. Any new data, such as a date of death, was added to the database. The cohort had no known duplicates, and no individual was added to the cohort after December 31, 2000. Everyone in the cohort was alive at the time of enrollment.

After the study concluded, the database was matched to BHCHP's electronic medical record to confirm data such as the correct spelling of the first and last name, sex, race/ethnicity, date of birth, and Social Security number. The records were then matched with the Massachusetts Department of Public Health death occurrence files from 2000 to 2009 (received on CD from Massachusetts Department of Public Health; November 3, 2014) in the manner described below to confirm deaths, add the dates of deaths if they were previously unknown, and

© 2018 American Medical Association. All rights reserved.
Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

add the underlying and multiple causes of death. Over the course of the study, reports were requested from the National Death Index[14] in 2006 and in 2011 to investigate the possibility of a death occurring outside the state for a proportion of the cohort whose whereabouts were unknown. Data extracted from the National Death Index[14] reports included the date of death, the state in which death occurred, and the underlying and multiple causes of death.

All data describing the causes of death were in the format of the *International Statistical Classification of Diseases and Related Health Problems, Tenth Edition* (*ICD-10*) diagnosis codes. The data identifying the underlying and multiple causes of death taken from the Massachusetts Department of Public Health and the National Death Index[14] were previously processed by the National Center for Health Statistics using well-established computer algorithms to select the underlying cause of death from conditions reported on death certificates. Underlying causes of death codes were used for this study and grouped based on previous literature.[7,10,15,16] Definitions of codes from the Centers for Disease Control and Prevention (CDC) Wide-Ranging Online Data for Epidemiologic Research (WONDER) were also used for interpretation of the *ICD-10* codes.[17] The *ICD-10* groupings, terminology, and definitions used to combine the *ICD-10* categories can be found in the eTable in the Supplement.

Race/ethnicity categories created by BHCHP were as follows: non-Hispanic white, non-Hispanic black, and persons of color/unknown identified as Asian, Hispanic, American Indian, or unknown race/ethnicity. Age categories included 18 to 44 years, 45 to 64 years, and 65 to 84 years. Sex was dichotomous without unknowns. There were 2 variables with missing data: Social Security number was missing in 15 of 445 records (3.4%) and race/ethnicity, 7 of 445 records (1.6%).

Comparison Groups

Two comparison groups (the Massachusetts population and a sheltered homeless cohort from Boston) were used to calculate the standardized mortality ratios (SMRs). Data for the Massachusetts population were taken from the CDC's WONDER for ages 18 to 84 years from 2000-2009. The Massachusetts population was chosen as a comparison group because our study methods were analogous to methods used in a 2013 study by Baggett et al,[10] who also used the Massachusetts population as a comparison group.

Data for the adult homeless cohort were obtained from the 2013 study by Baggett et al.[10] They retrospectively assembled a homeless cohort of 28 033 adults 18 years or older who had 1 or more encounters with a BHCHP clinician between January 1, 2003, and December 31, 2008.[10] The comparison cohort included homeless adults who were seen by BHCHP from 2003 to 2008.[10]

Matching Data

Link Plus 2.0, a probabilistic record linkage program developed at the CDC Division of Cancer Prevention and Control in support of the CDC's National Program of Cancer Registries, was used to match BHCHP's data to the Massachusetts Department of Public Health data. Each match was manually reviewed. A death record was accepted as a match if it had the same data on 1 or more of the following: Social Security number; first and last name and month and year of birth within a range of 1 year; or first and last name and month and day of birth.[7,10,14] The algorithm was similar to that used by the National Death Index[14] to match records and has been reliably used by previous researchers who studied mortality among homeless populations.[7,10,14]

Statistical Analysis

We described the demographic characteristics of the unsheltered cohort overall and by subgroups, including sex and vital status (whether the cohort member was alive or dead and information about the decedent). Among those in the cohort who died, we noted the place of death and whether an autopsy was performed.

Crude mortality rates for all-cause and cause-specific mortality were calculated using the number of deaths in each category divided by person-years of observation for that category to create incident rates, expressed as events per 100 000 person-years. Strata-specific incident rate ratios were calculated by taking one crude mortality rate within a stratum and dividing it by another crude mortality rate within the same stratum. For rate ratios, women, non-Hispanic white, and the young age category (18-44 years) were used as reference groups.

Age-standardized all-cause and cause-specific mortality rates were calculated using indirect standardization, with the unsheltered cohort as the standard population. The SMRs were calculated as follows: by creating age-specific mortality rates per person-year for young (18-44 years), middle (45-64 years), and old age (65-84 years) categories for both the Massachusetts population and the adult homeless cohort; by multiplying the age-specific mortality rates by the age-specific person-years from the unsheltered cohort; by summing the 3 age-specific results to determine the expected number of deaths; and then by dividing the number of observed deaths by the number of expected deaths. The SMRs were calculated when the number of deaths in a category was 5 or more.[15]

Statistical analyses were performed using Stata, version 14 (StataCorp) and Microsoft Excel 2013 (Microsoft Corporation) and consisted of calculating incidence rates, rate ratios, and SMRs. Corresponding 95% CIs for rates and ratios were calculated using OpenEpi (Open Source Epidemiologic Statistics for Public Health), version 3.01.[18] A 2-sided significance level of <.05 was used for testing.

Results

Cohort Characteristics

The study cohort comprised 445 unique unsheltered adults who were followed for a total of 3608.7 person-years (mean, 8.2 years; range 0.1-9.9 years). The mean (SD) age at enrollment was 44 (11.4) years with a range of 18 to 81 years. Of 445 participants in the cohort, 299 (67.2%) were non-Hispanic white and 322 (72.4%) were men (**Table 1**).

Decedent Characteristics

Of the 445 unsheltered adults, 134 died during the study period. A total of 122 deaths were confirmed through linkage with the Massachusetts Department of Public Health data, and an additional 12 records were manually matched to the National Death

© 2018 American Medical Association. All rights reserved.
Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

Table 1. Characteristics of the Unsheltered Cohort, 2000-2009

Characteristic	No. (%) Unsheltered Adult Homeless Cohort: Full Cohort (N = 445)	Men (n = 322)	Women (n = 123)	Decedents (n = 134)	Sheltered Adult Homeless Cohort ≥18 y (n = 28 033)[a]	MA 2000 Census Population ≥18 y (n = 4 849 033)[b]
Age, y						
18-44	248 (55.7)	165 (51.2)	83 (67.5)	56 (41.8)	17 298 (61.8)	2 569 111 (53.0)
45-64	176 (39.6)	140 (43.5)	36 (29.3)	65 (48.5)	9924 (35.4)	1 419 760 (29.3)
≥65	21 (4.7)	17 (5.3)	4 (3.3)	13 (9.7)	811 (2.8)	860 162 (17.7)
Race/ethnicity						
Non-Hispanic white	299 (67.2)	223 (69.3)	76 (61.8)	108 (80.6)	11 912 (42.5)	4 180 644 (86.1)
Non-Hispanic black	94 (21.1)	62 (19.3)	32 (26.0)	15 (11.2)	8066 (28.8)	236 027 (4.9)
Persons of color or unknown[c]	52 (11.7)	37 (11.5)	15 (12.2)	11 (8.2)	8055 (28.7)	432 362 (8.9)
Sex						
Men	322 (72.4)	NA	NA	116 (86.6)	18 612 (66.4)	2 289 671 (47.2)
Women	123 (27.6)	NA	NA	18 (13.4)	9421 (33.6)	2 559 362 (52.8)

Abbreviations: MA, Massachusetts; NA, not applicable.

[a] Adult homeless cohort from the study by Baggett et al.[10]

[b] Based on US Census Bureau data.[19]

[c] Individuals who identified as Asian, Hispanic, American Indian, or whose race/ethnicity was unknown.

Table 2. Stratum-Specific Mortality Rates and Rate Ratios of Unsheltered Cohort, 2000-2009

Characteristic	Deaths, No. (%)	Person-Years, No.	Mortality Rate, Deaths per 100 000 Person-Years (95% CI)	Rate Ratio (95% CI)	P Value
Overall	134 (100)	3608.7	3713.2 (3110.9-4397.5)	NA	NA
Age, y					
18-44	56 (41.8)	2124.6	2635.8 (1990.7-3422.2)	1 [Reference]	NA
45-64	65 (48.5)	1350.3	4813.8 (3716.0-6136.9)	1.8 (1.3-2.7)	<.001
65-84	13 (9.7)	133.8	9715.9 (5165.6-16589.9)	3.7 (1.8-6.8)	<.001
Race/ethnicity					
Non-Hispanic white	108 (80.6)	2325.2	4644.7 (3810.5-5608.3)	1 [Reference]	NA
Non-Hispanic black	15 (11.2)	835.4	1795.5 (1005.4-2962.9)	0.4 (0.2-0.7)	<.001
Persons of color or unknown[a]	11 (8.2)	448.1	2455.1 (1225.7-4393.3)	0.5 (0.3-1.0)	.03
Sex					
Women	18 (13.4)	1130.6	1592.1 (943.2-2515.3)	1 [Reference]	NA
Men	116 (86.6)	2478.1	4681.0 (3868.2-5614.7)	2.9 (1.8-5.1)	<.001

Abbreviation: NA, not applicable.

[a] Individuals who identified as Asian, Hispanic, American Indian, or whose race/ethnicity was unknown.

Index[14] reports. The mean (SD) age at death was 53 (11.4) years. Of the 134 decedents, 116 (86.6%) were men and 108 (80.6%) were non-Hispanic white. A mean (SD) of 13 (3.4) deaths per year occurred throughout the study. Most deaths (87 of 134 [64.9%]) occurred inside a health care facility (ie, inpatient wards, outpatient clinics, emergency departments, and nursing homes), and 48 (35.8%) resulted in an autopsy.

Mortality Rates

The crude mortality rate overall was 3713.2 (95% CI, 3110.9-4397.5) deaths per 100 000 person-years (**Table 2**). The race/ethnicity specific mortality rate ratio for non-Hispanic blacks was 0.4 times the rate ratio of death for non-Hispanic whites (95% CI, 0.2-0.7; $P < .001$) (Table 2). The SMR for the unsheltered cohort was 9.8 (95% CI, 8.2-11.5) relative to the Massachusetts population and 2.7 (95%CI, 2.3-3.2) relative to the sheltered adult homeless cohort (**Table 3**).

Causes of Death

Thirty-nine deaths (29.1%) were directly attributable to substance use disorders and unintentional overdose (Table 3). Nonpoisoning injuries represented 19 of the 134 deaths (14.2%). Mortality rates in the unsheltered cohort for HIV/AIDS (10 of 134 deaths [7.5%]) were considerably higher than rates in the Massachusetts population and in the sheltered adult homeless cohort, and SMRs were significantly elevated among the unsheltered cohort when compared with both the Massachusetts population (SMR, 63.8; 95% CI, 32.4-113.8) and the sheltered adult homeless cohort (SMR, 3.4; 95% CI, 1.7-6.0). The one exception was drug overdose, which did not differ between the unsheltered cohort and adult homeless cohort (SMR, 0.9; 95% CI, 0.4-1.7). No deaths occurred from diabetes or tuberculosis. External causes, such as suicide, homicide, and hypothermia, which were included in the nonpoisoning injury category, accounted for fewer than 5 deaths each.

Discussion

All-cause mortality rates in the unsheltered cohort were nearly 3 times greater than those in an adult homeless cohort and almost 10 times greater than in the Massachusetts population. Our cause-specific mortality findings underscore a high burden of substance

© 2018 American Medical Association. All rights reserved.
Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

Table 3. Age-Standardized All-Cause and Cause-Specific Mortality Ratios for the Unsheltered Cohort (2000-2009) Compared With the Massachusetts Population (2000-2009) and With a Sheltered Adult Homeless Cohort (2003-2008)[a]

Underlying Cause of Death[b]	Overall Deaths, No. (%) (n = 134)	SMR (95% CI)[c]	
		Unsheltered Homeless Adults vs MA Population	Unsheltered vs Sheltered Homeless Adults
All causes for entire cohort	134 (100)	9.8 (8.2-11.5)	2.7 (2.3-3.2)
Natural causes			
Cancer	21 (15.7)	4.8 (3.1-7.3)	2.8 (1.8-4.2)
Heart diseases	18 (13.4)	6.4 (3.9-9.9)	2.4 (1.4-3.7)
Chronic substance use	16 (11.9)	88.9 (52.7-141.5)	4.2 (2.5-6.7)
Chronic liver disease	15 (11.2)	32.2 (18.7-51.9)	4.5 (2.6-7.3)
HIV/AIDS	10 (7.5)	63.8 (32.4-113.8)	3.4 (1.7-6.0)
Ill-defined conditions	5 (3.7)	26.8 (9.8-59.3)	NC
External causes			
Nonpoisoning injuries[d]	19 (14.2)	33.3 (20.7-51.1)	7.1 (4.4-11.0)
Drug overdose	8 (6.0)	14.1 (6.5-26.7)	0.9 (0.4-1.7)[e]
Substance use disorder causes	39 (29.1)	43.6 (31.4-58.9)	2.5 (1.8-3.3)
Alcohol use disorder	30 (22.4)	110.2 (75.7-155.3)	NC
Opioid use disorder	9 (6.7)	15.7 (7.6-28.8)	NC

Abbreviations: *ICD 10, International Statistical Classification of Diseases and Related Health Problems, Tenth Revision*; MA, Massachusetts; NC, not calculated; SMR, standardized mortality ratio.

[a] Adult sheltered homeless cohort from the study by Baggett et al.[10]

[b] There were no unknown causes of death, and fewer than 5 deaths in each category were suppressed.

[c] The SMR was calculated when there were 5 or more deaths in each category.

[d] Nonpoisoning injuries (*ICD 10* diagnosis codes): transportation accidents (codes V01-V99), other external causes of accidental injuries (codes W00-X59, except X40-X49), and events of undetermined intent (codes Y20-Y34, except Y10-Y19). Methodology in combining the *ICD-10* categories were based on the Health of Boston 2014-2015 report.[15]

[e] The SMR was not significant.

use in this population. In addition to the deaths directly attributable to substance use, many of the deaths due to nonpoisoning injuries, which primarily included motor vehicle crashes, falls, and drownings, have been shown by previous researchers to be related to alcohol or other drug use.[20-22] The SMR for nonpoisoning injuries was high for the unsheltered cohort compared with the adult homeless cohort; these results may indicate a possibly greater risk of death for rough sleepers, but more research is warranted. Other common causes of death, such as cancer and heart disease, have a strong link to cigarette smoking, which is highly prevalent among homeless people.[20] To effectively decrease morbidity and mortality in the unsheltered population, it is necessary to have fully integrated clinical outreach teams to meet rough sleepers where they live on the streets in order to establish and maintain continuity of care.[13,23,24] Addiction treatment and recovery programs should be readily available, with treatment on demand to support motivation for action and prevent further morbidity and mortality. Future research should include harm reduction policies, such as managed alcohol programs or supervised injection sites within shelters and homeless programs, which might make shelters more tolerable for those who currently fear substance abuse withdrawal.[25,26]

Higher rates of death among non-Hispanic white individuals compared with non-Hispanic black individuals and persons of color have been consistently observed in previous studies of homeless persons, and the causes for this phenomenon are likely multifactorial.[2,4,5,7,8,10] Similarly, studies have shown that homeless men have higher rates of death than homeless women. Non-Hispanic white individuals and men, on average, have more economic resources than non-Hispanic black individuals and women and are less likely to have experienced adverse social and economic effects due to bias or discrimination.[27] Thus, non-Hispanic white individuals and men may, on average, have reached a higher threshold of comorbidities at the time that they become homeless compared with non-Hispanic black individuals and persons of color. Men, whether or not they are homeless, are at a higher risk of death at an earlier age than women because of risk-taking behaviors related to the male sex. However, more research with empirical data needs to be conducted to fully understand these disparities among the unsheltered homeless.

Limitations

Although the study was subject to some biases that we could not control, we believe the influences were minor. Some unsheltered adults living on the streets of Boston may not have been seen by BHCHP's Street Team during enrollment and were not included in the cohort, which created a potential selection bias toward those homeless adults who sought health services. Since Boston is a moderately sized city with an extensive network of outreach services provided by the BHCHP's Street Team and their community partners, the number of individuals not served by BHCHP during enrollment was likely to have been small. Additional bias could have occurred if someone entered the cohort and then traveled to another state and died while living in another state. Obtaining National Death Index[14] records improved our ability to detect deaths that occurred outside the state. The BHCHP's Street Team database contained 123 records with insufficient identifying information to be included in the study. These excluded individuals could be systematically different from individuals included in the study in important ways, such as their level of illness or the length of time that they were homeless. Based on our clinical experience, an alternative explanation was that most of these rec-

© 2018 American Medical Association. All rights reserved.
Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

ords with insufficient identifying information were duplicate records of identified cohort members because a new record was opened, rather than an existing one updated, when identifiers were learned.

Additional limitations included a lack of information about individual comorbidities or the chronicity of being homeless before or during the observation period; both could have contributed to a more nuanced understanding of mortality risk in this population. Some causes of death were too rare to ascertain mortality rates. A larger cohort would be required to address this limitation in future studies. Some overlap of the 2 homeless cohorts may have occurred, but the overlap was believed to have been small because BHCHP's data on sleeping location from 2008 showed that the proportion of patients sleeping outside was small (1%-3%) and the time frames of the 2 cohorts were not exact. If there was overlap, estimates of mortality using the sheltered adult homeless cohort as a comparison would be conservative.

Choosing Massachusetts as a comparison population instead of Boston could be considered a limitation of the study; however, some of our methods were based on those used by Baggett et al[10] in their 2013 study, in which the Massachusetts population was the comparison group. In addition, during the time frame of the study, the age-adjusted, all-cause mortality rate in Boston (687 per 100 000 population) was only slightly higher than the age-adjusted, all-cause mortality rate for Massachusetts (669 per 100 000 population).[15,28] We anticipated that confounding by race/ethnicity would be minimal given that the study cohort was disproportionately of non-Hispanic white race/ethnicity as was the Massachusetts population.

Generalizability to cities outside Boston could be affected by difference in access to homeless shelters, health insurance, and health care. Boston guarantees each homeless person access to emergency homeless shelters each night.[29] Not every city across the United States makes this guarantee, and the homeless people accessing shelters in Boston may differ from the homeless accessing, or not accessing, shelters in another city. Most of Boston's shelters have few limits on the length of stay and have little to no requirements regarding sobriety. These shelters accept individuals struggling with alcohol and other drugs, an important factor in minimizing the number of unsheltered individuals in Boston. Shelters in many cities have limits on the length of stay or requirements for sobriety and do not allow individuals with active substance use disorders, which increases the number of homeless people living outside. Access to health care and health insurance were available to our cohort, but it was not uniform across the United States, particularly during the time of the study. These factors could influence mortality for those individuals sleeping outside in different locations and thereby influence the generalizability of our results. Our study provides important insights about mortality patterns in this previously overlooked group of highly vulnerable individuals.

Conclusions

Our study results showed that unsheltered adults had a higher all-cause mortality rate than a mostly sheltered homeless adult population in Boston, a finding that to our knowledge is not previously reported in the literature. The unsheltered cohort died at a relatively young age of both noncommunicable and substance-attributable causes of death. Access to a patient-centered, outreach service model with integrated medical and behavioral health care delivered directly to the unsheltered population is necessary to begin to address these disparities. A better understanding of the social and supportive services is necessary to augment an integrated outreach team. Services such as harm-reduction models; greater availability and access to substance use disorder treatment, including smoking cessation; and a continuum of housing models with flexible social services to meet individual needs for successful tenancies and improved health are also needed to ultimately improve health disparities borne by those sleeping outside.[30]

ARTICLE INFORMATION

Accepted for Publication: May 8, 2018.

Published Online: July 30, 2018. doi:10.1001/jamainternmed.2018.2924

Author Contributions: Dr Roncarati had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: Roncarati, O'Connell, Hwang, Cook, Krieger, Sorensen.
Acquisition, analysis, or interpretation of data: Roncarati, Baggett, Hwang, Krieger.
Drafting of the manuscript: Roncarati.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Roncarati, Cook.
Administrative, technical, or material support: Baggett, O'Connell.
Supervision: O'Connell, Hwang, Krieger, Sorensen.

Conflict of Interest Disclosures: None reported.

Funding/Support: Dr Roncarati reported that research described in this publication was supported by award R25CA057711 from the National Cancer Institute of the National Institutes of Health.

Role of the Funder/Sponsor: The funding organization had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication.

Disclaimer: The content of this article is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Meeting Presentations: This study was presented in part as an abstract at the 13th Annual International Street Medicine Symposium; October 19, 2017; Allentown, Pennsylvania; and as a poster at the American Public Health Association Annual Meeting and Expo; November 6, 2017; Atlanta, Georgia.

Additional Contributions: Howard Koh, MD, MPH, and Tyler VanderWeele, PhD, both from Harvard T.H. Chan School of Public Health, provided thoughtful feedback on earlier versions of the manuscript. Stacy E. Swain, MPH, MDiv, minister at The Union Church in Waban, Massachusetts, created the database that made this study possible, and several research assistants helped maintain the database. Special thanks are extended to all the patients; the daytime and nighttime outreach workers; and everyone at Boston Health Care for the Homeless Program, especially the Street Team. No one was compensated beyond their normal employment.

REFERENCES

1. US Department of Housing and Urban Development. The 2017 Annual Homeless Assessment Report (AHAR) to Congress, part 1: point-in-time estimates of homelessness. Published 2017. https://www.hudexchange.info/resources/documents/2017-ahar-part-1.pdf. Accessed January 11, 2018.

2. Barrow SM, Herman DB, Córdova P, Struening EL. Mortality among homeless shelter residents in New York City. *Am J Public Health*. 1999;89(4):529-534. doi:10.2105/AJPH.89.4.529

3. Centers for Disease Control (CDC). Deaths among the homeless—Atlanta, Georgia. *MMWR Morb Mortal Wkly Rep*. 1987;36(19):297-299.

4. Centers for Disease Control (CDC). Deaths among homeless persons—San Francisco,

© 2018 American Medical Association. All rights reserved.
Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

1985-1990. *MMWR Morb Mortal Wkly Rep*. 1991;40 (50):877-880.

5. Hibbs JR, Benner L, Klugman L, et al. Mortality in a cohort of homeless adults in Philadelphia. *N Engl J Med*. 1994;331(5):304-309. doi:10.1056/NEJM199408043310506

6. Hwang SW, Lebow JM, Bierer MF, O'Connell JJ, Orav EJ, Brennan TA. Risk factors for death in homeless adults in Boston. *Arch Intern Med*. 1998; 158(13):1454-1460. doi:10.1001/archinte.158.13.1454

7. Hwang SW, Orav EJ, O'Connell JJ, Lebow JM, Brennan TA. Causes of death in homeless adults in Boston. *Ann Intern Med*. 1997;126(8):625-628. doi:10.7326/0003-4819-126-8-199704150-00007

8. Kasprow WJ, Rosenheck R. Mortality among homeless and nonhomeless mentally ill veterans. *J Nerv Ment Dis*. 2000;188(3):141-147. doi:10.1097/00005053-200003000-00003

9. Hwang SW, Wilkins R, Tjepkema M, O'Campo PJ, Dunn JR. Mortality among residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study. *BMJ*. 2009;339:b4036. doi:10.1136/bmj.b4036

10. Baggett TP, Hwang SW, O'Connell JJ, et al. Mortality among homeless adults in Boston: shifts in causes of death over a 15-year period. *JAMA Intern Med*. 2013;173(3):189-195. doi:10.1001/jamainternmed.2013.1604

11. Levitt AJ, Culhane DP, DeGenova J, O'Quinn P, Bainbridge J. Health and social characteristics of homeless adults in Manhattan who were chronically or not chronically unsheltered. *Psychiatr Serv*. 2009;60(7):978-981. doi:10.1176/ps.2009.60.7.978

12. Montgomery AE, Szymkowiak D, Marcus J, Howard P, Culhane DP. Homelessness, unsheltered status, and risk factors for mortality: findings from the 100 000 homes campaign. *Public Health Rep*. 2016;131(6):765-772. doi:10.1177/0033354916667501

13. Nyamathi AM, Leake B, Gelberg L. Sheltered versus nonsheltered homeless women: differences in health, behavior, victimization, and utilization of care. *J Gen Intern Med*. 2000;15(8):565-572. doi:10.1046/j.1525-1497.2000.07007.x

14. National Center for Health Statistics. National Death Index. https://www.cdc.gov/nchs/ndi/index.htm. Accessed June 18, 2018.

15. *Health of Boston 2014-2015*. Boston, MA: Research & Evaluation Office, Boston Public Health Commission; 2015. http://www.bphc.org/healthdata/health-of-boston-report/documents/hob-2014-2015/fullreport_hob_2014-2015.pdf. Accessed September 19, 2016.

16. *Instruction Manual, Part 9:* ICD-10 *Cause-of-Death Lists for Tabulating Mortality Statistics (Updated March 2011 to Include WHO Updates to* ICD-10 *for Data Year 2011)*. Hyattsville, MD: National Center for Health Statistics, Centers for Disease Control & Prevention, US Dept of Health & Human Services; March 2011. https://www.cdc.gov/nchs/data/dvs/part9instructionmanual2011.pdf. Accessed September 19, 2016.

17. Centers for Disease Control and Prevention Wide-Ranging Online Data for Epidemiologic Research (WONDER): about underlying cause of death, 1999-2016. https://wonder.cdc.gov/ucd-icd10.html. Accessed June 18, 2018.

18. Dean AG, Sullivan KM, Soe MM. OpenEpi: open source epidemiologic statistics for public health, version 3.01. Updated April 6, 2013. http://www.OpenEpi.com. Accessed September 19, 2016.

19. US Census Bureau. Census 2000 summary file 1 (SF 1) 100-percent data: sex by age. American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_00_SF1_P012&prodType=table. Accessed March 18, 2016.

20. Baggett TP, Chang Y, Singer DE, et al. Tobacco-, alcohol-, and drug-attributable deaths and their contribution to mortality disparities in a cohort of homeless adults in Boston. *Am J Public Health*. 2015;105(6):1189-1197. doi:10.2105/AJPH.2014.302248

21. Single E, Rehm J, Robson L, Truong MV. The relative risks and etiologic fractions of different causes of death and disease attributable to alcohol, tobacco and illicit drug use in Canada. *CMAJ*. 2000; 162(12):1669-1675.

22. Single E, Robson L, Rehm J, Xie X. Morbidity and mortality attributable to alcohol, tobacco, and illicit drug use in Canada [published correction appears in *Am J Public Health*. 1999;89(5):785]. *Am J Public Health*. 1999;89(3):385-390. doi:10.2105/AJPH.89.3.385

23. Brickner PW, Scanlan BC, Conanan B, et al. Homeless persons and health care. *Ann Intern Med*. 1986;104(3):405-409. doi:10.7326/0003-4819-104-3-405

24. Petrovich JC, Cronley CC. Deep in the heart of Texas: a phenomenological exploration of unshel tered homelessness. *Am J Orthopsychiatry*. 2015;85 (4):315-323. doi:10.1037/ort0000043

25. Potier C, Laprévote V, Dubois-Arber F, Cottencin O, Rolland B. Supervised injection services: what has been demonstrated? a systematic literature review. *Drug Alcohol Depend*. 2014;145:48-68. doi:10.1016/j.drugalcdep.2014.10.012

26. Podymow T, Turnbull J, Coyle D, Yetisir E, Wells G. Shelter-based managed alcohol administration to chronically homeless people addicted to alcohol. *CMAJ*. 2006;174(1):45-49. doi:10.1503/cmaj.1041350

27. Pruitt L. Welfare queens and white trash. *Southern California Interdisciplinary Law Journal*. 2016;25: 289-312. UC Davis Legal Studies Research Paper No. 486. Updated April 26, 2016. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2740095. Accessed September 19, 2016.

28. Office of Data Management and Outcomes Assessment, Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief*. Boston: Massachusetts Dept of Public Health; 2015. https://www.mass.gov/files/documents/2016/07/mx/death-databrief-2012.pdf. Accessed January 12, 2018.

29. Emergency Health Commission. *Dignity and Respect: Making Room for Boston's Homeless: A Report on the City of Boston's Comprehensive Policy for Boston's Homeless*. Boston, MA: Emergency Shelter Commission; 1987. https://archive.org/details/dignityrespectma00bost. Accessed September 19, 2016.

30. Aubry T, Tsemberis S, Adair CE, et al. One-year outcomes of a randomized controlled trial of housing first with ACT in five Canadian cities. *Psychiatr Serv*. 2015;66(5):463-469. doi:10.1176/appi.ps.201400167

Invited Commentary

Death Among the Unsheltered Homeless
Hidden in Plain Sight

Michael Incze, MD, MSEd; Mitchell H. Katz, MD

In early 2018, a United Nations special rapporteur on adequate housing made headlines during an unofficial visit to San Francisco and Oakland, California, by comparing the living conditions for those people residing on the streets of these cities with what she had observed in Mumbai, India, and by calling this state of affairs a violation of international human rights law.[1] Indeed, it is hard to explain how, in one of the wealthiest regions of the world at a time of human history when the overall standard of living has never been higher, we have encampments of people living without toilets, sinks, showers, refrigerators, or cooking facilities.

Related article page 1242

There are an estimated 190 000 homeless persons in the United States living outside rather than in shelters, exposed to the elements, and removed from health care and case management resources.[2] In this issue of *JAMA Internal Medicine*, Roncarati et al[3] report the results of a 10-year prospective study of a cohort of unsheltered individuals in Boston, Massachusetts, that found a 3-fold increase in mortality for unshel-

© 2018 American Medical Association. All rights reserved.
Downloaded from jamanetwork.com by Sujit Choudhry on 08/11/2024

A9096

City Council endorses Community Encampment Response Plan - Part of Health & Homelessness Whole of Community System Response

Ex # 8 m/d/y 09/06/2024 Pg 1 of 3
Exam of Dr. Sharon Koivu
Heegsma et al v City of Hamilton
Nimigan Mihailovich Reporting Inc.

TUESDAY, JUNE 25, 2024

London City Council has endo sed the **Community Encampment Response Plan**, which is the emaining st ategy component of the Health and Homelessness Whole of Community System Response, following the p eviously endo sed **plan for highly supportive housing** and **plan for hubs offering transitional housing and health supports.**

The **Community Encampment Response Plan** is g ounded in a human ights based app oach that suppo ts individuals in encampments, and outlines t ansactional out each and t ansfo mational case management to suppo t an individual's pathway out of homelessness and into housing and indoo spaces. The Community Encampment Response Plan includes safety p otocols fo individuals living in encampments to suppo t wellness within encampments as well as the su ounding community.

The community led plan was developed in consultation and collabo ation with f ontline secto expe ts and leade ship, fi st esponde s, City of London staff, and with suppo t f om membe s of the community with lived and living expe ience. Du ing community engagement oppo tunities hosted in May, ove 200 Londone s joined in pe son community engagement sessions to lea n mo e about the plan and give feedback on its p oposed safety p otocols and guidelines.

"Cities ac oss Canada, as well as smalle communities, a e all dealing with the ealities of unshelte ed homelessness and encampments, and London's Community Encampment Response Plan does not simply acknowledge this ha sh eality, but p ovides a st ategy fo how we can manage the impacts and suppo t individuals to move indoo s th ough a balance of compassion, community safety, basic needs p ovisions, and inc easing ou housing supply." Mayo Josh Mo gan, City of London

"As we make p og ess towa d c eating and opening highly suppo tive housing p og ams and hubs within London, it's impo tant that the elationship building and suppo t wo k sta ts befo e opening those p og am doo s. The Community Encampment Response Plan outlines how this t ansfo mational out each wo ks, and how each intentional engagement with an individual living unshelte ed is to eventually suppo t a t ansition into housing." Chantelle McDonald, Di ecto of Se vice, London Ca es, Co Chai of Encampments St ategy Table

"The Community Encampment Response Plan is ooted in the p inciple that housing is a fundamental human ight and a c itical dete minant of health, and this is a fundamental shift in how we add ess homelessness in London. Anothe key element of the plan is out each wo ke s who can do the t ansfo mative

A4812

4827

wo k of connecting individuals within encampments with tailo ed se vice pathways to help them move into safe and stable indoo spaces, whethe it is a shelte , a hub, o highly suppo tive housing." G eg Nash, Di ecto , Complex U ban Health, London Inte Community Health Cent e, Co Chai of Encampments St ategy Table

A9097

"The Community Encampment Response Plan is a key pa t the ove all Whole of Community Response st ategy in that it p ovides a balanced esponse to the encampment situation in London, ecognizing the need to focus on housing solutions while p oviding inte im safe and app op iate measu es that suppo t basic human needs until people can exit homelessness." Kevin Dickins, Deputy City Manage , Social and Health Development, City of London

"The suppo ts p oposed in the Community Plan fo Encampments st engthen the Hubs Implementation Plan by helping unshelte ed individuals achieve a g eate state of health, wellbeing, and dignity than what is available today, so they can bette t ansition into Hubs, which a e spaces designed to enable the next steps towa d housing. This means individuals can be mo e eady than eve to continue thei jou neys towa d housing, whethe that be in p ivate ma ket, ent gea ed to income, suppo tive, highly suppo tive o othe wise." Chuck Lazenby, Executive Di ecto , Unity P oject, and Co Chai of Hubs Implementation Table

About the Health and Homelessness Whole of Community System Response

London, like many cities in Canada, is facing a health and homelessness c isis. In 2023 Londone s came togethe f om o ganizations and secto s ac oss the city and developed the Health & Homelessness Whole of Community System Response a new way to suppo t the most ma ginalized Londone s expe iencing homelessness and educe st ain on ou health ca e and judicial systems. The app oach being implemented by the Whole of Community System Response is to help Londone s with the highest needs move safely inside; help them get stabilized, w ap a ound them with suppo ts, connect them to the ight type of housing, and help them stay housed.

City Council endo sed the Whole of Community System Response app oach in Ma ch of 2023. Since then, two hubs have been established, as well as 93 highly suppo tive housing units, with 50 mo e units in development, towa d a goal of 600 highly suppo tive housing units within th ee yea s. The City's plans fo hubs and housing we e shaped by p evious community engagement sessions held in summe and fall of 2023.

Fo mo e info mation on the Whole of Community System Response, visit: **london.ca**

Last modified: Thu sday, July 04, 2024

NEWSROOM MENU

All

Public notices

A4813

Calendar

Council briefs

Our City e-newsletter

EXHIBIT “B”

As It Happens · Hometown Edition

This Ontario town is on a mission to end homelessness by 2027. Here's how it's going

Finding supportive housing made a world of difference for Sara Pepper. But she still sees gaps in the system

Sheena Goodyear · CBC Radio · Posted: Nov 05, 2025 5:14 PM EST | Last Updated: November 6

Listen to this article
Estimated 8 minutes

Sara Pepper is a formerly unhoused person in St. Thomas, Ont., who now runs a peer-support group focused on harm reduction. (Submitted by Sara Pepper)

This story is part of The Hometown Edition, a special series airing on CBC Radio's* As It Happens *Nov. 3-7, showcasing the struggles and triumphs of Canada's small towns. Listen here to learn more about what's happening in St. Thomas, Ont.

When Sara Pepper was living on the streets of St. Thomas, Ont., a few years back, she says there wasn't much in the way of support.

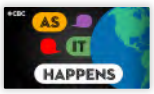
"It wasn't the place to be homeless, that's for sure," Pepper told *As It Happens* host Nil Köksal.

“There weren't a lot of open doors, not many services were offered and, socially, people just didn't understand it.”

Now, thanks to the town’s aggressive plan to end chronic homelessness, Pepper has a roof over her head and a warm bed to sleep in every night as she puts the pieces of her life back together.

And if things go according to plan, within two years, nobody will be living long-term on the streets of St. Thomas.

LISTEN | Full interview with Sara Pepper:



As It Happens 8:19

A look inside an Ontario town's ambitious plan to end homelessness

St. Thomas is a city of about 46,000 in southwestern Ontario. For 44 years, the local Ford plant was the city’s main economic driver, until it closed in 2011.

Like many towns and cities across Canada, St. Thomas has found itself facing three overlapping crises: a housing shortage, an opioid epidemic, and surge of homelessness.

It used to keep Mayor Joe Preston up at night. But these days, with a Volkswagen electric battery plant on the way and an anti-homelessness plan showing tangible results, he tells Köksal, he’s feeling optimistic.

“We're on the cusp. We're moving forward,” Preston said. “We're solving a problem ahead of many other cities across Canada.”

- **Anonymously donated Spike Lee Air Jordans net $68K for Portland homeless shelter**
- **This woman was arrested for feeding homeless people. But she says she won't stop**

For roughly five years now, the city has been working on a strategy to get people off the streets and into housing, based on the Canadian Alliance to End Homelessness’ national Built For Zero program.

St. Thomas has partnered with the province, the feds, community organizations and non-profits to ramp up shelter spaces, but also quickly transition people out of shelters and into supportive housing with access services like counselling, health-care and more.

St. Thomas Mayor Joe Preston says the city is on track to meet its target of endling chronic homelessness within two years. (City of St. Thomas website)

Danielle Neilson, manager of housing stability services for the St. Thomas-Elgin region, says it's important to understand that while emergency shelters are important, they are not the solution to the homelessness crisis.

"That's somewhere that, in my humble opinion, we've gone wrong for decades," Neilson said. "The solution to homelessness has always been housing."

So far, it seems to be working.

Last year, St. Thomas announced it had reduced chronic homelessness — meaning people who are unhoused repeatedly or for an extended period of time — by 30 per cent.

The city says it will have enough shelter spaces this winter to accommodate the roughly 130 people who are still living in the streets.

What’s more, it says it’s on track to meet its goal of ending chronic homelessness in St. Thomas by 2027.

“We call it a ‘functional’ end to homelessness, because you can never stop it from happening,” Neilson said. “But what you need to do is create a system where … you've essentially cleared the bottleneck.”

That means that, while people continue to fall into homelessness, they don’t stay that way for long. It also also means the city can't rest on its laurels once it achieves its goal.

“We also know we can't stop there," she said. "[Or] you'll end up right back in the same bottleneck again.”

Pepper’s journey

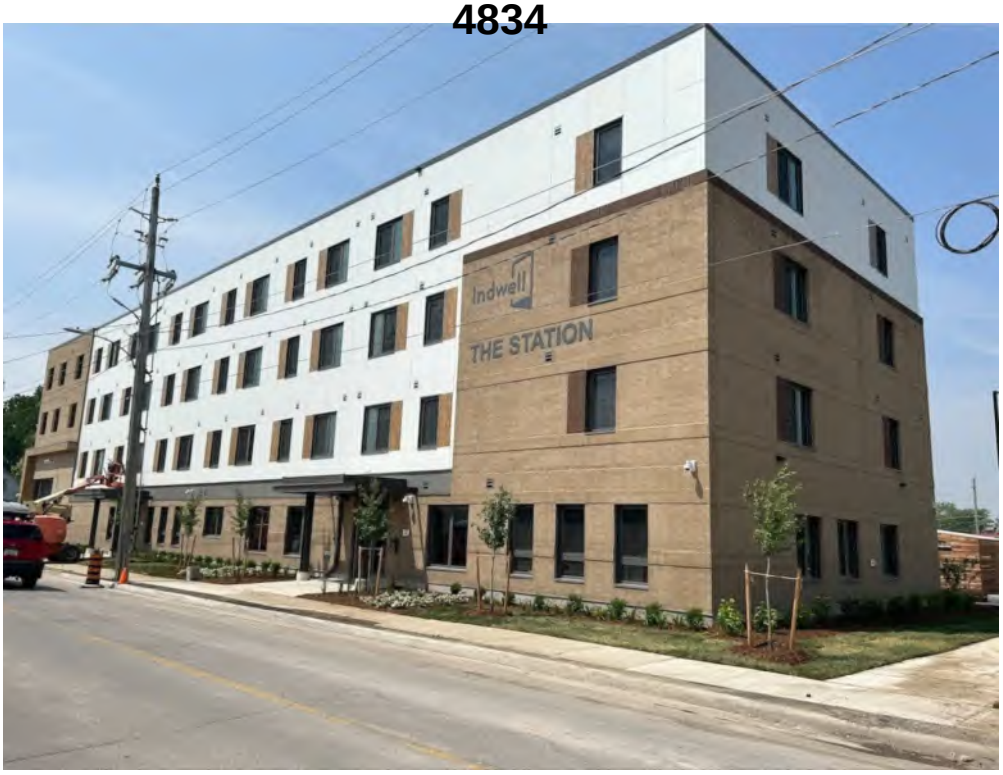
Pepper has lived in a supportive housing unit for the last two years. Before that, she spent four years on the streets in St. Thomas.

It’s not a life she ever would have expected for herself.

“I met cocaine, and that definitely sent me sideways,” she said. “My marriage dissolved and that kind of thing, and I was on the street before I knew it."

Back then, the city's only overnight shelter, Inn Out Of The Cold, operated out of a church basement in winters only.

“We would go there, pull out our cot, we had to set up everything, and then have our sleep,” Pepper said. “We had to be out of there by six o'clock, I believe it was, in the morning. It was pretty busy. Very exhausting.”



The Station at 16 Queen Street in St. Thomas is a 45-unit highly supportive housing building constructed by charity developers Indwell. The city's mayor says two more similar projects will be completed by early next year to house more individuals (Indwell)

Today, things are looking brighter.

The Inn is now a year-round, 24-hour municipal emergency shelter, with its own dedicated space, that offers three meals a day and access to health care and mental health support.

Pepper, meanwhile, lives at The Station, a subsidized supportive housing complex built in 2023 and operated by Indwell, a charity developer the city has partnered with.

Having stable housing, she says, has made an “astronomical” difference in her life.

“Here, I can breathe a little bit. I'm guaranteed that I have meals. I have the space that I can plan my future, you know?” she said. "Spending every day trying to keep yourself even fed or warm or comfortable in places that you're not getting kicked out of, it's exhausting."

Indwell also opened The Railway City Lofts in 2021, which helps people who are coming directly out of homelessness by offering addiction support, behavioural therapy, health care and help with medication and meals.

The city is also working on building affordable homes, says Neilson, for people who are ready to transition out of supportive housing into something more independent, including tiny homes built by the local YMCA.

WATCH | Tiny homes a part of St. Thomas housing strategy:

Take a look inside affordable tiny homes in St. Thomas

▶ October 1 | 0:57

Project Tiny Hope is borne of a partnership between the YWCA St. Thomas-Elgin, Sanctuary Homes, and Doug Terry Homes. The homes offer an alternative to traditional affordable and supportive housing approaches. CBC News got a look inside the homes and spoke with Doug Terry and Shellie Chowns from Doug Terry Ltd. at the grand opening.

But one of the biggest differences Pepper has noticed over the last five years is a change in attitudes.

“People are more willing to help, people are more willing to ask if you're OK,” she said. “They seem to be coming back around to realizing that we're human beings.”

Still more to do

Despite all the progress she’s seen, Pepper says she still encounters barriers that make it hard for people to get a leg up.

“The biggest thing that I see is some kind of [missing] link between the people that are experiencing the homelessness and the people who are running the systems and programs. There's not a lot of people that have lived experience, not a lot of people that really can empathize because they've never been there, you know?” she said.

She’s calling on the city and Indwell and other services to offer more peer-led programs, and employ people who have experienced homelessness first-hand.

- **St. Thomas police dismantle homeless camp, frustrating some outreach workers**
- **St. Thomas needs a supervised drug consumption site, advocates say**

Natasha Thuemler, Indwell's regional director, says charity's staff come from "varying backgrounds of both lived and educational experiences."

"Organizationally, we aspire to maintain healthy therapeutic relationships with our residents so the disclosure of those personal experiences by staff are not always made public," Thuemler told CBC in an email.

"Our model of supportive housing also doesn't meet the needs of everyone.... Unfortunately, there are still system gaps so we work with sector partners and individuals to help advocate and ensure all people's health and housing needs get met."

This ramshackle shelter was built in the trees about a dozen feet away from the Thames River in London, Ont., a city near St. Thomas, in 2023. (Colin Butler/CBC)

Pepper knows first-hand the difference lived experience makes. She now volunteers with The Nameless, an anti-poverty mutual aid group in St Thomas, where she runs a peer-support group focused on harm reduction.

"They know that I get it. They don't feel judged," she said. "When they can speak freely and openly, then you have the opportunity to actually help them from every angle, because you know the whole story."

She is skeptical about whether St. Thomas will achieve its goal of ending chronic homelessness within the next two years.

But Indwell's newest housing project, she says, gives her hope.

The charity is currently in the process of transforming the empty Balaclava Public School into 78 supportive housing units.

"If it can be successful in getting the people into the apartments, and then helping the people to keep their apartments, then it could be perfect," Pepper said. "It really could happen."

Interviews with Sara Pepper and Joe Preseton produced by Sarah Jackson

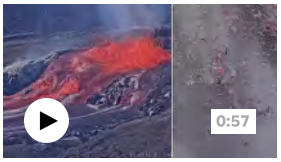
TRENDING VIDEOS

11:22

VIDEO

Husband pays tribute to 'supermom' Colleen Jones in eulogy

CBC News Nova Scotia



VIDEO

See the moment a Hawaii volcano's eruption knocked out a remote camera

VIDEO

Sarah McLachlan's 'combative' relationship with her daughter inspired Gravity

Q

2:05

VIDEO

We found out who bought a $13M Mercedes now linked to fugitive Ryan Wedding

The National

VIDE

Tiny Toro fire e

The N

RECOMMENDED FOR YOU

Police conclude investigation into crash that killed 4

New pictures of Ryan Wedding show changes in

Kirsten Hillman, Canada's longtime ambassador to the

After death of 18-year-old Niagara woman, her family

Liber Poili

students and teacher from Walkerton, Ont.

News - Canada - London

fugitive's appearance

News - World

U.S., is stepping down

Catharine Tunney

News - Politics

told Thorold cemetery won't accommodate Muslim burial

Desmond Brown

News - Canada - Hamilton

callir 'insu

John

News

EXHIBIT “C”

See line 17 on p. 80.

JUDICIAL CENTRE OF CALGARY
FILED DIGITALLY
2301 01360
Mar 1, 2023
7 19 AM
CLERK OF THE COURT

COURT FILE NUMBER: 2301 01360

COURT: COURT OF KING'S BENCH OF ALBERTA

JUDICIAL CENTRE: CALGARY

PLAINTIFF: OPHELIA BLACK

DEFENDANT: HIS MAJESTY THE KING IN RIGHT OF ALBERTA

QUESTIONING ON AFFIDAVIT SWORN FEBRUARY 21, 2023

OF

SHARON KOIVU

(VIA VIDEOCONFERENCE)
February 27, 2023

APPEARANCES

For the Plaintiff:

Avnish Nanda

Nanda & Company
780-801-5324

For the Defendant:

Nate Gartke

Alberta Department of Justice
780-643-0856

Also Present:

Certified Stenographer:

Amanda Hebb, CSR(A)

Dash Reporting Services
780-439-2292

INDEX

QUESTIONING ON AFFIDAVIT
of
SHARON KOIVU
February 27, 2023

PROCEEDINGS

DESCRIPTION	PAGE
SHARON KOIVU, affirmed, questioned by Counsel A. Nanda commencing at 9:03 a.m.	5
Proceedings recessed at 10:46 a.m.	74
Proceedings reconvened at 10:51 a.m.	74
Proceedings recessed at 10:58 a.m.	79
Proceedings reconvened at 1:34 p.m.	79
SHARON KOIVU, affirmed, questioned by Counsel A. Nanda commencing at 1:34 p.m.	79
Proceedings recessed at 1:46 p.m.	87
Proceedings reconvened at 1:50 p.m.	87
Counsel N. Gartke Questions the Witness	106
Counsel A. Nanda Questions the Witness	111
Proceedings adjourned at 2:45 p.m.	122
Certificate of Transcript	122

EXHIBITS

NUMBER	DESCRIPTION	PAGE
A	EMAIL SENT BY SHARON KOIVU DATED DECEMBER 22, 2019	89

UNDERTAKINGS

NUMBER	DESCRIPTION	PAGE
1	PROVIDE THE SUMMARY OF RECORDS DR. KOIVU REVIEWED IN PREPARING HER EXPERT REPORT. *** UNDER ADVISEMENT ***	15

2	PROVIDE THE SOURCES AND LITERATURE DR. KOIVU RELIED ON IN HER EXPERT REPORT.	20
3	PROVIDE THE SOURCE USED FROM THE CHIEF OF INFECTIOUS DISEASES IN LONDON TO SUBSTANTIATE THAT DEATHS FROM INTRAVENOUS DRUG USE CAN BE EQUAL TO OR AS MUCH AS TWICE AS MANY AS OVERDOSES. *** UNDER ADVISEMENT ***	93

****

Undertakings listed in this transcript are provided for your assistance only. Counsel's records may differ. Please check transcript to ensure that all undertakings have been listed according to your records.

(Videoconferencing Disclaimer: Due to the variations in internet connection, audio drops may occur for all parties, including the stenographer. Words or phrases may be missed, and therefore may not be transcribed.)

SHARON KOIVU, affirmed, questioned by Counsel A. Nanda commencing at 9:03 a.m.:

Q COUNSEL A. NANDA: What is your name?

A It's Sharon Koivu, Sharon Louise Koivu.

Q Are you the same Sharon Koivu that has provided an affidavit in Court of King's Bench of Alberta action number 2301 01360?

A Yes, I am.

Q And you provided this affidavit on February 21st, 2023; correct?

A Yes, that is correct.

Q Did you swear or affirm the affidavit?

A I swore the affidavit.

Q Okay. And you are being presented today as an expert in this proceeding; is that correct?

A Yes, it is.

Q What is the scope of your expertise?

A I think I have a very large scope. I've been in family medicine -- or in medicine for 37 years. Have worked as an acting medical officer of health, and I'm very familiar with harm reduction and health promotion and health

protection. I have worked as a palliative care physician and have seen many people who have died from infectious complications, injection drug use.

I've worked in chronic pain, and certainly lived through the opioid crisis. And I've worked in addiction since 2012. I have been the -- a consultant in addiction medicine at London Health Sciences Centre since 2012. I'm also a consultant in addiction medicine at St. Thomas Elgin General Hospital.

I've seen many people who are brought into hospital related to their problems with addiction, and I have been involved at Lawson Research doing a lot of research, particularly around the use of pills, tablets, and infectious complications and injection drug use.

Q Dr. Koivu, I meant for the purposes of your evidence in this proceeding, what is the scope of your expertise -- what -- what are you providing expert evidence on?

A I'm providing expert evidence on risks associated with injecting pills. I'm providing expert evidence on the risk of the safer supply program or the program of prescribing unwitnessed opioids. I am also an expert in

opioid agonist therapy and its benefits.
Q Okay. So are those the three things that you are here to present evidence on?
A I'm certainly here prepared to present evidence on those areas, yes.
Q Okay. And just to be clear, just because in your affidavit -- in paragraph 8 of your affidavit if you want to turn to that.
A Yes.
Q It says -- I think the first thing you mention in your previous answer that you're providing expert opinion on -- the first thing mentioned which is the risks and harm associated with -- well, you say the misuse of oral pills by injecting them, but injecting oral pills?
A Yes.
COUNSEL A. NANDA: Associated with -- sorry. Let's go off the record for a second.
(DISCUSSION OFF THE RECORD)
Q COUNSEL A. NANDA: So, Dr. Koivu, the first matter before -- within your expertise that you are opining upon in your evidence for this proceeding is the risks and harms associated with the plaintiff's use of oral pills; is that correct?
A Yes.
Q What is the second thing? I raise that because

you say as well -- you say: (As read)
As well as several other matters contained in the plaintiff's affidavits.
So I just want to get clarity on what exactly you're here to provide expertise on.
COUNSEL N. GARTKE: I just want to make sure we're asking appropriate questions. If you're asking her what she was retained to provide an expert opinion on, she can answer that, but I think the answer to that you can get just by reading her report. If you're asking what we're going to seek to qualify her as an expert on, that's a matter of legal argument, and that's not for her to address. So I just want to make sure we're asking Dr. Koivu the question that she can actually answer.
Q COUNSEL A. NANDA: Yes. What is the scope of your expertise that you provided --
A I'm certainly -- I have expertise in the risks of injecting oral medication. I have expertise in harm reduction techniques. I have expertise in the use of opioid agonist therapy.
Q Sorry. Let's just -- I'm going to be very clear. It's the initial thing that your counsel just mentioned. Your expert report that you've provided attached as Exhibit B to

your affidavit --
A Yes.
Q -- what scope of expertise does that specifically address? So we've discussed the risks and harms associated with the use of oral pills or injecting oral pills?
A Yes.
Q What else?
A I guess I'm thinking I'm answering the question, and I'm not answering it to your satisfaction. I have expertise in how to -- I have expertise in harm reduction techniques. I have expertise in the use of opioid agonist therapy as it applies to this case.
Q Okay. And, again, I think we're talking the same, but in your answer you're indicating that you have this expertise in harm reduction techniques and opioid agonist treatment, and to be clear, those are the things that you opine about in your expert report?
A Yes.
Q Okay. So harm reduction techniques.
A Yes.
Q Opioid agonist treatment techniques?
A Yes.
Q Anything else?
A May I look at my affidavit?

Q Yes.
A And --
Q Absolutely. Yes. Absolutely.
A I have expertise in risks of toxicity and overdose. I have expertise in how opioids are used and how tolerance is developed. I have expertise in risks associated with diversion, risks associated with the use of oral pills including its bioavailability and overdose.
Q Okay. So can you list each thing that you're providing testimony on -- or expert testimony on again. So I have the risks and harms associated with injecting oral pills, harm reduction techniques, opioid agonist therapies. What else?

I raise this, Dr. Koivu, it's because your -- the body of your affidavit but also the title of your expert report talks about addressing harms and unintended side effects of injecting oral pills which --
A Yes.
Q I appreciate that that is your expertise. But then there's additional things mentioned, but they're not -- it's not clearly articulated that this is what you're addressing as an expert in your report. So for the Court and myself, we just want to know what exactly was

within your scope of expert opinion in the report.

COUNSEL N. GARTKE: Do you want her to run through, like, the titles and headings in her report? Would that be helpful?

COUNSEL A. NANDA: Whatever it is. Whatever it is. This is not, like -- this is not a trick question. I just want to understand this.

A Okay. I think I -- my expertise is both as being a physician and as an addiction physician. I also have specific experience from my lived experience of living in the area where the safe -- or supply in London was developed and was able to see firsthand what the effects of that were.

So I'm going to say my expertise includes the risk of injecting opioids in general including toxicity and overdose, risk of -- or I'm an expert in -- I'm very familiar with harm reduction techniques. I'm an expert in the risk of opioid tolerance, risk associated with diversion, risk associated with violence related to the program, risk of opioid misuse, including risk when injected in the bioavailability of oral pills compared to something intended to be injected. Risk of harm reduction techniques.

Q Okay. I have six things that you've mentioned, and I'm just going to run through them, and let me know if I'm missing anything. So the first thing is the risk and harms associated with injecting oral pills?
A Right.
Q Is that a scope -- with your scope of expertise?
A Yes.
Q Harm reduction techniques?
A Yes.
Q Opioid agonist therapies?
A Yes.
Q Risk of injecting opioids?
A Yes.
Q Risk of safe supply programs on neighbouring communities?
A Yes.
Q I think you mentioned something -- okay.
A And a risk of safer supply programs on other individuals in the community, so specifically on people purchasing diverted -- or having access to diverted opioids.
Q Okay. We'll kind of put that under the risk associated programs on neighbouring communities.
A Okay. That's fine.

Q And then risk associated around violence? What was that one. Sorry.
A Violence related to people in the program. So some of the risks of being in the program are about the risks of the drug and how the drug works itself. There are other risks that are associated with the vulnerability of having a prescription of highly sought after opioids when you're leaving a drug store or having them delivered, and the risk of violence associated with having a prescription.
Q So can I phrase that as the violence associated with opioid use and treatment?
A Yes, I think that would be fine to word it that way, yes.
Q And the last one -- I've got seven, actually. Risk of opioid misuse.
A Yes.
Q Okay. So I'll run those -- I just want to make sure we're on the same page. So the -- your scope of expertise that is provided in your expert report is the risks and harms associated with injecting oral pills, harm reduction techniques, opioid agonist therapies, risks of injecting opioids, risk of safe supply programs in neighbouring communities, the violence associated with opioid use and treatment, and

the risk of opioid misuse?
A Yes.
Q Yes. Those are the matters that you're here to provide expert evidence on?
A Yes.
Q Okay. And in preparation for today's questioning, what did you do?
A I -- in preparation for today's questioning, I read the affidavit from the plaintiff, I read the affidavit from her physician, as well as the affidavit from another physician whose name has escaped me right now who was an emergency physician and an addiction physician.
I also read notes regarding her medications that she had taken as well as there was some notes provided with me a summary of interactions that she had had between 2020 and 2022 with health care.
Q How many affidavits of --
A Of the plaintiff?
Q Yes. How many affidavits of the plaintiff did you read?
A There were a main affidavit and then two others; so a total of three affidavits that she provided.
Q How many affidavits of Dr. Bouman did you read?
A One.

Q How many affidavits of Dr. Gupta did you read?
A One.
Q Did you review the plaintiff's medical records prior to providing this expert report?
A I reviewed a summary of records that were provided to me.
Q In preparation -- sorry. In advance of --
A So in advance of?
Q In advance of --
A Yeah.
Q -- preparing your expert report?
A Yes.
COUNSEL A. NANDA: Okay. By way of undertaking, I would like a copy of that summary.
COUNSEL N. GARTKE: I'm going to take that under advisement. I think it might be privileged.
COUNSEL A. NANDA: Okay.

UNDERTAKING NO. 1:
PROVIDE THE SUMMARY OF RECORDS DR. KOIVU REVIEWED IN PREPARING HER EXPERT REPORT.
*** UNDER ADVISEMENT ***

Q COUNSEL A. NANDA: You didn't read the notes directly?
A No.
Q Any reason why you didn't?
A I was not provided with the notes. I was

provided with a summary.
Q You didn't ask for the notes in order to give an objective expert opinion on the treatment -- the plaintiff's treatment?
A The plaintiff's treatment? No, I wasn't. I did not ask for anything. I was provided with a summary. I believed that to be sufficient to address the area of expertise that I have.
Q You didn't think it was necessary to look at her complete charts?
A No.
Q Okay. And then have you read the -- any of the transcripts from the examinations?
A No, not at all.
Q Okay. So presently you are a consultant -- addictions medicine consultant; correct?
A Yes, that is correct.
Q What does that mean?
A It means that when people come into the hospitals that I work in with a substance use disorder and addiction, that I will be consulted to see them, to help deal with keeping them safe, keeping them out of withdrawal, working with them to where they are, working with them from a harm reduction perspective, and also working with them to get them on opioid agonist therapy if that is

indicated, and connecting them with community resources.
Q And you work primarily with inpatient populations?
A Yes, that is correct.
Q Do you work with outpatient populations?
A I have worked at a rapid access addiction medical clinic with outpatient populations, but only on an ad hoc basis. That is not my primary role.
Q What was the length of time you worked with that outpatient service?
A I've worked with it for a several-month period of time, but, again, only filling in for someone who is away.
Q How many shift -- sorry. Go ahead.
A I have not worked -- my number of shifts has been fairly minimal. I just cover -- I've covered the main physician when he's been out of the country.
Q Okay. So are we talking about ten shifts?
A About ten shifts, yes.
Q Okay. And that's the extent of your dealing or experience in working with outpatient populations receiving addictions treatment?
A That is the -- well, yes, my role is inpatient, absolutely.

Q Okay. Would you agree with me that in terms of treating inpatient and outpatient populations that it's a different approach to addictions medicine?
A Sorry. I missed -- I'm sorry. Can you clarify the question. I'm just not sure.
Q Sure. Would you agree that in addictions medicine that different strategies are taken to treat inpatient populations versus outpatient populations?
A There are both differences and similarities in the treatment of approaches.
Q And just for clarity's sake for the transcript, what is -- when we've heard of inpatient treatment or services, what does that mean?
A It means -- in-patients -- people who are actual admitted to the hospital -- hospital. They can be admitted with conditions that are related to their substance use such as an infection related to their substance use disorder, or they could be admitted for any other reason and have a substance use disorder. And to help take care of those patients, I would be consulted to see those patients to help them both in hospital and to have seamless care into the community.
Q And what is referred by outpatients or

outpatient medical --
A Outpatient medicine generally refers to people who are not admitted to hospital that are in the community and are not within a hospital setting.
Q Okay. Are you able to go to your expert report which is Exhibit B to your affidavit. I'll ask you some questions in relation to it.
Just the first paragraph talks about that the opinion below is based on your experience, research, education, and reviewing of pertinent literature.
A M-hm.
Q What specific literature did you review in preparation of this expert report?
A I reviewed literature related to risks of injection drug use -- or injecting pills including a study that was in both Finland and Australia. I also reviewed reports -- a report on safer supply programs both in London and in British Columbia. And certainly literature that's related to infectious complication of injection drug use, including my own, and other research that has been done related to infectious complications of infection drug use.
Q I noticed that you haven't attached any of this literature to your expert report. Is there any

reason?
A I'm sorry. I missed the -- I didn't.
Q Sorry. You did not attach any of these --
A The ones that are attached would be just the ones that I was involved in. I would be able to provide that information if that would be helpful.
Q Well, you know, for these expert reports, you tend to have to require to attach kind of the basis for your opinion including any academic literature. I just want to get a sense of, you know, what exactly you looked at, and -- well, how about this. Those sources that you just mentioned to me, did you review all those in preparation for this expert report?
A Yes.
COUNSEL A. NANDA: Okay. So I think by way of undertaking I want you to provide me those sources that you relied upon.
A Okay.
COUNSEL N. GARTKE: Yes, we can provide that undertaking.
COUNSEL A. NANDA: Okay.

UNDERTAKING NO. 2:
PROVIDE THE SOURCES AND LITERATURE DR. KOIVU RELIED ON IN HER EXPERT REPORT.

Q COUNSEL A. NANDA: I'll turn to the second page of your report which refers to the risk of opioid tolerance. You talk about the plaintiff and how she's at high risk of developing tolerance and requiring a higher dose or more frequent use for the same effect. Do you see that?

A Yes.

Q In your experience for someone in the plaintiff's circumstances, how long do they maintain a specific stable dose of hydromorphone before they elevate the amount that they need?

A I guess I'm looking at the specific circumstances of the plaintiff. I guess first I'd say people are very different. But when I'm looking at the plaintiff herself, she said that she first had exposure to hydromorphone, to opioids, when she was in hospital after an assault. That was in June of 2020.

At that time she received 0.5 milligrams of hydromorphone intravenously. She refers to that as being the first time she felt calm, and had a calming effect from opioids. It's a very, very low dose. She received a prescription for hydromorphone 1 milligram, and she received ten tablets. That is well below

what is considered an amount that should lead to cravings, tolerance, or addiction, and yet she describes herself as wanting -- to developing cravings and seeking out more of this medication.

So I would say her -- and then she went on within a fairly short period of time to use IV morphine, IV heroin, and fentanyl. And then was seen at the addiction -- the facility in Calgary in May of 2021 giving her only a very short time of developing tolerance.

So when I'm specifically looking at someone who's developed tolerance, she seems to have developed tolerance quite quickly. Also looking at how fast she went up in the clinic, she seems to have developed tolerance quite quickly. Tolerance development is a very individual thing and how fast people develop tolerance can also be based on what they're using it for, how they're using it, whether they're using it for euphoria. So there can be a lots of factors that can influence tolerance.

To say a specific rate at which people develop tolerance, I can say that people lose tolerance fairly quickly, and people can develop tolerance within a week to two weeks of a specific drug, but it's very individual.

It's very much based on what they're taking, how they're taking it, amounts that they're taking, that sort of thing.

Q So the plaintiff has indicated that she's been on the same dosage of hydromorphone since being on this -- in this treatment program for the past two years. 48 milligrams.

A Yes. She's been on 48 milligrams. I have from -- she didn't -- she has not been in the program for a total of two years. She started in May of 2021; so she hasn't been in the program for two years. She has had an -- her dose was increased to 48 milligrams and does seem to have been fairly stable at 48 milligrams, but I did not get any access to more recent data regarding her. Mine ends in February of 2022, I believe.

And with that, it's not possible to say how much she was taking outside of the amount prescribed, but it does appear that she has been on a fairly stable dose for -- from the clinic for that period of time.

Q And are you aware that as part of this -- the treatment program she's on, she has to do urine tests to determine if she's taking opioids outside of the program?

A I'm not aware of that.

Q Okay. And she's never shown to be using fentanyl or any other street-source opioids?
A I have no information about her -- what she's taking. The only thing I can allude to with that is that she has referred to decreasing her dose when she went from oral to injection. And since she's continued to increase her dose at the clinic and didn't have a decreased dose, I don't know if she's referring to other medication she was taking.

I can also refer to Dr. Bouman's report where she says that she has decreased her fentanyl usage and that she believes her. Dr. Bouman does not state that she has eliminated her fentanyl use and that she is not taking fentanyl. Dr. Bouman would have access to her urine records. I have not seen urine records. I also know that many clinics don't necessarily take them; so I can't comment on whether she is taking fentanyl or not taking fentanyl.

But I would accept that the assumption would be that Dr. Bouman's report would be indicative that she may still be taking fentanyl based on the wording of Dr. Bouman's affidavit.

Q Well, in questioning, Dr. Bouman says that the

urine samples are all clear, that she's not taking fentanyl.

COUNSEL N. GARTKE: Is there a question?

COUNSEL A. NANDA: Yes.

Q COUNSEL A. NANDA: How can you -- like, the insinuation is that Dr. Bouman's evidence is that she may be taking street opioids.

A Dr. Bouman's affidavit specifically says that she has -- she has been told that she decreased her fentanyl and that she believes her -- Dr. Bouman did not say that she had eliminated her fentanyl use.

In addition, urine drug screens are not done all the time. So people can come and not test positive for a drug that they are using. So testing negative for a substance can indicate that they did not take it prior to the drug screen.

Again, I'm only going by what Dr. Bouman said in her report. She did not specifically indicate that the plaintiff Ophelia/Sasha was not taking fentanyl, just that she had reduced her fentanyl. If, in fact, she said something differently in the testimony I -- that she has provided, I don't have access to that. But I can say that people's urines are an indicator of what they've taken prior to their urine

being taken, and not prior -- not necessarily a complete picture of what they are doing in the community between visits.

Q Sure. But it's fair to say you don't have a complete -- the complete evidentiary picture in order to opine on the fact whether the plaintiff is still accessing street source opioids?

A No. No. Just the comment from Dr. Bouman. That is the only source of questioning. And her own testimony of just going up in doses in a very quick period of time.

So my concern for her is that this is -- that she can develop tolerance and increase her dose based on that -- based on how she's described both herself, her euphoric effect, and a possibility that she was using other medications.

Q Are you aware that [indiscernible] has declined dose increases offered by various service providers in the last two years?

A I'm sorry.

Q That the plaintiff has declined increase to her doses of -- like, increase in the amount of hydromorphone given to her each day during the past two years?

A Each -- I'm -- there are certainly -- I mean --

now, what I can say -- I think that she has accepted increases in her dose up to 48 milligrams.

COUNSEL N. GARTKE: Mr. Nanda, if you want to put specific evidence to her, you're free to do that, and she can comment on it.

COUNSEL A. NANDA: Yes, I am.

Q COUNSEL A. NANDA: The evidence of the plaintiff is that she was offered dose increases from 48 milligrams up over the past two years, and she declined to accept them.

Is that consistent with what you're saying that the plaintiff's at risk of increasing her doses?

A It's certainly not over the past two years. She hasn't been on 48 milligrams for the entire time she's been in the program, which is less than two years. Once she got to 48 milligrams, I'd have to check my notes as to when that was, I have -- my notes would say that they were also offering her other things, and she declined, such as taking Kadian, other ways of taking it.

I don't -- if, in fact, she has been declining an increase in opioids, that is beyond what I have information on, and that's very -- yeah. So I'll just say that's -- but

it certainly isn't just -- two years. She hasn't been in the program for two years. She's worked up to the 48 milligrams. And what you're saying is that at 48 milligrams she's been offered a higher dose, and she has declined?

Q Yes.

A I also believe that I read that there were times when she was asking for an increase in dosage.

Q Okay.

A So I -- but I can say that she -- from what I can tell from her evidence or from -- sorry. What I can tell from the information provided to me, she has stayed stable at 48 milligrams for a length of time.

Q Okay. But you have no information or knowledge of her developing increased tolerance requiring a higher dose than she currently receives?

A Her pattern of use in the one year prior to -- she's been in the program for less than two years. Her pattern of use in the year prior to her starting the program is concerning for someone who could develop tolerance. She has been on 48 milligrams for a length of time, but I would say that based on her previous pattern, she's at risk of tolerance. And she has not

decreased her dose at this time.
Q Does the fact that she's been stable on a specific dose since being on the treatment show the effectiveness of the treatment?
A I'm -- the word effectiveness I'm having difficulty with. It appears that she has not increased her dose of her opioid that they are prescribing to her for a length of time.
Q Okay. And does that not show that stability?
A It shows a stability in dosing, yes.
Q Okay. But you would not -- would that show that the treatment is successful in your opinion of stabilizing her?
A I think that there are many factors about her that I'm not aware of to be able to say that this has stabilized her. I can say that she has a stable dose, and that is something I can say.
Q The evidence is also that she has not had an overdose -- well, the only time she's had an overdose since being on the program is when she didn't have access to her medication. But aside from that while in treatment and accessing the medication, she's never had an overdose.
A I'm sorry. Could you get closer? I can't hear your question.

COUNSEL A. NANDA: Sorry. Maybe go off the record for a second.

(DISCUSSION OFF THE RECORD)

Q COUNSEL A. NANDA: Her evidence is that the only time she's had an overdose since she's been in treatment is when she was out of the city and didn't have access to her medication. But through the entire period of time that she'd been in treatment or on this treatment, she's never had an overdose. Does that indicate the effectiveness of the program?

A I would say that her self reporting is that she has not had an overdose. I would also say that the program as it is shows that people are very dependent on their drug. And anything that leads to a disruption in it can cause significant problems for that person.

She was well aware she was going to Edmonton. She planned it. She asked for her medication to be sent to a pharmacy in Edmonton and knew what she needed to do to be able to get the medication. Went without the proper documentation. I believe it's an insurance form so she could get it. If it was her health card, anyone can pick up opioids.

And she wasn't able to problem solve in a way that she could get her opioids. Other

people can pick them up. I don't know the difference in price between what she was -- had to pay compared to the price of the drug she got.

But what I can say is that that's one of the problems with something that's so limiting. And so she is locked into a program where when she leaves her community or has any disruption in the program, it causes a complete disruption. So I think that your -- I would say I have a different view of whether that's a success of the program. I think that shows that the program is very much something that she is controlling her, controlling her ability move, and controlling her lifestyle. She's now owned -- she's very dependent on the opioids and not being in any way having a disruption of that.

Q Okay. As someone -- well, are you a -- what does safe supply mean to you?

A I'm sorry?

Q What's your definition of safe supply?

A I don't think that -- so I believe that you're -- when someone refers to "safe supply" that they are referring to the -- to what the prescribing of opioids in high doses that are not witnessed to people who have a documented

opioid-use disorder.
Q That is your definition?
A I don't like the term "safe supply". I think that the term "safe supply" is misleading. Originally it wasn't referred to as safe supply. It was referred to as prescriptions allotted. Prescribing it was referred to as pandemic prescribing. It was referred to as safer supply.

Now many people have dropped the R and refer to it as safe supply. But in referring to safer supply, they're generally referring to prescribing to individuals high -- doses of unwitnessed opioids, usually pills, that are taken -- or that are prescribed that are picked up from pharmacies usually on a daily, sometimes one to two even as much as four days at a time, to be taken by that person in an unwitnessed fashion.
Q Okay. And that's -- you refer to that as safer supply?
A I don't refer to it as safer supply. I believe that when people are using the terms safe or safer supply, that is what they are referring to.
Q Okay. And in your affidavit -- in your expert report you refer to safer supply. That's what

you're referring to?
A Yes.
Q Okay. What --
A I felt that it was important not to change the name from what tends to be used. It is not what I -- I do not like the name safer supply for the program.
Q Okay. You don't believe in this form of treatment?
A Oh, I am -- I think that there is a place for people to be having opioids prescribed to them. I think that an unwitnessed program has problems for the person involved as well as the community, but I also do feel, I guess -- it's not a belief. That's like a -- this isn't a religion.

Scientifically, injecting a pill that was designed to be swallowed is inherently dangerous, and, therefore, I do not support prescribing pills to people with the knowledge or encouragement that they should be taking it at a route that is inherently dangerous.
Q Okay. But as part of -- safer supply programs exist across the country; correct?
A There are safer supply programs in Ontario and Alberta -- sorry -- and British Columbia. I don't know of them being across the country.

Those are different places in the country. But I also would say if -- they're certainly limited to this is a Canadian experiment, and there are sites that they are doing this type of prescribing in Canada.

Q Okay. But safer supply programs exist in Quebec?

A That's -- the programs that you are describing could exist in Quebec. I'm very familiar with the Ontario experience and somewhat more familiar with the Vancouver experience.

Q Okay. So various jurisdictions in this country provide safer supply programs to treat people with severe opioid-use disorder; is that correct?

A Start with the first part of that. I'm not sure what you mean.

Q Various jurisdictions in Canada --

A What is a jurisdiction? I mean, there's no jurisdiction in Ontario that has specifically said London can be a site for a safer supply program. There are people within that community who have developed what has now been -- was started completely differently as a way to help street-level workers who were selling their bodies for -- to get opioids, and it has now been expanded into a program

specifically for opioid-use disorder.
I don't know that I'd say those are jurisdictions. There are various places within Ontario where people have started this type of prescribing.
Q But it's authorized by whatever governmental authority; right? This is not just drug dealers --
A Oh, no. I mean, there --
Q These aren't illegal; right?
A It's not illegal, no. Prescribing opioids -- physicians prescribing of opioids is not illegal.
Q Yes, that's what I'm getting at. That there are various jurisdictions where it's authorized for physicians to prescribe what you just described as safer supply to --
A Physicians aren't specifically authorized. We are allowed to prescribe opioids. It's within our -- certainly within being a physician, physicians are allowed to prescribe opioids. And this has been supported at times by grants from Health Canada, for example. It is not illegal for a physician to prescribe opioids.
Q Okay. But this --
A I wouldn't say that a jurisdiction such as -- so I -- yes, I'm just not sure if I understand

what you mean by "jurisdiction".
Q I really don't know why we're debating this to be frank with you.
A I don't -- okay. But --
Q My question is simple is that various places in this country, physicians, medical teams, medical clinics treat people with severe opioid-use disorder through safer supply?
A Through the program that is being identified and called safer supply, yes.
Q Okay. And as part of those treatment programs, they consist of what you just described to me or they can consist of what you've described to me which is providing Dilaudid or other opioid medication in pill form for pickup and unwitnessed use; correct?
A Yes.
Q Okay. And in those contexts, the Dilaudid pills can be consumed orally, intravenously, or for lack of a better --
A Snorted.
Q Snorted; is that correct?
A Yes. They can be. They are oral pills, and in general the instructions are to take them orally. But they are at times taken orally, they are at times injected, and they are at times snorted.

Q And it's well understood within the academic literature that this is -- these methods of consuming safer supply medication is occurring in Canada?
A Yes.
Q And it is well understood by many of the programs -- or all of the programs that provide a Dilaudid -- an oral hydromorphone in this form as part of safer supply that the pills will be used in many cases intravenously?
A I believe that physicians who are prescribing are aware that there are clients in their program that will be using them intravenously.
Q Okay. So it's not an anomaly that the plaintiff consumes her oral hydromorphone unwitnessed and intravenously?
A No, it is not an anomaly.
Q Do you know what -- well, what is iOAT? Your affidavit mentioned --
A iOAT is -- yes. IOAT generally refers to injectable oral agonist therapy or using hydromorphone in an injectable form, an ampule of hydromorphone that was designed and intended to be injected.

So that is -- generally speaking, in iOAT programs people will come into a clinic, they will inject a specific amount of -- and

usually it's hydromorphone in a witnessed setting intravenously. They are given the amount to inject. It is witnessed. They usually stay for a length of time to make sure there is no difficulty related to taking their injectable hydromorphone. It is tailored to the individual, and it is specifically designed for people who are at very high risk, likely using for a long period of time, and have been unable to be successful with methadone and/or Suboxone. Usually both.

Q In your affidavit at paragraph 7 you indicate that if the plaintiff has a -- well, if a patient like the plaintiff has a psychological need to inject, it can be provided safely in a supervised iOAT program. I don't know --

A It can -- it can definitely be provided in a safe environment in a supervised iOAT program. There are still risks associated with iOAT, but it is a safer program.

Q Are you aware that -- at the time that the plaintiff entered -- or, sorry -- receiving this treatment that although she was eligible for that program, could not be admitted into it because there was a prohibition on new patients being allowed into that program?

A That was included in an affidavit, I believe.

Yes.

Q Okay. And in that circumstance what alternatives are there for a patient in that scenario?

A Well, I think that if you look at what she's saying, she's only -- at the time that she entered the program had been using for one year. Actually, less than a year. She specifically says that she has started in June of 2020, and she goes to the clinic in May of 2021. She is a young woman who is looking for the euphoric effect of drugs.

She has not ever tried methadone. Prior to her going to the clinic, she has what I can see is a prescription of Suboxone that was not given -- unfortunately, it was possibly related to it being during the pandemic, but certainly not -- there's nothing to indicate she had a program of Suboxone that I would think was a safe or witnessed program. She still had Suboxone left two months after she finished the program and took it at a different time.

So I can say that she didn't have a trial of either methadone or Suboxone. And she didn't have -- generally speaking, when we're looking at people going into an iOAT program, we think of them being as very resistant to all

other treatments. That they've tried other treatments, but they've been using for a long period of time. Other things have failed. Sometimes people will even refer to them as palliative. I don't think that that's necessarily an appropriate word, but they're very far along. Often very, very advanced in their disease process.

I cannot say that somebody who has been using opioids for one year would necessarily qualify for an iOAT program. And if she did, it would be, generally speaking, after other attempts to ensure there isn't something safer for her to use.

Q But that's something -- like, her treatment options are something that she develops with her physician; correct?

A She stated to her physician that she had tried methadone. She said that on multiple occasions. And her physician, I believe, believed her in spite of the fact that there is no evidence that she actually tried methadone.

She also said that she had tried Suboxone, and there is no indication that she had an accurate trial of Suboxone. In the setting her physicians made a decision to start her on a treatment that I would -- but they

also made attempts to have her start it orally. The initial medications were all written as oral medications. Her first medication was M-Eslon. Even when they switched her to Dilaudid, it was intended to be oral.

The decision to go with intravenous appears to have been the plaintiff's herself and then was supported by her physician. I don't have any indication that they suggested that she start taking the oral medications intravenously. Once she was taking them, they were aware of it, but I would also argue they did indicate -- Dr. Bouman's note did indicate that she did discuss risks of infections including stroke and endocarditis.

But I think that the risks associated with injecting pills are not well understood, and that's a part of my concern about the program is that initially when it was started in London, there was some evidence that people were benefitting. But the problem is the collection of data has not included those that are suffering, the people that are getting -- that I see. The voiceless. The people that are lost to follow up and have had severe infections. Spine infections.

The disabling horrific infections that I

have seen from people injecting Dilaudid have been very -- gone without a lot of attention. The media attention is to overdose. Overdose is an accidental death, and coroners only report accidental death. We actually studied it in London and found out that as many and maybe as many as twice as many people die from infectious complications of injection drug use as overdose.

So I think when people are addressing the risks, I think physicians are not adequately aware of the risks of injecting a pill. I also believe that patients themselves are not adequately aware of the risks of injecting a pill.

Q Okay. You said a lot of things in there like -- a couple things. First of all, her program, her treatment of picking up oral hydromorphone medication and then consuming it as she liked including intravenously, that is what you describe to be safer supply, no?

A I believe that people involved in safer supply programs are aware that their clients are taking the oral -- pills that are meant to be oral and are using them intravenously.

Q Okay.

A I don't know of any safer supply program that

actually says that we are only recommending this to be taken intravenously. I believe that they support people who are taking them intravenously and by snorting.

Q And that, again, is a recognized treatment option for a severe opioid-use disorder in Canada?

A It is recognized. Is it an improved treatment option? I'm not -- there are definitely places that are using this form of treatment, which I think has risks. There are certainly many physicians that do not support this type of treatment and feel that the risks far outweigh the benefits.

So I'm not sure how to identify "recognized", but there are definitely people and places that support this type of treatment option for patients. I think that those who are supporting it are very unaware of the significant risks that are associated with it.

Q Okay. It's part of the spectrum of care for opioid-use disorder in many places in Canada; is that fair?

A And I would say few places in Canada. I'd say it's actually very few places in Canada that have this as a treatment option.

And I would not necessarily say that it

is a recognized treatment option that is part of teaching about treatment options for people who have opioid-use disorder. Even for programs in which it exists, it is generally thought of as a very last resort.

Q For the most vulnerable?

A For the most vulnerable people, absolutely.

Q Okay. And, again, like, you know, do you have a sense of what locations in Canada offer a safer supply program?

A I am aware -- I'm aware of this form of prescribing being available in London, Toronto, Hamilton, Ottawa, and in Vancouver. Obviously it has been available in Calgary. I am not aware of everywhere -- other places where it's being prescribed this way. I'm much more familiar with what's happening locally and how it's affecting people locally.

Q Okay. And to be clear, you did not do any research or read any studies about safer supply and its availability in preparation of your expert report?

A And it's availability? I did research about safer supply. I did not do research about all the sites that it's available probably because I don't know that there is research that could support that and that a lot of places are doing

this quite ad hoc and individually. So to be able to know where community health centres, for example, are providing this would not be something that would be an easy thing to find.

But my research and my involvement is absolutely about seeing the effects within a local community and what that has meant for the people in the program, people in the community, and what -- how it has affected the community. And I did not research where all of the places that could be available that physicians can be prescribing this way. I'm not aware that that research exists.

Q Okay. And your expertise on efficacy of this treatment option, safer supply or what the plaintiff is being treated with, is based on kind of that local experience in London?

A It's based on not just the local experience. We did -- we actually studied the effects of injecting drugs. We specifically were looking at the effects of injecting Hydromorph Contin and it leading to endocarditis. So I've been involved specifically in research projects that look at the effects of injecting pharmaceutical pills, and I am very familiar with the experience in London and the consequences of the program locally.

I am also aware in talking to other physicians that I work with about some of the consequences in other more -- areas that are closer -- that are connected in Ontario. I also have read about some of the experience in Edmonton. I haven't seen publishings other than the London -- the London has published in the Canadian Journal -- or, sorry. The Canadian Medical Association Journal. I'm not aware of other people who have actually published literature that's peer reviewed in Ontario or in Canada to answer that question. I've certainly looked, and I have not seen it. If it's there, I have not seen it in any screening I've had to try to find out information about this.

So as far as published peer-reviewed data that would say the answer to your question, I'm not aware that that exists.

Q Okay. Are you a prescriber of safer supply?

A No.

Q Okay. You've never been a prescriber of safer supply?

A Not in the format that it is used, no.

Q Okay.

A I have prescribed opioids.

Q Yes. I imagine as a physician, you have.

A I have prescribed opioids to patients leaving the hospital in tapering doses in forms that would be unwitnessed. And --
Q But you're not a prescriber; is that correct?
A Pardon me?
Q You're not a prescriber of safe supply?
A I'm not a prescriber of safe supply in the current format that it's in, no.
Q Okay. What is controlled-released hydromorphone relative to instant-release or fast-acting hydromorphone?
A Okay. Controlled-release hydromorphone often referred to as Hydromorph Contin is hydromorphone that comes in a capsule form that is designed -- it's got a capsule. It has beads inside it. And it was designed to give a sustained release when taken orally.

An immediate-release hydromorphone is in a pill form. So a tablet form. It is designed to be ingested in the gastrointestinal tract. Both are them are designed to be ingested in the gastrointestinal tract, absorbed through and metabolized through the liver and then enter the bloodstream after they have been metabolized in the liver.
Q And you have studied the controlled release -- the impact of controlled-release hydromorphone

pills being used intravenously?
A Pardon me? We studied hydromorphone. We studied other pills as well including immediate-release Dilaudid. We studied Hydromorph Contin being -- and its effect if it was -- we didn't study it -- so we studied the effects of bacteria within Hydromorph Contin, and we also essentially did a study of looking at the community for the increase in endocarditis that is related to injecting Hydromorph Contin.
Q Okay. So what version of hydromorphone is provided in safer supply programs?
A The vast majority of safer supply programs that I'm aware of tend to use Dilaudid in the pill form. They also often will use M-Eslon which is a capsule with beads. They also -- I'm now aware that the -- they sometimes will use Hydromorph Contin which is the long-acting Hydromorph Contin, and Kadian is often used.
So although it tends to be associated with immediate-release Dilaudid or hydromorphone, there are often other types of pills that are used in this type of prescribing of opioids.
Q Okay. What is a tablet-based injectable opioid agonist treatment?
A I think that's an oxymoron, but a tablet -- I

mean, that's -- essentially when they're referring to a tablet, it's not injectable which is why I'd say it's not an accurate way of describing something.

But injecting a tablet has been referred to as tablet injectable opioid agonist therapy. I would actually say it's neither injectable, and it is arguably not a therapy in the way that other opioid agonist therapies are therapies.

So I could describe what I mean by that, or -- so it's -- when we're talking about something that's injectable, tablets aren't. When you're injecting a tablet, not only do you get the hydromorphone or whatever the medication you're hoping for, you also get the fillers. You get the substances in that capsule or pill that make it a capsule or pill.

Those things are not designed and are not safe to be injected directly into the vein. They can cause damage locally to the vein, and even more important, they can cause damage remotely in small blood vessels where they clog small blood vessels such as the blood vessels of the spine and the heart valves.

So I saw a significant increase in spine infections that led to horrific pain and

horrific paralysis and an increase in left-sided heart valve infections. We were able to prove that Hydromorph Contin causes right-sided heart valve infections, and overall in London, I saw a significant increase in serious infections related to injection drug use related to injecting Dilaudid.

I was able to take that information that I had to the chief coroner of Ontario who could substantiate that in London we had a significant increase in infections related to injection drug use with the introduction of Dilaudid injecting compared to the rest of Ontario.

So in talking to patients and -- which is how I found out that Hydromorph Contin increased your risk of endocarditis -- in taking to patients, I was able to determine that when they were injecting pills, they were at risk of other forms of infection. So I don't consider a tablet injectable.

When we're also talking about therapy, I think it's really important to also recognize the difference between an opioid and opioid agonist therapy. Opioids, when used regularly, have a neurobiochemical effect on the brain, and that biochemical effect on the brain changes the biochemistry of the brain. It

inhibits the natural endorphins. You lose your ability to fight pain. It becomes the new normal. To get the same effect, often people have to increase the dose. It puts them at risk of what the brain feels it needs to cause other symptoms including a respiratory depression. And when that drug is removed as the brain feels this is normal, you release other chemicals that can cause agitation and lead to withdrawal and cravings.

Opioid agonist therapy, when we're looking at it in its traditional form, includes medications like methadone and Suboxone, and more recently Sublocade which actually have been shown to offset and even reverse those biochemical effects. Those biochemical effects, they are improved. You don't get the euphoria.

You can actually -- over time the goal with opioid agonist therapy is to actually lead to recovery of the brain. It's not just a -- recovery isn't just a loose term. It's specifically about recovery of the neurobiochemical changes in the brain that can actually have people no longer -- ideally no longer dependent on a opioid. And if we're looking at something like Suboxone, you don't

have the respiratory depression risk that you get with other opioids. So it truly is a safer way of taking things and a safer form of -- it's not a therapy -- so I think that although those terms are used loosely, I would say that opioid agonist therapy is methadone and Suboxone in Canada.

We refer to iOAT and TiOAT, but as I say, I would not say that -- I think those are acronyms that are -- like safe supply, they're sort of describing what we're doing, but safe supply or safer supply would imply something safe that isn't. TiOAT implies that it's okay to inject a tablet, and I think that there are significant risks associate with injecting a tablet. It also implies that it's a therapy, and it's not a therapy equivalent to other opioid agonist therapies.

Q Okay. So you're aware that there are TiOAT programs in Canada?

A I am aware that the term TiOAT is also used. It's specifically used in Vancouver. It's -- but I don't -- other than Vancouver, I'm not aware that there is a safe -- any safe supplies specifically calling itself a TiOAT program.

Q Okay. Have you reviewed any academic literature or treatment guidelines with tablet-based

injectable opioid agonist treatment programs?
A Yes.
Q In preparation for your expert report?
A Yes.
Q I notice that you don't mention any of the program reviews for these treatments.
A I think that what you're saying is exactly -- it's reviews. It's not -- what we have when we're looking at the TiOAT program in Vancouver, for example, is a self-reporting program. And we have a program in which it's not -- it's not randomized controlled trial. It's not peer reviewed. The participants in the trial are well aware of the trial -- or if that's even when it is. I would say it's not a trial, per se.

But the program -- they're aware of the program. It's very publicized. And those who are interviewing the clients in the program are aware that they're in the program. So we don't have the advantage of something like a peer-reviewed controlled evidence-based medicine. So I would say there are some surveys of clients that would indicate an amount of -- I don't know what the right word is, but I would suggest a positive result from being in the program.

I also would say that the programs are -- that's exactly what happened in London was that initially I supported this program. I don't know if I supported the concept. I was aware that Hydromorph Contin was causing endocarditis, and I thought it would be an improvement until I started seeing the horrific side effects and infections and collaboration seeing, you know, why people are lost to follow up. Why people aren't being --

You know, I know of people who have died that have been in the program in London of overdose. I don't know how to explain that they're not being counted, but when you're dealing with something that is a self-reported survey, people with severe infections can be missed. People with overdoses can be missed. So the data involved in that is really about a survey that would indicate something that people are hoping is helpful. It is showing the effects that they're hoping for.

Q Okay. Just on that point. Is there any reason why you do not mention this in your expert report that there are different views on efficacy of these safer supply programs or TiOAT programs?

A There -- certainly there are significant views

among addiction experts that would say that these programs are harmful and are causing the harms that I am seeing as well. My expertise is seeing -- I have been able to see harms that haven't been documented by the program.

And giving you other people's opinion, there are lots of physicians -- I'm well aware of many more physicians who are very concerned about those programs and the risks that they cause than physicians that support those programs. I didn't include that either. I am not including other people's opinions in my report. I'm giving you my experience, not the experience of other people.

Q Okay. So you're saying that your report is limited to your views on the matter but not an overview of, you know, other perspectives on the same medical treatments?

A Mine is not an overview of all perspectives on the treatment. Having said that, as I mentioned, if I were going to give an overview on other perspectives, that would include that I am well aware of other people that are very concerned about the program. This is not a documentary -- or not meant to encompass all of the views on opioid use and how it can be used. This is based very much on my observations, my

research, and not intended to reflect all views.

There is no consensus on all views, and to have a -- you know, if what you're -- and there is no consensus on whether what is referred to as safer supply should continue. What I have seen is the downside of it. I have seen what it has done to the patients in it, that it is negative to patients in the -- people in the community that it is negative and to the community itself.

And I'm aware that, for example, overdose deaths in Ontario went down. In London they increased. Homelessness has increased six-fold. There are many things about this program that I've been able to see that are not captured in data, but that is not meant to be a review of all of the viewpoints around opioid use.

Q This report just conveys your concerns with this type of treatment approach?

A This report conveys my concerns and experience with this treatment approach.

Q Okay. It does not highlight varied views?

A I'm sorry?

Q It does not highlight the variety of different perspectives or views on this treatment

program?
A No.
Q It does not highlight or include any of the positives or efficacies of treatment options like this?
A I am not aware of any evidence-based peer-reviewed treatment options that are positive. I am aware of surveys and what used to be referred to as observational science that has come to conclusions. Those conclusions are not included in my report nor are other people's conclusions that those treatment forms are not efficacious.
So no, I did not include non-evidence-based observational reports in my affidavit.
Q And did you that deliberately? You excluded those perspectives deliberately?
COUNSEL N. GARTKE: I'm going to object to the question. It's augmentative, and she's answered it already.
COUNSEL A. NANDA: It's not argumentative.
Q COUNSEL A. NANDA: You made the conscious decision, Dr. Koivu, to not include those perspectives or those studies in your expert report?
COUNSEL N. GARTKE: I'm going object to the question

again. It's argumentative. Dr. Koivu, please don't answer it.

Q COUNSEL A. NANDA: Okay. Did you prepare this expert report yourself?

A Yes.

Q Okay. And you determined what would be included and what would not be included?

A Yes.

Q And you determined that you would only include in this report your concerns with the safer supply program or the treatment option that the plaintiff receives?

A I'm sorry. The last part of that -- that's a two-part question, and I'm not sure I understand the second part of that question. Can you divide them into parts, please.

Q You determined that you would only include the critiques you have of safer supply as a treatment for opioid-use disorder in your report?

A Sorry. That's a -- I'm still not hearing that as a question.

Q Please read the question out, Amanda. If you have it.

THE STENOGRAPHER:

"Question: You determined that you would only include the critiques you

have of safer supply as a treatment option for opioid-use disorder in your report?"

A I don't know what "critiques" means. But because I'm not critiquing safer supply, my report is not meant to be a critique of safer supply. My report is meant to highlight my experience that it is not being equally captured and concerns that I have with the program itself.

It is not a critique of safer supply. This is based on my experience -- my experience with patients. My experience with research -- and is not intended to be a critique.

Q Okay. It only highlights the concerns you have with the safer supply program; is that correct?

A I'm sorry. You're sort of mumbling at the beginning of that question. Can you --

Q Yes. It only highlights the concerns you have with the safer supply program?

A Oh, there's many other things in my report that aren't about the safer supply program.

Q Okay. But in terms --

A Well, it doesn't only highlight --

Q Just --

A -- the concerns about the safer supply program.

Q Say that again.

A There are other parts in my report that are not about the safer supply program.
Q Okay. I'm asking you about the safer supply aspect of your report. And in your report you've only included criticisms --
A I have --
Q -- that you have -- please let me finish my question.
A Okay. M-hm.
Q You've only highlighted or included the concerns and criticisms you have with safer supply as a treatment option for severe opioid-use disorder?
A I have indicated that when it was initially introduced, I, as well, was optimistic. So I have indicated that when it first came to London, I was optimistic. And then I have genuinely and truthfully presented my observations that have led to concerns I have with the program. I have not seen -- everything that I have -- sorry. Everything that I have seen, I have included. I have not included things that I have not seen.
Q Okay. So you have included --
A The benefits that I have not seen, I have not included.
Q So you have not outlined any of the positives

with the safer supply program for severe opioid-use disorder. Is that because you have not seen or read any positives?

A I am giving you a report of what I have seen, and I have not seen positives related to this program.

Q Okay. And then with respect to the plaintiff's treatment option, you've only included concerns and criticisms of the treatment option that she's been provided; is that correct?

A I have concerns about the treatment option that she has been provided. I have provided some suggestions of other treatment options. I have not listed positives of the treatment options that she is receiving if that is your question.

Q Are there any?

A Temporarily this patient, like many that were in London, appears to have some stability and appears to have some improvement as she is reporting. However, injecting a tablet is never safe. The harms for injecting are somewhat invisible until the infection actually occurs.

So we have a very young person who is in a program where she is injecting something into her body that is not intended to be injected that over time can lead to an infection without

any form of exit strategy to that program. I am very worried that this program in its form for this woman will lead to a severe infection and to -- ultimately that type can lead to her death.

So I am very concerned about anyone including the plaintiff being in a program where we are giving something that can cause a severe, horrible, disabling infection and can cause death as part of a program.

Q And what is that based on, the fear of death?

A Fear of death? I think as I mentioned, when we actually looked -- well, we looked at those who died from injection drug use. We found that at two times -- at least as many if not twice as many people died of infections as died of overdose.

And when I've looked at infections related to injecting drugs, it tends -- it tends to be accumulative over time. The damage is accumulative over time and can lead to a severe debilitating infection as I've seen with many people who present with severe debilitating infections.

Other studies, and I mentioned a study in Finland and Australia that I can give you, that show injecting drugs is dangerous and --

sorry. Injecting pills, specifically pharmaceutical pills, is dangerous.

Q So --

A So I'm -- yeah?

Q Sorry. I cut you off. That's not fair. Go ahead.

A I'm very concerned that this woman is in a program that ultimately could be very destructive for her with no exit strategy.

Q You're saying that twice as many people die of -- I guess the complications of injecting pills, opioid pills in Canada, than overdose deaths?

A When we looked at is in a local area and we looked at it through Canada, we found that as many -- at least as many or even possibly up to twice as many people die from infectious complications of injection drug use.

That's significantly challenging to know the data for sure because it is not -- it's not recorded by coroner's reports because it's not considered an accidental death. So this is particularly a study that the infectious disease specialist at London Health Sciences Centre looked at and was able to determine that death from infection could be equal or as high as twice as many. I didn't say it was --

Q Why aren't public health experts, like, raising alarm for this issue as they are with overdose deaths?

COUNSEL N. GARTKE: I'm going to object to the question. It's calling for her to speculate on things not within in her purview.

COUNSEL A. NANDA: Okay. Whatever, man.

A I think that's a really good question. I can say -- but we were able to have the public health unit in London say that there was an epidemic of endocarditis. It was very difficult to do, and that was based on Hydromorph Contin.

I think that it's -- the data is -- I think that the message of overdose is overshadowing the other risks, and I think that that is a problem. As a medical -- as having been a medical officer of health, I do think that this is a very important problem that needs to be addressed and identified.

Q COUNSEL A. NANDA: What do you mean "overshadowing"? Why is overdoses overshadowing endocarditis?

A There is a lot more media attention to overdose. When we hear the literature -- even when we heard the literature about -- during the opioid crisis in chronic pain, our focuses

tended to be on toxicity and not on -- because that's something that we -- coroners report it. It is considered an accident. Other forms of death aren't reported by the coroner and the office of the coroner and, therefore, are not highlighted in the same way that the coroner's report is.

Q Okay. And is that, like, a deliberate thing?

A The coroners only address accidental death. That's how coroners have always been. So what a coroner will report is an accidental death. An infection is not considered an accidental death; so, therefore, they are not reported in the same way by the coroner. So even a death by endocarditis or sepsis that's related to injecting drugs is not recorded as an accidental death by the coroners.

Q Okay.

A But that's -- I mean, that's how they've always been. I don't take it as any kind of slight that they're trying to hide data. They have -- their mandate is to report accidental deaths.

Q Okay. But this concern that you have is one of the basis why you are opposed to treatment options that allow for the injection of hydromorphone tablets in unwitnessed settings?

A Yes.

Q Okay. In TiOAT programs isn't is true that they use instant-release hydromorphone tablets?
A The TiOAT program that I am aware of -- the only program that I'm aware of that calls itself TiOAT is in Vancouver, and my understanding is that they are using immediate release hydromorphone in that program.
Q And in safer supply programs, don't they by and large use instant release hydromorphone tablets?
A You know, that's what I thought until I -- you know, yes, many start with that. But as mentioned, many other drugs are also prescribed. They are not limited to what they can prescribe. And as I've already mentioned, people I see are often prescribed Kadian. They're often -- unwitnessed Kadian. Often prescribed unwitnessed other drugs.

So there can be other drugs that are unwitnessed in the programs. They're not specifically regulated. Immediate-release hydromorphone is the drug that tends to be used, I believe, in most programs largely related to research that I was involved in that connected Hydromorph Contin to endocarditis. And the extrapolation of that data was that it was unsafe to use Hydromorph Contin because of the connection with endocarditis, and,

therefore, hydromorphone would be an improvement. It does decrease the risk of endocarditis. Of tricuspid valve endocarditis. But in my experience, it increases the risk of significant other severe infections.

Q Okay. And do you know what form of hydromorphone that the plaintiff accesses?

A Yes. My understanding from what she's presented is that it is immediate-release hydromorphone. The Dilaudid immediate-release hydromorphone tablets.

Q It's not Hydromorph Contin?

A No.

Q Okay. And so the findings that you have made on the adverse impacts of injecting slow-release hydromorphone are not applicable to the plaintiff because that's not the form of medication that she consumes?

A No.

Q Okay. Can you turn to page 2 of your expert report. Just in the middle you talk about "the massive amount of diverted Dilaudid from safer supply" and then you continue on. That paragraph and the second paragraph, can you please review that and let me know when you're ready to answer some questions.

A Okay.

Q How do you know the price of Dilaudid? Like, illegal Dilaudid or diverted Dilaudid?
A That is specifically told to me by patients. I don't buy it, but I've had patients tell me that. So that information was provided by patients that I see in the hospital.
Q Okay. You have no personal knowledge of this?
A No.
Q Okay. And how do you know that, like, Dilaudid is readily available at or diverted opioids are readily available at elementary schools?
A That is in talking to young people who told me that.
Q Okay. And --
A So most of that is from patients, but I've also talked to people in schools.
Q Okay. And you don't have a study or some sort of --
A No.
Q -- academic report to support this?
A No. I can say that since this program, the age of the people I'm seeing is much younger. I used to see people who had been -- when I started getting involved in addiction work in 2012, most of the people I saw had received prescriptions of opioids from physicians or had experienced severe trauma or both.

Now I see a significant number of people whose first -- the majority of people I see, their first involvement with opioids was diverted opioids. Most will tell me that their first diverted opioids that they received or that they started with were immediate-release Dilaudid and have informed me that they're very readily available throughout the city.

Q Okay. That is based on anecdotal evidence; right?

A Yes.

Q There's no --

A No. I mean, not really -- not completely. I mean, my experience with -- the cost of the drugs is anecdotal. My experience with seeing younger patients, patients who never were prescribed opioids, is --

Q I understand. Yes. I understand that.

A It's based on my experience of what I'm seeing. So yes, it's my experience of what I'm seeing.

Q Aside from the younger people using opioids, the rest of what you just described to me is anecdotal; right?

A Yes.

Q Okay. And is it fair to say a lot of portions of this, your expert report, are based on anecdotal evidence rather than kind of

evidence -- published academic studies?
A A lot of this, my report, is based on my experience including what my patients have told me.
Q Okay.
A This particular part about the cost of drugs is based on information that patients have told me. My experience in the next paragraph of people who've been on opioid agonist therapy and then wanting to go off of it or people not going on opioid agonist therapy is not based on things people have told me. That's directly based on the experience that I have. So --
Q Okay.
A -- of things that are based on things that people have told me, yes, the cost of drugs. I don't buy off the street. And the availability has been told to me. The vast majority of my report is based on what I'm seeing and my experience with patients.
Q And what about this -- you had a paragraph how many patients want to get on safer supply as a means to increase their income through diverting their medication and selling it illegally?
A I've had many patients who were stabilized on methadone and Suboxone or patients that we have

talked to about opioid agonist therapy who have told me they did not want to be on opioid agonist therapy because they wanted to be on safer supply, the prescribing program in the community, and I have had many patients tell me that part of the reason they want to be on that program is because of the income that they receive, that they will receive from diverted drugs.

I have also had people in the program tell me what their income can be from diverted drugs. So this is specifically based on what people have told me. Not inferring.

Q Okay. And if you go to page 5 of your expert report, the second paragraph and third paragraph where you talk about the experience in London with the use of hydromorphone controlled release. Do you see that?

A Yes.

Q Again, the plaintiff here is not being prescribed hydromorphone controlled-release pills; right?

A Yes.

Q This is a much different context; right?

A I think the context that I was pointing out with this was that we often refer to safer supply programs as being regarding addressing

toxic fentanyl in our community. Once more people were using opioids, we actually started having problems with toxic fentanyl. But the next -- you know, yes, she's not on Hydromorph Contin. That is specifically what this community started their safer supply for.

But the next part which is what I started seeing when they switched to immediate-release Dilaudid is relevant because it really is -- I wasn't expecting that. I was hoping that switching to immediate-release Dilaudid was going to have the benefits that would decrease the harms from Hydromorph Contin.

But then I started seeing infections, and talking to people the way I had when I found out endocarditis was -- tricuspid valve endocarditis was caused by Hydromorph Contin, I was specifically talking to patients and asking them what they were using. When I started seeing these horrific infections of the spine, I started doing the same thing and asking people what they were using. And the vast majority of patients were using immediate-release Dilaudid when they got their infections. I believe that's --

Q So that's anecdotal evidence; right?

A That is evidence based on my experience. So

it's my experience and what patients are prescribed -- have told me. But yes.
Q You haven't --
A I am not -- I'm working on a study right now, but I do not have published data. I have taken that -- my concerns to the chief coroner who was able to substantiate that when Dilaudid was introduced in London, we have had an increase in overall infections that are severe in this community. And we have had a -- even at the same time as we have had an decrease in tricuspid valve endocarditis, we have had an increase in overall infections.
COUNSEL N. GARTKE: Sorry, Mr. Nanda. I just want to be mindful of the time knowing that I have court hearing at 11:00. I'd really like to take a health break before then. Do you have an idea of how much longer you're wanting to question Dr. Koivu?
COUNSEL A. NANDA: Oh, I can -- I was thinking -- let me just see. I appreciate that.
COUNSEL N. GARTKE: And I believe -- and, Dr. Koivu, if you'd confirm this, but would you have availability in the afternoon to come back and answer more questions if my friend has them?
A I could do that.
COUNSEL A. NANDA: Can you give me -- like, I think I

can pretty much finish in ten minutes, but I appreciate if you have to go to the washroom or whatever, man, just go ahead, and then we can figure it out.

Do you want to take a five-minute, and then we can go until we have to log in?

COUNSEL N. GARTKE: Yes, that would be fine.

COUNSEL A. NANDA: Okay. Sounds good. Thank you.

(PROCEEDINGS RECESSED AT 10:46 A.M.)

(PROCEEDINGS RECONVENED AT 10:51 A.M.)

Q COUNSEL A. NANDA: So, Dr. Koivu, just going to be a bit quick on this. So if you go to the end of paragraph -- or page 6 of your expert report. It's the second-last paragraph. You give some percentages of a person injecting a tablet three times a day and their risk of severe infection.

A Yes.

Q Do you want to review that, and then I'm going to ask you a question.

A Okay.

Q Where are these percentages based from?

A These are based on the experience of what I've seen including experiences of reports on injecting pills. It's -- each time you inject a pill, you are at risk of an infection. And if you're injecting it three times a day,

you're at risk of an infection three times a day. If you're injecting that every day for 365 days, that is increasing your risk of an infection. And since these are particles that are accumulating in your body, that you're increasing your risk of infection with each use.

My experience of seeing people with infection is that this is something that accumulates over time. I can also provide you with the sources I had regarding injecting pharmaceuticals as a risk of infection.

Q But to be fair, these percentages, the source that you're relying upon is your experience or a specific study?

A It's not a specific study. It's really my experience and extrapolating my information about the risks accumulating over time.

Q Okay. So this is based on your personal experience and extrapolation of that experience?

A Yes.

Q Great. You stated that your work and your research on endocarditis and other harms associated from consuming tablet opioids intravenously was to give a voice to the voiceless. What does that mean?

A I think that I -- what that means is that when I'm -- I'm seeing people who are suffering. I am seeing horrific suffering. And that suffering has not been -- people haven't recognized the severe horrors of the types of suffering I'm seeing. They have not had the same type of supports as other communities.

If you have a patient -- I've had people who've had children in their 20s who are dying of infections related to injection drug use. And there is very limited amount of understanding, of knowledge of support for people who are dying from this other unintended consequence of what we're doing with pills.

As I mentioned, I don't want to see anyone die of an overdose. But our focus has been very narrow on the effects of opioids, and even in most studies they talk -- the attention has made these people voiceless. That having an infectious complication of injection drug use has not had the same voice that I think it deserves to have that other serious illnesses have had. It's been ignored.

I consider my patients to be the marginalized of the marginalized because they're not getting recognized. They are suffering in silence and not really having the

understanding and recognition of what their experience has been.

Q And it sounds like through your research, you want to provide that balance, ensuring that perspective is heard in these conversations?

A Through my research, I've wanted to understand what was going on. Through my advocacy, I want to make sure that that is -- that people are aware of what I'm also seeing.

My research really -- there was no agenda in the research in the sense of I didn't know what we would find. I mean, I saw that -- I observed that Hydromorph Contin was increasing the risk of endocarditis, and through research, we were able to actually prove that link.

I saw -- I'm seeing a connection -- the same type of connection that I saw then with other infections and Dilaudid and hope that I can have research that demonstrates that link. In the meantime, I don't think -- I am concerned that it's a very marginal -- no other group would be subjected to non-evidence-based research.

I think we've marginalized people to the point where it's okay to be a research -- you know, a subject of research just because you

are marginalized and that you have an addiction. But my research didn't have an agenda. I didn't know what I was going to find until we did it in the sense of my thought was that I was going to find that Hydromorph Contin was causing endocarditis. But I wasn't doing that to -- with an agenda. I was doing that to understand what we were seeing.

Q And your report here, your expert report you provided, is that intended to provide that balance to ensure that that perspective is heard and any discussion about the efficacy of safer supply programs?

A I'm not -- I believe that what I am seeing is horrific and is not part of the discussion and needs to be identified and highlighted. I'm seeing suffering that as a palliative care physician, as a human being, it's hard to watch. And it's hard to see people with the types of suffering I'm seeing.

I don't know that I'm trying to provide a balance. What I'm trying to provide is information about the unintended consequences, harm, side effects of a program that I believe people who started the program have good intentions. What I want -- it's not about -- I don't know about the word "balance". What I'm

trying to do is say there are unintended side effects. There are harms with this program that I am seeing that I think it's really important that people are aware of.

COUNSEL N. GARTKE: Mr. Nanda, I'm wondering if we just want to pause here.

(PROCEEDINGS RECESSED AT 10:58 A.M.)

(PROCEEDINGS RECONVENED AT 1:34 P.M.)

SHARON KOIVU, affirmed, questioned by Counsel A. Nanda commencing at 1:34 p.m.:

Q COUNSEL A. NANDA: One of the things that -- and, Dr. Koivu, you've read Dr. Gupta's February 26th, 2023, affidavit now; correct?

A I now have read it, yes.

Q Okay. I'll ask you some questions in relation to that a bit later. I just want to finish off some of the questions I had for you.

First and foremost, you've indicated to me that you've also seen the effects of a safer supply treatment method and a treatment method that is in line with what the plaintiff receives, which is being prescribed oral hydromorphone for her own use or unmonitored use. You've said that you witnessed the impacts of this treatment method on your own community --

A Yes.

Q -- and that's also informed your expert report. Can you please elaborate on that.

A Okay. In 2015 I moved to an area that is within 1 kilometre of London InterCommunity Health. I specifically moved to that area because I wanted to be that urban doctor that promoted harm reduction. I wanted to live in the community. I didn't want to be NIMBY. Out of my porch, I could see the boarding houses that a number of my patients lived in. I liked to be able to walk among the people as part of my home and my community.

In addition, this neighbourhood was one of the neighbourhoods that was being considered for a supervised consumption site. I am a strong advocate for evidence-based harm reduction. I wanted to be in the community when -- I went to numerous meetings in the community to promote a supervised injection -- injection consumption site, and I think that being there was extremely valuable for people within the community to recognize that I was a member of the community. I wasn't living on a farm in another community or away from the community. I wanted to be there and be part of it.

What I saw -- and as I say, I loved this

community. I think it's really important to stress that. But, however, what I saw over the time period when the InterCommunity Health began there, safer supply program as it is called, a significant change in the community.

There is a pharmacy across the street from London InterCommunity Health. A large amount of diversion is taking place from that pharmacy. People moved into tents and encampments in the parking lot behind this pharmacy so that they could be closer to the diverted drugs. People moved into the storefronts along the same area. This was not an area where there were tent encampments previously, but these increased.

I was advised by patients that some of them had actually -- had had housing and had moved to tents behind this pharmacy so that they could have quicker access to diverted drugs. A number of the people that came to this area weren't from the area. Were from often a long distance away so that they could be closer to the -- accessing diverted drugs. And at times even when things like shelters were offered to them farther away, they did not want to go because they wanted to stay accessing their -- the drugs that were being diverted.

Also, there certainly was an increase in crime. Businesses had -- there was an increase in sort of businesses having their windows broken. The neighbourhood I lived in, there was an increase in sort of things like bicycle theft, theft of -- breaking into homes and taking copper piping. So there were certainly impacts of -- the neighbourhood was changing significantly in those sorts of crimes.

Cars were being broken into, and previously -- cars were checked all the time, but this escalated to windows being smashed, that sort of thing. So a real significant change. Businesses being worried about being in the area and a real change in sort of the feeling of the community.

Q And did you yourself or your home suffer any of these acts of robberies or vandalism, anything like that?

A We had -- I had some porch furniture robbed. But beyond that, we were very cautious. So I did not -- I didn't experience anything personally. I have a lot of friends that did, but other than -- I did have porch furniture robbed, yes, but I did not have a break in to my home.

I had the doorbell ring at 3 o'clock in

the morning, and, you know, the concern of if you didn't answer the door, you'd be at risk of having some type of problem. So I did have experience with that sort of thing. We were very cautious and didn't leave a lot. We were actually sort of -- I never worried going for a walk in the neighbourhood. I never worried about being mugged or anything like that. We were more worried about leaving things unattended.

Q Dr. Koivu, what is the META:PHI listserv?

A What is -- okay. It's the mentoring education -- can I look --

Q Is it the Mentoring, Education, and Clinical Tools For Addiction and Partners in Health and Integration listserv?

A Yes.

Q What is that listserv?

A It's a listserv organized by a group of addiction -- I think that the listserv originated from a program through Women's College Hospital that is also involved in education programs around developing standards around opioid use. And they have a listserv that is -- originally was only available to physicians but is now available to people who are interested in opioid-use disorder who are

mostly healthcare professionals.
Q And you're a member of that listserv; correct?
A I'm on the listserv, yes.
Q And do you frequently post messages with respect to your views on safer supply?
A No. I did originally. At the very beginning when I was seeing concerns that I had regarding safer supply, I experienced what I would say was -- I'm trying to think of the best word, and the word that comes to mind is bullying. I was told that I didn't see things that I did, that was fearmongering, that I was not contributing. You know, I was making things up.

So I did make some attempts, some very significant attempts to share on this listserv what I was seeing. However, after the bullying that I received, I don't turn to that listserv. Now, many people on the listserv who I consider experts in addiction, I still communicate with on a very, very regular basis.

And the people I communicate with who are absolutely considered experts in their field, whether this is in Toronto, Ottawa, Hamilton, all over share my views. And even to a large part share not going on the listserv. The listserv had to be reprimanded. There was

a posting about bullying on the listserv. But as far as a place to share my views, it was -- it's not a place I'd feel safe.

Q When did you post on that listserv, your views on safe supply? What periods of time?

A I'm going to say quite a while ago now. Probably more than a couple years ago. I would not be able to know for sure.

Q Did you post on the listserv, let's say, between 2019 and 2021?

A Between 2019 -- yeah, I would think that might be within the time frame that I posted on the listserv. I certainly did not keep track of when I posted on the listserv.

Q And the bullying that you're saying that you experienced, was that in relation to views expressed around safer supply?

A That was to the views I expressed around specifically seeing infections related to people injecting drugs and being told that what I was seeing, I wasn't seeing. That I was fearmongering.

So I would say it's -- that related to my trying to bring attention to side effects of safer supply.

Q And was this -- and the people who were -- you know, who expressed the concerns that you're

describing, were they other physicians?
A You mean, like, the people that were -- no. No, not -- one of the main people that was expressing their distaste for what I was posting was a PhD candidate in public health, or -- I think she had her PhD in public health, but not a physician. I would say that she was probably the most vocal of the people that I felt was not allowing the expression of the concerns that I had.

I think there were maybe one or two physicians. It wasn't a lot, but it was enough to make me feel that this wasn't a listserv that I wanted to be on. Absolutely the majority of the people on the listserv were not involved in any form of bullying, and there were definitely posts -- I'd say more posts that were supportive of my position.

Q M-hm. And I'm going to show you something.
A Can you hold on for one second.
Q For sure. You can read this eventually. You don't have to -- you can take a time while you read this, and then we can go from there. You can grab a water too. Whatever you need.
A Okay. Thank you.
COUNSEL A. NANDA: Do you want to take -- we can go off the record.

(DISCUSSION OFF THE RECORD)
(PROCEEDINGS RECESSED AT 1:46 P.M.)
(PROCEEDINGS RECONVENED AT 1:50 P.M.)
Q COUNSEL A. NANDA: Is this an email you sent on December 22nd, 2019, on the META:PHI listserv
A Yes, it looks like it.
Q Okay. Listserv. Okay. And that fourth paragraph where you discuss about --
A Yeah.
Q -- the crime in your neighbourhood, robberies that you experienced, can you maybe elaborate a bit more on that.
A Yeah. I mean, to be honest, it was so commonplace that I actually forgot our car was broken into. So one of the thefts would have been the theft of furniture, but we did have our car broken into. Not broken -- like, nothing was smashed, but we had robbery from our vehicle on more than one occasion.
Q And has that influenced your -- well, has the personal experience of crime and robbery in your neighbourhood influenced your position on the -- on safer supply or treatment methods that allow people to access pharmaceutical-grade opioids in the community for their own use?
A I'm going to say that my experience with diverted drugs and the effects of diversion

including my professional and personal experience from living in the community has been part of influencing my understanding regarding the safety of an unwitnessed opioid program.

Q Okay. So these personal experiences are also the basis of the opinion in your affidavit?

A Living in the neighbourhood and personal experiences about the harms of diversion are part of my concerns regarding a non-witness program in general which are listed in the part of the affidavit around diversion. They are separate from my concerns around injecting and the risks of injection of an opioid.

But they're -- in my concerns that I listed as part of my concerns around diversion, they weren't just hearsay. They were certainly about living and being part of the community and seeing the effect on the community. I think it's important to have a lived experience, but that doesn't affect my opinion on the safety of the injecting of pharmaceuticals, but it does affect my knowledge of the downside of diversion.

Q And were there any public health studies or any other studies that supported the notion that it was the introduction of these safer supply programs that led to the increase in crime in

your neighbourhood?
A I'm not aware of a public health study that was conducted to identify the increase of -- no, I'm not aware of a public health study.
Q Are you aware of any studies that support the notion --
A No. No.
Q Let me just finish my question. Just --
A Oh, sorry.
Q -- for the transcript.
Are you aware of any studies that purport to demonstrate that the availability of a safer supply treatment program in London has led to an increase in crime in your neighbourhood?
A I'm going to say I'm aware of an anecdotal evidence that has been reported, but I do not know of a study that has been reported.
COUNSEL A. NANDA: I'd like to enter this as exhibit -- an exhibit to the questioning of Dr. Koivu.
COUNSEL N. GARTKE: No objections.
EXHIBIT A:
EMAIL SENT BY SHARON KOIVU DATED DECEMBER 22, 2019.
Q COUNSEL A. NANDA: Dr. Koivu, throughout your testimony today, you've indicated that you have determined that the death rates from intravenous use of opioid tablets may be equal or higher in

some cases -- or perhaps double the number of deaths from overdoses. Does that accurately reflect what you have testified to today?

A What I believe I testified was that infections from injection drug use can be equal to or as much as double overdose death rates. I cannot specifically say that all of those are related to tablet use, but I can say that injecting a tablet increases your risk of getting an infection.

Q Okay. And, again, there's no study on that point; correct?

A There are studies on that point.

Q Okay. So, like, are those studies in the Canadian context?

A No.

Q Okay.

A No, I am not aware of a Canadian study that has done -- well, I am aware of the study that we've been involved in that can specifically link Hydromorph Contin to endocarditis, and I can say that there are certainly other studies that have been able to link pill form use to infection rate.

Other than the work we've done, I'm not aware of anything in Canada that specifically looks at the risk of infection from tablets.

Q Okay. But that's still something that you maintain that deaths from these -- deaths from infections resulting from intravenous use of medication in pill forms exceeds overdose deaths?

A No. No. I'm -- in fact, deaths from injection drug use exceeds -- can be equal to or higher than overdose deaths.

Q Okay. So deaths from intravenous drug use can be equal or more than double the deaths from overdoses?

A Yes.

COUNSEL N. GARTKE: Sorry. I think -- I didn't think she said more than double. I think she said up to double.

A No, not more than double. Yes. Sorry. It could be up to twice as many, and that was based on the chief of infectious diseases in London who actually did an analysis of that, and his conclusion was that the deaths from injection drug use can be equal to or as much as twice as many as overdoses.

Q Is there a published study?

A It certainly is in presentations that he made. I'd have to go back to see if it's in -- if it's part of his published work.

COUNSEL A. NANDA: Okay. By way of undertaking, I want

you to provide that -- any source to substantiate that claim.

A Okay.

COUNSEL N. GARTKE: Sorry. We'll take that under advisement. But just -- I think we can produce it, but just for clarification, can I have the description of what exactly the study or presentation is that we're talking about.

A As with much information, this is something that was dealing with experts. This is something that I've learned from an expert. So I'm going to go back to a PowerPoint presentation that I believe he provided for me to see if I can find the data that would substantiate that.

I believe that to be -- I absolutely believe it to be true, but I can't clarify what his analysis was. I do know that he looked -- that he did an analysis of it, and this was his conclusion, and I believe I have the information that I can provide for this undertaking.

COUNSEL N. GARTKE: Sorry. For my sake, can we remind me who was this PowerPoint presentation by.

A I haven't discussed that. This was the --

COUNSEL N. GARTKE: Oh, sorry. If we can go back to what my friend asked. Madam Reporter, I'm wondering if can you maybe read -- it was either the question or two questions before the

undertaking.

THE STENOGRAPHER:

"Answer: It could be up to twice as many, and that was based on the chief of infectious diseases in London who actually did an analysis of that, and his conclusion was that the deaths from injection drug use can be equal to or as much as twice as many as overdoses."

COUNSEL N. GARTKE: Okay. Thank you. I think I can provide that undertaking.

UNDERTAKING NO. 3:
PROVIDE THE SOURCE USED FROM THE CHIEF OF INFECTIOUS DISEASES IN LONDON TO SUBSTANTIATE THAT DEATHS FROM INTRAVENOUS DRUG USE CAN BE EQUAL TO OR AS MUCH AS TWICE AS MANY AS OVERDOSES.
*** UNDER ADVISEMENT ***

Q COUNSEL A. NANDA: Great. And so, Dr. Koivu, just to be clear, this is not something that is based on anecdotal evidence but something backed through some sort of academic research?

A My understanding of this infectious disease specialist is he did an analysis -- this is not anecdotal. That he did an analysis to come to this conclusion. I can't go in -- I don't know

the detail. I don't remember the details of the analysis at this time.

Q Okay. Dr. Koivu, you've read the affidavit of Dr. Gupta that was sworn yesterday, which was February 26, 2023; correct?

A Yes.

Q In that affidavit Dr. Gupta raises concerns that your presentation of the availability and use of tablet-based injectable opioid agonist treatment programs is not comprehensive or reflective of the views within the addictions medical community in Canada.

I want you to perhaps respond to that if you have any --

A Okay. Thank you. Certainly I think that there is a lot of controversy in Canada. I would also say that in working with very prestigious, well-recognized addiction specialists in all communities, the vast majority of people that I work with are very concerned about the safer supply programs, of the public supply of unwitnessed drugs.

So I would say that I work with people in London -- of the addiction physicians in London, I am aware of one person that I would say is somewhat neutral. The rest of the physicians that I work with, whether it's at

the rapid access addiction medical clinic or the methadone clinic, do not support the program.

Physicians I know from Toronto, Ottawa, Hamilton, Vancouver, Calgary, do not support the program. These are people who are considered leading experts in their field. I would not say that my view is by any way limited. My view is actually in somewhat -- part of my education is from the view of these very respected addiction physicians that do not support the programs as they are. I'm not sure if that answers --

Q No, for sure. Your opposition to these programs, is that based on the views of these other individuals or any particular studies you've conducted or read?

COUNSEL N. GARTKE: I'm going to object to the question. I don't think she said she's opposed to the program. I believe she said she's raised her concerns. Maybe she can clarify that.

A I have raised my concerns to programs that involve unwitnessed opioids. As far as the concept that there can be multiple layers of how to provide opioid -- or therapy for people who have opioid-use disorder and that this

might -- that prescribing opioids in a tablet form to people could be one of the choices, I'm not opposed to them.

Q Okay. So you believe that in certain instances this form of treatment can be effective?

A I believe in certain instances this form of treatment might be necessary.

Q In what situations?

A I would say in certain scenarios such as where methadone and Suboxone have been trialled and are not effective. If I think that intravenous hydromorphone injectable is certainly an option and receiving oral pills preferably in a witnessed environment may be a necessity if people are not able to have success with other programs.

I think that it is a -- it is something that needs to be in conjunction with other treatment modalities. I also think that if it's used temporarily, it would need to have an exit strategy of a plan of trying to have people leave that program for other programs.

So I see in conjunction with somebody who is a methadone prescriber and a Suboxone prescriber and is well aware of opioid agonist therapies, I can see that as being a tool that could be available for clients in certain

circumstances.
Q So then your opinion is that the use of tablet-based injectable opioid agonist therapy where instant-acting oral hydromorphone is used by patients in intravenous form is a -- or has the potential to be an effective form of treatment for severe opioid-use disorder in Canada?
A What I said was oral.
Q Okay.
A I did not say taking those oral tablets by injection. I think that there is certainly a place for oral therapy because that can be witnessed and that the risks of harm to the patient and to the community can be lessened. There might be other opportunities that include being part of a supervised injection site, but at least at this point those sorts of opportunities don't exist.

But I also think that the risk right now of injecting a tablet -- from what I've seen from people coming into hospital with severe infections, I would say from a cautionary principle, that that would not be something that I would recommend doing. So I don't support injecting pills.
Q Okay. So you do not support the form of

therapy that -- or treatment that Ms. -- the plaintiff receives?

A I believe that the risks outweigh the benefits at this point in time for this -- I think the risks outweigh the benefits, I think, right at this point in time.

Q And -- but you recognize that it is one of the methods of treatment available or offered by addictions doctors in Canada?

A Some addiction doctors. Not all. And absolutely the minority of addiction doctors. This is usually done by people who aren't considered addiction doctors. This is -- the people involved in my area are not considered addiction doctors or have certificates of that competency in addiction or are considered addiction specialists. I can't speak for other communities.

So it is done by people from a different perspective than from an addiction perspective. The vast majority of addiction physicians that I know do not include this as part of their treatment.

Q Well, is that based upon any academic study or academic guideline -- or addictions medical guidelines, or is that something that you just believe anecdotally that addictions physicians

would not offer this form of therapy?
A From the evidence that you've provided for me, there were ten programs that are addiction -- are using this -- maybe there would be more if I added them all up, but it's still a very minority of places where this is available.
And of the places that I know of where it is available, it is a minority of physicians who are involved in the programs.
Q And those physicians are not addictions doctors?
A Sorry. There are a minority of addiction physicians that are involved in the programs. And of the people that I know are involved in the programs, they are not necessarily addiction specialists.
Q Okay. And what is that based on? It's just your kind of anecdotal review, or is that, like, some sort of study you've engaged in, or how do you know that?
A How do I know that? I am very involved in the addiction community. I am very involved with working with people who are addiction specialists. I'm involved in coming up with guide -- you know, I've been involved in the guidelines for macrodosing and microdosing of buprenorphine through Women's College Hospital META:PHI. And I do know that in my area that

the physician that is involved with the safer supply program is not an addiction -- is not an addiction physician or the -- yeah. And the physicians that are involved in the program are not addiction physicians.

I cannot speak for areas outside of my area of London, but I can say that I know an awful lot of addiction physicians through Canada, and the vast majority that I know have concerns about this program as it's -- the program of safer supply as it is being implemented. And it's a lot of numbers. I haven't done a survey, but I have certainly spoken to a number of physicians that share my view.

Q Okay. And that's kind of an anecdotal source to your position. It's not something that there's been a study on or a survey of?

A No. And there certainly hasn't been a survey that would say most -- I mean, unfortunately, because I think if there was a study, I would have a stronger position based on my anecdotal evidence that many more physicians are concerned than are involved in the programs. But I don't know of a study that would say how many physicians support the programs. I don't know the study that says how many physicians

don't support the program.
Q And you mentioned that there are -- the document's provided to you that there are a number of programs in Canada that offer this sort of therapy, this sort of therapy being similar to what the plaintiff receives which is, you know, tablet-based opioid -- injectable opioid agonist therapy where she injects oral hydromorphone in an unsupervised or in an unwitnessed setting?
A Yes. There are other programs that do that as well, yes.
Q Okay. And so it's -- so what the plaintiff -- the therapy that the plaintiff's receiving is not necessarily novel? There are other patients in Canada who are receiving the same form of therapy?
A There are other patients -- there are other patients in Canada that are receiving a similar form of therapy.
Q And there is recognition from at least a portion of the addictions medical community that this is an effective form of treatment?
A I'm not going to -- from the medical community, the addictions community that I am involved with, they do not support that form of treatment. The people that I know that do are

not specifically part of the addictions community; so I'm not able to say that the addictions community supports this. I cannot say that to your question. I cannot answer that question.

Q But you are certain that these programs are operated and staffed by addictions doctors -- sorry. Doctors who are not involved in addictions medicine?

A I don't know who they're staffed by and supported by, and I don't know -- I don't know the numbers; so I would not be able to comment on whether this is something that is provided by addictions physicians or not.

Q Okay. It's just that you said that --

A Sorry.

Q That they were not addictions doctors involved?

A Oh, the ones that I know in my area are not, but I can't speak for the ones in any other area outside of London.

Q Okay. And would you say that in the addictions medical community that there is a -- there is acknowledgement and acceptance of people with severe opioid-use disorder who fit the parameters of this program being treated through intravenous use of oral hydromorphone tablets?

A No.
Q Okay. So that's not something that is recognized as a form of treatment within the addictions medical community?
A I would not say that that is an accepted form -- I mean, it is being used, but what your question was is is this an accepted form within the addictions community, and as I have mentioned, the vast majority of addiction experts that I know do not support the program.

So I cannot say that -- I can say there was controversy. I can say that there are people who absolutely believe in it religiously. I can say that there are people who are very concerned about it. But the majority of the physicians that I know in addiction do not support the program. It is not something that is approved by the addiction community at large. So I --
Q In the London addictions community or the community at large? Because you're saying that you're only --
A No. I cannot -- I mean, I am not aware of anything -- any document that would say that the addiction community supports this. The people that I am aware of I would absolutely -- many more people are concerned about the

program than support the program. I would say it's controversial.

I'd say like your -- there are no evidence-based peer-review studies of the program. That was in what you provided me from Dr. Gupta. I would say that most of the -- most of the documentation is very anecdotal as to benefits and that it is being studied, but I cannot say that it has been proven to be an effective, safe treatment that is accepted by the addiction community.

Q Okay. Have you studied any of these programs?

A Have looked at them? Like, what they do?

Q Have you done research -- primary research with respect to any of these programs?

A No.

Q Have you worked in any of these settings?

A No.

Q Okay. Have you read papers around these --

A Yes, I have.

Q Okay. And, like, is there any reason why -- can information around either the existence or the controversy with respect to these therapies was not included in your expert report?

A My expert report as I had felt that I was doing it was based on my knowledge and my experience and what I could bring from what I knew about

the concerns regarding the program.

I did not try to provided a comprehensive study of the program, and since as was pointed out, there still is no evidence-based study that is peer reviewed supporting the program. There is anecdotal evidence and narratives that I didn't feel were part of what I was trying to -- was part of my study, my documentation. And I have not gone through any literature to find out how much is -- what there is that would be different to what you've provided in Dr. Gupta's.

What I was trying to do in my study or my affidavit was provide experience and -- sort of my experience, my research, and my knowledge of concerns regarding the program. It was not intended to be a review of all programs.

Q Okay. So you didn't do a comprehensive search of this form of therapy for your report?

A I've read many of the things that were included in this -- in Dr. Gupta's report. And, again, as I mentioned, I think most of the studies so far are absolutely saying that there is no peer-reviewed -- it's anecdotal evidence. That there are non-peer-reviewed studies that are under -- that are being done at this time, but I did not feel that any of those studies was

part of my report.
Q And to be clear, your report just highlights the concerns you have based on your experience and opinions with respect to treatment options such as this?
A Yes.
COUNSEL A. NANDA: Okay. Subject to any of the undertakings -- well, those are my questions. Do you have a redirect, Mr. Gartke?
COUNSEL N. GARTKE: Yes, I have a few redirect questions.
Counsel N. Gartke Questions the Witness:
Q COUNSEL N. GARTKE: Dr. Koivu, are you aware of any part of the medical community, scientific research community that would deny the risks of injecting tablets meant for oral use?
A Oh, no. I think even people involved in the program would say that there is absolutely risk to injecting oral pills. Even Dr. Bouman has said in her information that she provided to the plaintiff that injecting pills is a risk. I would not know of anyone who would think that there is no risk to injecting pills.
Q And, similarly, would you be aware of any part of the medical community, scientific community, research community that would support the use of what my friend refers to as TiOAT or tablet

iOAT as a safer or more effective option than treatment involving, for example, an injectable formulation of hydromorphone?

A I would not be aware of someone who would -- to my knowledge, there would not be someone who'd be saying it's safer injecting. It's fairly standard that injecting an injectable form is a safer thing to be doing than injecting something that is not intended for injection drug use.

So I would think that that is fairly standard within the medical community completely to recognize that it is safer to inject an injectable form of medication.

Q Do you recognize that prescribing Dilaudid tablets for injection can result in better outcomes when the only alternative is street-sourced drugs with no wraparound services?

A Yeah. If the only alternative is street-source drugs, then injecting Dilaudid is a lesser of those evils. But yes, I would say that they are -- you know, I would not ever be recommending that somebody be injecting street-source fentanyl. That is certainly an extremely risky thing to do and not recommended. That is absolutely higher risk

than even the high risk of injecting tablets. It is a higher risk to be injecting street-source.

Q And would it be your understanding as well since you've said that you are familiar and had read some of the studies that are attached in Dr. Gupta's affidavit that that would be the comparison they're looking at that what they refer to as TiOAT is safer if the alternative is street-sourced drugs?

A Yeah. There's not been anything that compares it to another program such as a methadone or Suboxone program. I'm not aware of any including in London. Really essentially it's comparing to not having the wraparound services and to having street-source drugs. Yes.

So, for example, in London they did do a comparison, but it was not -- it was only of people who did not have access to other opioid agonist therapies or wraparound services. So their only source was street-source drugs.

Q Is there a reason you didn't include that comparison between TiOAT or injecting Dilaudid tablets versus street-sourced drugs in your report?

A I guess I would think that that was fairly self evident that injecting street-source drugs is a very risky, dangerous thing that we all

recognize as being the most dangerous and that we would -- I would never want to have anyone injecting street-source drugs.

Q I have one last question for you. Among the items in Dr. Gupta's most recent affidavit, he states that you neglect to mention the differences between the infection risks associated with immediate-release hydromorphone or Dilaudid versus controlled-release hydromorphone.

Could you in as much detail as possible explain the difference in infection risks between the two of those.

A Okay. And from my knowledge, and I will not go through my affidavit, but I do reference that there is a difference in the risk.

He also was incorrect now that it is -- that when people inject Hydromorph Contin, it does not turn into a gel. When people inject OxyNEO it does, but what happens when people inject Hydromorph Contin, it's the capsule. It has a -- beads inside. When they're -- to get the release, people grind those beads. You have very large particles that are associated with what's in the suspension. Those large particles when drawn up have been found to damage the tricuspid valve. That's the first

valve.

So anything that's injected to any vein will go through and damage the -- or reach the first heart valve. So our theory around why it was so common that we saw endocarditis above baseline was that it actually damaged the tricuspid valve injecting the larger particles. And in other things like pills, the particles are much smaller; so they pass in through the -- into the bloodstream, not just bombarding the tricuspid valve.

So with Dilaudid, for example, the particles, you grind up a pill. The pill -- that becomes a suspension. The particles are much smaller. They can go farther into the bloodstream. And my understanding from literature I've read is that that damage -- that those small particles can lodge and cause damage.

So it's -- the problem with the particles isn't just infection itself. It's the damage that they can cause. They can cause -- locally they can cause damage to veins. They can farther down cause damage. Once things are damaged, you're at risk of infection.

With Hydromorph Contin, we were able to

show that it specifically prolonged the life of bacteria. So -- and viruses. So if you were reusing a cooker for example or reusing your filter, there would be more bacteria in it. That is not the case with Dilaudid.

But we also felt that what we were seeing with infections could be related to the damage caused by the particles themselves, and the source of infection could be something different so that if you had an abscessed tooth, for example, and had already damaged your tricuspid valve, you would be at risk of infection.

We also did show that the only way to make sure there was no bacteria in what you're injecting was to actually heat it to -- for ten -- or boiling for ten seconds, and that was the only way to eliminate bacteria in any type of injecting of pills.

COUNSEL N. GARTKE: Okay. That's all my questions. Thank you.

COUNSEL A. NANDA: I'll ask some more questions.

Counsel A. Nanda Questions the Witness:

Q COUNSEL A. NANDA: Dr. Koivu, you're aware of the plaintiff's situation and her transition to this new treatment option under the -- those new regulations; correct?

A Yes.
Q Okay. In the evidence there is a suggestion -- or there's evidence from the plaintiff that she has currently a treatment regime that requires her to dose at three times a day, and consistently she takes a set dose for each time -- each of those three times. Under the new regulation, each time has to be -- each dose has to be witnessed at a set facility near downtown Calgary.

According to her current dosing times, two of the three doses occur when that facility is not open. In that case, she'll be without her medication. I want you to comment on the efficacy of the proposed treatment when for two of her three dosing times, the facility is not open.

A I think that it is really important that Ophelia has a treatment plan that includes working with an addiction physician and working towards having a seamless transition. The injecting of an opioid into -- for her to be injecting opioids, what I have found in hospital is that it is not -- that being able to change the timing of when people receive doses is not something that is physiologically a difficult thing to do. So the timing of when

people get their medication is often organized, for example, in hospital around when a nurse is available to give it.

So finding times that work within the structure of an injection drug use facility, I believe that that would be something that would be able to be worked towards. In addition what's often used in places where they're injecting is something like long-acting Kadian to tide people over until they can get there.

She has stated that she is benefitting from the euphoric effect of injecting. There is a comment that she is -- 60 percent of her addiction is addiction to the needle and 40 percent to the opioid.

Q Where is that? I have not seen that.

A That was a comment from her physician early on. It's in -- I don't have it. I can't show it to you. But it's in --

Q Yes, I'm not aware of that. I am not aware of that at all.

A In the summary that I received, there was a statement that she was 40 percent addicted to the needle and -- sorry. 60 percent addicted to the needle and 40 percent addicted to the opioid, which means when she is -- if she takes her Kadian at home and feels she needs the

euphoric effect, there is argument for using something like injectable saline.

It would not be my first choice, but if, in fact, she feels this need to inject, that is something that has been done in other centres that -- injecting something like saline so that you get that feeling of the need to inject which might be part of what she's experiencing. She has stated that she used to self harm, and sometimes the feeling of the needle is something that people need. It doesn't have to be associated with the drug. It can be associated with something safer.

Kadian, as I say, can be used. It's often used. You know, you take your doses. Your last dose you have a witnessed dose of Kadian, and it will provide you with support to protect you from the cravings and the withdrawal.

So I do think that it's possible to develop a treatment strategy that is so much safer for her than the one that she has now within what is available to her. Again, I would say that that is something that needs to be developed with physicians that are involved in her care, but the option of receiving injectable hydromorphone, which is known to be safe, compared to the option of injecting a

pill which, I think, from a precautionary principle, at the very least has significant risk particularly in someone as young as she is.

Then the other treatments options that are available to her, I think we can find an option that will be able to meet her needs physically and emotionally.

Q You have not worked in an outpatient -- well, you have limited to no experience working in an outpatient addictions clinic; correct?

A I have limited experience, yes.

Q You also said that changing dosing times may not have a physiological effect or a limited physiological effect based on your experience in the hospital setting.

But what about other effects? Psychological effects, other things from changing dosing times?

A You know, I've never seen that. It can happen. I'm not saying that that's not possible, but I've actually -- I've worked with lots of people where we had to accommodate various time change schedules, and the timing of their medication has not been something that was difficult to work around.

Again, you're right. My experience is

within a hospital setting, but I have not experienced anyone that I've worked with when we've have to deal with changing their times, that that has been a -- that has been not one of the main challenges that I've ever faced, and it's not infrequent that people have to change the timing of their opioids for various reasons. Scheduling, nursing, appointments to go to get a CT scan.

Timing is changed on a very regular basis, and an emotional problem or a problem physiologically or emotionally related to it has not been something that has been a significant problem. We can work around timings for cravings and expectation of withdrawal. So in my experience that has not been a problem that I have seen.

Q Your experience is limited to circumstances that the plaintiff is not in and not receiving --

A Yes.

Q Correct?

A Yes. Yes.

Q What else is there I want to say? Okay. In her affidavit the plaintiff is quite adamant that given her circumstances, given the barriers she identifies to access treatment

under the new regulatory regime, her only option is street-sourced opioids.

My question to you is that in circumstances where patients do not accept a form of opioid agonist therapy, would you accept -- or, sorry. That's a bad -- would you agree with me that the likelihood of reverting to street-sourced opioids is high?

A I would accept that when patients don't have options, the likelihood of returning to street-source opioids is high. I actually -- I'm going to say I can't really comment on a case of having something that's safe and available and turning that down to use street-source opioids. That would not be something that I can comment on as I don't see that.

I certainly do see people who don't want to be part of certain treatment plans that can be available to them choosing to go to street-source opioids, but I have not seen someone who has the scenario where they have something that they're taking that has a risk to them and that something's being offered that has less risk and that they would choose to go back to the street.

Q You haven't seen that as you worked primarily

in outpatient -- or inpatient centres?
A Pardon me?
Q You haven't seen that because you work primarily in inpatient centres?
A My experience with working with people and with people -- yes, where I -- it's not something I could say I'm aware that when people don't want their treatment, they can go back to the street, but I cannot comment on, I'm turning down a safer treatment plan when it's available. I'm not sure I could really make a comment on that --
Q That's not within --
A -- based on my experience.
Q That's not within your expertise?
A No.
Q Okay. And what about for treating severe opioid-use disorder? Are forced treatments -- what's a consequence of forcing someone to go along with a particular treatment without their consent or otherwise forcing them into treatment?
A Having treatment without consent is never going to be effective. You know, people have to consent to treatment. It's not even ethical to be giving treatment that they don't consent to.
Q But in this context would you agree with me that if a patient does not accept a new or

modified form of treatment, they're going to disengage?

A I'm sorry. They're going to disengage? I think that there's -- motivational interviewing needs to happen. I believe that this patient believes that this is something that she should be allowed to access and wants to access this. I don't -- I think that a really good understanding of what is available to her and what she can access, I don't -- I really can't comment. I think that --

Q My question is not about, though. I'm asking --

A Okay. Maybe rephrase the question.

COUNSEL A. NANDA: Amanda, could you read the question back.

THE STENOGRAPHER:

> "Question: But in this context would you agree with me that if a patient does not accept a new or modified form of treatment, they're going to disengage?"

A I believe that that is a possibility that they could disengage.

Q COUNSEL A. NANDA: And if they disengage, reversion to street-source opioids is almost a certainty if they live with severe opioid-use disorder?

A It is one of the possibilities if someone disengages. I --
Q A high --
A Pardon me?
Q Sorry. You were completing your answer.
A My experience has been very much with working with people who've disengaged in treatment and working through motivational, interviewing, and encouraging people with their own motivational interviewing to become engaged in treatment. My experience personally has been very much about engaging people in treatment.

So my experience is about finding motivational interviewing and working with people to engage them in treatment.

COUNSEL A. NANDA: I think my question was about something else. Amanda, could you read back the previous question.

THE STENOGRAPHER:

"Question: And if they disengage, reversion to street-source opioids is almost a certainty if they live with severe opioid-use disorder?"

A If they disengage, I would be encouraging them to be part of a setting in which they can have motivational interviewing and work towards other treatment within their -- what is

available to them. If anyone disengages completely from treatment, they are at risk to going back to street-sourced opioids.

Q COUNSEL A. NANDA: But by very nature of their medical condition, there's a need to self medicate, and if they're not in treatment, they'll turn to street-source opioids. Is that fair?

A If they're not in treatment, they are at risk of returning to street-source opioids.

Q Okay. And in that scenario, street-source opioids is dangerous -- more dangerous and more likely to cause death than a -- than the program that the plaintiff is on, which I'll term as a tablet-based injectable opioid agonist treatment program?

A Yes. I think the tablet-based injectable opioid agonist treatment program has risks, and -- has risks of death, but I would absolutely say that street-source opioids -- or street-source fentanyl has the greatest risk.

Q So in this case where you have the plaintiff who is rejecting the modified or new treatment regime under the new regulatory frame from Alberta government because she identifies various barriers and she states unequivocally that she will return to street-source opioids

as a result, is the current treatment regime safer than a return to street-source opioids?

A The current treatment regime is safer than street-source opioids.

COUNSEL A. NANDA: Okay. Those are my questions subject to any undertakings.

COUNSEL N. GARTKE: I have no further questions either.

PROCEEDINGS ADJOURNED AT 2:45 P.M.

SUBJECT TO THE ABOVE COMMENTS

CERTIFICATE OF TRANSCRIPT

I, the undersigned, hereby certify that the foregoing pages are a complete and accurate transcript of the proceedings taken down by me in shorthand and transcribed from my shorthand notes to the best of my skill and ability.

Dated at the City of Edmonton, Province of Alberta, this 28th day of February, 2023.

Amanda Hebb, CSR(A)
Certified Shorthand Reporter

0

0.5 [1] - 21:21
01360 [2] - 1:5, 5:12

1

1 [4] - 3:25, 15:18, 21:26, 80:4
106 [1] - 3:15
10:46 [2] - 3:9, 74:9
10:51 [2] - 3:9, 74:10
10:58 [2] - 3:10, 79:7
111 [1] - 3:16
11:00 [1] - 73:16
122 [2] - 3:17, 3:18
15 [1] - 3:25
1:34 [4] - 3:11, 3:12, 79:8, 79:10
1:46 [2] - 3:13, 87:2
1:50 [2] - 3:14, 87:3

2

2 [3] - 4:1, 20:24, 67:20
20 [1] - 4:1
2012 [3] - 6:7, 6:9, 68:25
2015 [1] - 80:3
2019 [5] - 3:22, 85:10, 85:11, 87:5, 89:23
2020 [3] - 14:17, 21:20, 39:10
2021 [4] - 22:10, 23:11, 39:11, 85:10
2022 [2] - 14:18, 23:17
2023 [7] - 1:18, 1:26, 3:3, 5:15, 79:13, 94:5, 122:20
20s [1] - 76:9
21 [1] - 1:18
21st [1] - 5:15
22 [2] - 3:22, 89:23
22nd [1] - 87:5
2301 [2] - 1:5, 5:12
26 [1] - 94:5
26th [1] - 79:13
27 [2] - 1:26, 3:3
28th [1] - 122:20
2:45 [2] - 3:17, 122:9

3

3 [3] - 4:3, 82:27, 93:13
365 [1] - 75:3
37 [1] - 5:25

4

40 [3] - 113:15, 113:23, 113:25
48 [12] - 23:7, 23:8, 23:13, 23:15, 27:3, 27:10, 27:16, 27:18, 28:3, 28:4, 28:15, 28:25

5

5 [2] - 3:7, 71:14

6

6 [1] - 74:13
60 [2] - 113:13, 113:24

7

7 [1] - 38:12
74 [2] - 3:9, 3:9
780-439-2292 [1] - 2:15
780-643-0856 [1] - 2:9
780-801-5324 [1] - 2:5
79 [3] - 3:10, 3:11, 3:12

8

8 [1] - 7:7
87 [2] - 3:13, 3:14
89 [1] - 3:21

9

93 [1] - 4:3
9:03 [2] - 3:8, 5:7

A

A.M [3] - 74:9, 74:10, 79:7
a.m [5] - 3:8, 3:9, 3:9, 3:10, 5:7
ability [3] - 31:14, 51:2, 122:18
able [26] - 11:14, 19:6, 20:5, 29:15, 30:21, 30:26, 45:2, 50:3, 50:8, 50:17, 55:4, 56:16, 63:25, 64:9, 73:7, 77:15, 80:11, 85:8, 90:23, 96:15, 102:2, 102:12, 110:27, 112:24, 113:7, 115:7
ABOVE [1] - 122:10
abscessed [1] - 111:10
absolutely [15] - 10:3, 17:27, 44:7, 45:6, 84:23, 86:14, 92:15, 98:11, 103:13, 103:26, 105:23, 106:18, 107:27, 121:20
absorbed [1] - 47:22
academic [8] - 20:10, 37:1, 52:26, 68:20, 70:1, 93:23, 98:24, 98:25
accept [7] - 24:22, 27:11, 117:4, 117:6, 117:9, 118:27, 119:19
acceptance [1] - 102:23
accepted [4] - 27:2, 103:5, 103:7, 104:10
access [15] - 12:23, 17:7, 23:15, 24:16, 25:25, 29:22, 30:7, 81:19, 87:24, 95:1, 108:18, 116:27, 119:7, 119:10
accesses [1] - 67:7
accessing [4] - 26:7, 29:24, 81:23, 81:26
accident [1] - 65:3
accidental [8] - 42:4, 42:5, 63:22, 65:9, 65:11, 65:12, 65:17, 65:22
accommodate [1] - 115:23
according [2] - 4:10, 112:11
accumulates [1] - 75:10
accumulating [2] - 75:5, 75:18
accumulative [2] - 62:20, 62:21
accurate [3] - 40:25, 49:3, 122:15
accurately [1] - 90:2
acknowledgement [1] - 102:23
acronyms [1] - 52:10
acting [5] - 5:25, 47:11, 48:19, 97:4, 113:9
action [1] - 5:12
acts [1] - 82:18
actual [1] - 18:17
ad [2] - 17:9, 45:1
adamant [1] - 116:25
added [1] - 99:5
addicted [3] - 113:23, 113:24, 113:25
addiction [44] - 6:7, 6:8, 6:10, 6:14, 11:10, 14:13, 16:21, 17:7, 22:2, 22:9, 55:1, 68:24, 78:2, 83:20, 84:20, 94:18, 94:24, 95:1, 95:11, 98:10, 98:11, 98:13, 98:15, 98:16, 98:17, 98:20, 98:21, 99:3, 99:11, 99:15, 99:21, 99:22, 100:2, 100:3, 100:5, 100:8, 103:9, 103:16, 103:18, 103:25, 104:11, 112:20, 113:14
Addiction [1] - 83:15
addictions [22] - 16:16, 17:25, 18:3, 18:7, 94:11, 98:9, 98:25, 98:27, 99:10, 101:22, 101:25, 102:1, 102:3, 102:7, 102:9, 102:14, 102:17, 102:21, 103:3, 103:8, 103:20, 115:11
addition [3] - 25:13, 80:13, 113:7
additional [1] - 10:23
address [4] - 8:15, 9:4, 16:8, 65:9
addressed [1] - 64:20
addressing [4] - 10:19, 10:25, 42:10, 71:27
adequately [2] - 42:12, 42:14
ADJOURNED [1] - 122:9
adjourned [1] - 3:17
admitted [5] - 18:17, 18:18, 18:21, 19:3, 38:24
advance [3] - 15:7, 15:8, 15:9
advanced [1] - 40:7
advantage [1] - 53:21
adverse [1] - 67:15
advised [1] - 81:16
advisement [2] - 15:16, 92:5
ADVISEMENT [4] - 3:27, 4:6, 15:22, 93:19
advocacy [1] - 77:7
advocate [1] - 80:16
affect [2] - 88:20, 88:22
affected [1] - 45:9
affecting [1] - 44:18
affidavit [31] - 5:11, 5:14, 5:17, 5:18, 7:7, 7:8, 9:1, 9:27, 10:17, 14:9, 14:10, 14:11, 14:23, 19:7, 24:26, 25:8, 32:26, 37:19, 38:12, 38:27, 57:16, 79:13, 88:6, 88:11, 94:3, 94:7, 105:14, 108:6, 109:5, 109:15, 116:25
AFFIDAVIT [2] - 1:18, 3:2
affidavits [6] - 8:4, 14:19, 14:21, 14:24, 14:26, 15:1
affirm [1] - 5:17
affirmed [4] - 3:7, 3:12, 5:6, 79:9
afternoon [1] - 73:24
age [1] - 68:21
agenda [3] - 77:11, 78:3, 78:7
agitation [1] - 51:9
ago [2] - 85:6, 85:7
agonist [31] - 7:1, 8:23, 9:13, 9:18, 9:24, 10:14, 12:12, 13:24, 16:27, 37:21, 48:26, 49:6, 49:9, 50:24, 51:11, 51:20, 52:6, 52:18, 53:1, 70:9, 70:11, 71:1, 71:3, 94:9, 96:25, 97:3, 101:8, 108:19, 117:5, 121:16, 121:18
agree [5] - 18:1, 18:7, 117:7, 118:26, 119:18
ahead [3] - 17:16, 63:6, 74:3
alarm [1] - 64:2
ALBERTA [2] - 1:7, 1:13
Alberta [5] - 2:9, 5:12, 33:26, 121:25, 122:20
allotted [1] - 32:7
allow [2] - 65:25, 87:24
allowed [4] - 35:19, 35:21, 38:26, 119:7
allowing [1] - 86:9
allude [1] - 24:4
almost [2] - 119:25, 120:22
alternative [3] -

107:17, 107:20, 108:8
alternatives [1] - 39:3
Amanda [5] - 2:14, 58:23, 119:14, 120:17, 122:24
amount [10] - 21:12, 22:1, 23:19, 26:24, 37:27, 38:3, 53:25, 67:22, 76:11, 81:8
amounts [1] - 23:2
ampule [1] - 37:22
analysis [7] - 91:19, 92:17, 92:18, 93:6, 93:25, 93:26, 94:2
AND [2] - 4:1, 20:25
anecdotal [14] - 69:9, 69:15, 69:23, 69:27, 72:26, 89:15, 93:22, 93:26, 99:17, 100:16, 100:22, 104:7, 105:6, 105:24
anecdotally [1] - 98:27
anomaly [2] - 37:14, 37:17
answer [13] - 7:11, 8:10, 8:11, 8:17, 9:16, 46:12, 46:18, 58:2, 67:26, 73:25, 83:2, 102:4, 120:5
Answer [1] - 93:3
answered [1] - 57:21
answering [2] - 9:9, 9:10
answers [1] - 95:13
appear [1] - 23:20
APPEARANCES [1] - 2:1
applicable [1] - 67:16
applies [1] - 9:14
appointments [1] - 116:8
appreciate [3] - 10:22, 73:21, 74:2
approach [3] - 18:3, 56:21, 56:23
approaches [1] - 18:12
appropriate [2] - 8:8, 40:6
approved [1] - 103:18
area [15] - 11:12, 16:8, 63:14, 80:3, 80:5, 81:13, 81:21, 82:15, 98:14, 99:27, 100:7, 102:18, 102:20
areas [3] - 7:5, 46:3, 100:6
arguably [1] - 49:8
argue [1] - 41:12
argument [2] - 8:14, 114:1
argumentative [2] - 57:22, 58:1
articulated [1] - 10:24
AS [8] - 4:5, 4:5, 93:18
aside [2] - 29:23, 69:21
aspect [1] - 60:4
assault [1] - 21:20
assistance [1] - 4:9
associate [1] - 52:15
associated [27] - 6:24, 7:13, 7:17, 7:23, 9:5, 10:7, 10:8, 10:13, 11:22, 12:4, 12:25, 13:1, 13:7, 13:10, 13:12, 13:22, 13:27, 38:19, 41:16, 43:20, 48:21, 75:25, 109:8, 109:24, 114:12, 114:13
Association [1] - 46:9
assumption [1] - 24:22
AT [7] - 74:9, 74:10, 79:7, 79:8, 87:2, 87:3, 122:9
attach [2] - 20:3, 20:9
attached [4] - 8:27, 19:26, 20:4, 108:5
attempts [4] - 40:13, 41:1, 84:15, 84:16
attention [5] - 42:2, 42:3, 64:24, 76:18, 85:24
audio [1] - 5:2
augmentative [1] - 57:20
Australia [2] - 19:19, 62:26
authority [1] - 35:7
authorized [3] - 35:6, 35:15, 35:18
availability [6] - 44:21, 44:23, 70:17, 73:24, 89:12, 94:8
available [21] - 44:12, 44:14, 44:25, 45:11, 68:10, 68:11, 69:8, 83:25, 83:26, 96:27, 98:8, 99:6, 99:8, 113:3, 114:22, 115:6, 117:14, 117:20, 118:11, 119:9, 121:1
Avnish [1] - 2:3
aware [56] - 23:23, 23:27, 26:19, 29:15, 30:18, 37:12, 38:21, 41:12, 42:12, 42:14, 42:23, 44:11, 44:15, 45:12, 46:1, 46:10, 46:19, 48:15, 48:18, 52:19, 52:21, 52:24, 53:14, 53:17, 53:20, 54:5, 55:7, 55:23, 56:12, 57:6, 57:8, 66:3, 66:4, 77:9, 79:4, 89:2, 89:4, 89:5, 89:11, 89:15, 90:18, 90:19, 90:26, 94:25, 96:25, 103:23, 103:26, 106:13, 106:24, 107:4, 108:12, 111:24, 113:20, 118:7
awful [1] - 100:8

B

backed [1] - 93:23
bacteria [5] - 48:7, 111:2, 111:4, 111:15, 111:18
bad [1] - 117:6
balance [3] - 77:4, 78:11, 78:22
balance" [1] - 78:27
barriers [2] - 116:27, 121:26
based [52] - 19:10, 22:19, 23:1, 24:25, 26:15, 28:26, 45:16, 45:18, 48:25, 52:27, 53:22, 55:27, 57:6, 57:15, 59:12, 62:11, 64:12, 69:9, 69:19, 69:26, 70:2, 70:7, 70:11, 70:13, 70:15, 70:19, 71:12, 72:27, 74:22, 74:23, 75:19, 77:23, 80:16, 91:18, 93:4, 93:22, 94:9, 95:15, 97:3, 98:24, 99:16, 100:22, 101:7, 104:4, 104:26, 105:4, 106:3, 115:15, 118:14, 121:15, 121:17
baseline [1] - 110:6
basis [6] - 17:9, 20:10, 65:24, 84:21, 88:6, 116:11
BE [2] - 4:5, 93:17
beads [4] - 47:16, 48:17, 109:22, 109:23
become [1] - 120:10
becomes [2] - 51:2, 110:14
began [1] - 81:4
beginning [2] - 59:18, 84:6
behind [2] - 81:10, 81:18
belief [1] - 33:15
believes [3] - 24:13, 25:10, 119:6
below [2] - 19:10, 21:27
BENCH [1] - 1:7
Bench [1] - 5:11
benefits [7] - 7:1, 43:14, 60:25, 72:12, 98:3, 98:5, 104:8
benefitting [2] - 41:21, 113:11
best [2] - 84:9, 122:18
better [2] - 36:20, 107:16
between [9] - 14:17, 26:3, 31:2, 50:23, 85:10, 85:11, 108:22, 109:7, 109:13
beyond [2] - 27:26, 82:21
bicycle [1] - 82:5
bioavailability [2] - 10:9, 11:25
biochemical [3] - 50:26, 51:16
biochemistry [1] - 50:27
bit [3] - 74:12, 79:16, 87:12
BLACK [1] - 1:11
blood [3] - 49:23, 49:24
bloodstream [3] - 47:24, 110:10, 110:16
boarding [1] - 80:9
bodies [1] - 34:26
body [3] - 10:17, 61:26, 75:5
boiling [1] - 111:17
bombarding [1] - 110:11
Bouman [8] - 14:26, 24:14, 24:16, 24:27, 25:11, 25:19, 26:9, 106:19
Bouman's [6] - 24:11, 24:23, 24:25, 25:6, 25:8, 41:13
brain [7] - 50:25, 50:26, 50:27, 51:5, 51:8, 51:21, 51:24
break [2] - 73:17, 82:25
breaking [1] - 82:6
bring [2] - 85:24, 104:27
British [2] - 19:21, 33:26
broken [5] - 82:4, 82:10, 87:15, 87:17
brought [1] - 6:12
bullying [5] - 84:10, 84:17, 85:1, 85:15, 86:16
buprenorphine [1] - 99:26
businesses [3] - 82:2, 82:3, 82:14
buy [2] - 68:4, 70:17
BY [2] - 3:21, 89:22

C

CALGARY [1] - 1:8
Calgary [4] - 22:10, 44:14, 95:5, 112:10
calm [1] - 21:23
calming [1] - 21:24
CAN [2] - 4:5, 93:17
Canada [23] - 34:5, 34:18, 35:23, 37:4, 43:7, 43:22, 43:24, 43:25, 44:9, 46:12, 52:7, 52:20, 63:12, 63:15, 90:26, 94:12, 94:16, 97:8, 98:9, 100:9, 101:4, 101:16, 101:19
Canadian [5] - 34:3, 46:8, 46:9, 90:15, 90:18
candidate [1] - 86:5
cannot [9] - 40:9, 90:6, 100:6, 102:3, 102:4, 103:11, 103:23, 104:9, 118:9
capsule [6] - 47:14, 47:15, 48:17, 49:18, 109:21
captured [2] - 56:17, 59:9
car [2] - 87:14, 87:17
card [1] - 30:25
care [7] - 6:1, 14:18, 18:23, 18:26, 43:21, 78:17, 114:25
cars [2] - 82:10, 82:11
case [5] - 9:14, 111:5, 112:13, 117:13,

121:22
cases [2] - 37:10, 90:1
caused [2] - 72:17, 111:8
causes [2] - 31:9, 50:3
causing [3] - 54:5, 55:2, 78:6
cautionary [1] - 97:23
cautious [2] - 82:21, 83:5
Centre [2] - 6:9, 63:25
CENTRE [1] - 1:8
centres [4] - 45:2, 114:5, 118:1, 118:4
certain [6] - 96:4, 96:6, 96:9, 96:27, 102:6, 117:19
certainly [26] - 6:6, 7:4, 8:20, 19:21, 26:27, 27:15, 28:1, 34:2, 35:20, 39:17, 43:11, 46:13, 54:27, 82:1, 82:7, 85:13, 88:16, 90:22, 91:24, 94:15, 96:12, 97:12, 100:13, 100:19, 107:25, 117:18
certainty [2] - 119:26, 120:22
Certificate [1] - 3:18
CERTIFICATE [1] - 122:12
certificates [1] - 98:15
certified [1] - 2:13
Certified [1] - 122:25
certify [1] - 122:14
challenges [1] - 116:5
challenging [1] - 63:19
change [7] - 33:4, 81:5, 82:14, 82:15, 112:25, 115:24, 116:7
changed [1] - 116:10
changes [2] - 50:27, 51:24
changing [4] - 82:8, 115:13, 115:19, 116:3
charts [1] - 16:10
check [2] - 4:9, 27:19
checked [1] - 82:11
chemicals [1] - 51:9
CHIEF [2] - 4:3, 93:14
chief [4] - 50:9, 73:6, 91:18, 93:5
children [1] - 76:9
choice [1] - 114:3
choices [1] - 96:2
choose [1] - 117:25
choosing [1] - 117:20
chronic [2] - 6:5, 64:27
circumstance [1] - 39:2
circumstances [6] - 21:10, 21:15, 97:1, 116:18, 116:26, 117:4
city [2] - 30:7, 69:8
City [1] - 122:19
claim [1] - 92:2
clarification [1] - 92:6
clarify [3] - 18:5, 92:16, 95:21
clarity [1] - 8:5
clarity's [1] - 18:13
clear [7] - 7:6, 8:25, 9:19, 25:1, 44:19, 93:21, 106:2
clearly [1] - 10:24
clients [5] - 37:12, 42:23, 53:19, 53:24, 96:27
clinic [10] - 17:8, 22:15, 23:22, 24:8, 37:26, 39:10, 39:14, 95:1, 95:2, 115:11
Clinical [1] - 83:14
clinics [2] - 24:18, 36:7
clog [1] - 49:23
closer [4] - 29:26, 46:4, 81:11, 81:23
collaboration [1] - 54:8
collection [1] - 41:22
College [2] - 83:22, 99:26
Columbia [2] - 19:21, 33:26
coming [2] - 97:22, 99:23
commencing [4] - 3:8, 3:12, 5:7, 79:10
comment [12] - 24:19, 26:9, 27:6, 102:12, 112:14, 113:13, 113:17, 117:12, 117:16, 118:9, 118:12, 119:10
COMMENTS [1] - 122:10
common [1] - 110:5
commonplace [1] - 87:14
communicate [2] - 84:20, 84:22
communities [6] - 12:17, 12:26, 13:26, 76:7, 94:19, 98:18
community [57] - 12:21, 17:1, 18:26, 19:4, 26:3, 31:8, 33:14, 34:23, 45:2, 45:7, 45:8, 45:9, 48:9, 56:10, 56:11, 71:5, 72:1, 72:6, 73:10, 79:26, 80:8, 80:12, 80:17, 80:19, 80:22, 80:23, 80:24, 80:25, 81:1, 81:5, 82:16, 87:25, 88:2, 88:17, 88:18, 94:12, 97:15, 99:21, 101:22, 101:24, 101:25, 102:2, 102:3, 102:22, 103:4, 103:8, 103:18, 103:20, 103:21, 103:25, 104:11, 106:14, 106:15, 106:25, 106:26, 107:12
Company [1] - 2:4
compared [4] - 11:25, 31:3, 50:13, 114:27
compares [1] - 108:10
comparing [1] - 108:14
comparison [3] - 108:7, 108:17, 108:22
competency [1] - 98:16
complete [6] - 16:10, 26:2, 26:5, 31:9, 122:15
completely [4] - 34:24, 69:13, 107:13, 121:2
completing [1] - 120:5
complication [2] - 19:22, 76:20
complications [6] - 6:3, 6:17, 19:25, 42:8, 63:11, 63:18
comprehensive [3] - 94:10, 105:2, 105:18
concept [2] - 54:4, 95:25
concern [4] - 26:13, 41:18, 65:23, 83:1
concerned [9] - 55:8, 55:23, 62:6, 63:7, 77:22, 94:20, 100:24, 103:15, 103:27
concerning [1] - 28:23
concerns [26] - 56:20, 56:22, 58:10, 59:9, 59:15, 59:19, 59:26, 60:11, 60:19, 61:8, 61:11, 73:6, 84:7, 85:27, 86:10, 88:9, 88:12, 88:14, 88:15, 94:7, 95:21, 95:23, 100:10, 105:1, 105:16, 106:3
conclusion [4] - 91:20, 92:19, 93:7, 93:27
conclusions [3] - 57:10, 57:12
condition [1] - 121:5
conditions [1] - 18:18
conducted [2] - 89:3, 95:17
confirm [1] - 73:23
conjunction [2] - 96:18, 96:23
connected [2] - 46:4, 66:24
connecting [1] - 17:1
connection [4] - 5:2, 66:27, 77:17, 77:18
conscious [1] - 57:23
consensus [2] - 56:3, 56:5
consent [4] - 118:21, 118:22, 118:24, 118:25
consequence [2] - 76:14, 118:19
consequences [3] - 45:26, 46:3, 78:23
consider [3] - 50:20, 76:24, 84:19
considered [10] - 22:1, 63:22, 65:3, 65:12, 80:14, 84:23, 95:7, 98:13, 98:14, 98:16
consist [2] - 36:12, 36:13
consistent [1] - 27:12
consistently [1] - 112:6
consultant [4] - 6:8, 6:10, 16:15, 16:16
consulted [2] - 16:22, 18:24
consumed [1] - 36:19
consumes [2] - 37:15, 67:18
consuming [3] - 37:3, 42:19, 75:25
consumption [2] - 80:15, 80:20
contained [1] - 8:3
context [5] - 71:24, 71:25, 90:15, 118:26, 119:17
contexts [1] - 36:18
Contin [23] - 45:21, 47:13, 48:5, 48:7, 48:11, 48:19, 48:20, 50:3, 50:15, 54:5, 64:13, 66:24, 66:26, 67:12, 72:5, 72:13, 72:17, 77:13, 78:5, 90:21, 109:18, 109:21, 110:27
continue [2] - 56:6, 67:23
continued [1] - 24:7
contributing [1] - 84:13
controlled [9] - 47:9, 47:12, 47:26, 47:27, 53:12, 53:22, 71:18, 71:21, 109:9
controlled-release [4] - 47:12, 47:27, 71:21, 109:9
controlled-released [1] - 47:9
controlling [3] - 31:14, 31:15
controversial [1] - 104:2
controversy [3] - 94:16, 103:12, 104:23
conversations [1] - 77:5
conveys [2] - 56:20, 56:22
cooker [1] - 111:3
copper [1] - 82:7
copy [1] - 15:14
coroner [6] - 50:9, 65:4, 65:5, 65:11, 65:14, 73:6
coroner's [2] - 63:21, 65:6
coroners [5] - 42:4, 65:2, 65:9, 65:10, 65:17
correct [22] - 5:15, 5:16, 5:20, 7:25, 16:16, 16:17, 17:5, 33:24, 34:15, 36:16, 36:22, 40:17, 47:4, 59:16, 61:10, 79:13, 84:2, 90:12, 94:5, 111:27, 115:11, 116:22
cost [3] - 69:14, 70:6, 70:16

Counsel [8] - 3:8, 3:12, 3:15, 3:16, 5:7, 79:10, 106:12, 111:23
counsel [1] - 8:26
COUNSEL [65] - 5:8, 7:17, 7:20, 8:7, 8:18, 11:3, 11:6, 15:13, 15:15, 15:17, 15:23, 20:17, 20:21, 20:23, 21:1, 25:3, 25:4, 25:5, 27:4, 27:7, 27:8, 30:1, 30:4, 57:19, 57:22, 57:23, 57:27, 58:3, 64:4, 64:7, 64:21, 73:14, 73:20, 73:22, 73:27, 74:7, 74:8, 74:11, 79:5, 79:11, 86:26, 87:4, 89:18, 89:20, 89:24, 91:13, 91:27, 92:4, 92:21, 92:24, 93:11, 93:20, 95:18, 106:7, 106:10, 106:13, 111:20, 111:22, 111:24, 119:14, 119:24, 120:16, 121:4, 122:5, 122:7
Counsel's [1] - 4:9
counted [1] - 54:14
country [6] - 17:20, 33:24, 33:27, 34:1, 34:12, 36:6
couple [2] - 42:17, 85:7
court [1] - 73:16
COURT [3] - 1:5, 1:7
Court [2] - 5:11, 10:26
cover [1] - 17:18
covered [1] - 17:19
cravings [5] - 22:2, 22:4, 51:10, 114:18, 116:15
crime [5] - 82:2, 87:10, 87:21, 88:27, 89:14
crimes [1] - 82:9
crisis [2] - 6:6, 64:27
criticisms [3] - 60:5, 60:11, 61:9
critique [3] - 59:6, 59:11, 59:14
critiques [3] - 58:18, 58:27, 59:4
critiquing [1] - 59:5
CSR(A [2] - 2:14, 122:24
CT [1] - 116:9
current [4] - 47:8, 112:11, 122:1, 122:3
cut [1] - 63:5

D

daily [1] - 32:16
damage [11] - 49:21, 49:22, 62:20, 109:27, 110:3, 110:17, 110:19, 110:22, 110:23, 110:24, 111:8
damaged [3] - 110:6, 110:25, 111:11
dangerous [8] - 33:19, 33:22, 62:27, 63:2, 108:27, 109:1, 121:12
Dash [1] - 2:15
data [11] - 23:16, 41:22, 46:18, 54:18, 56:17, 63:20, 64:14, 65:21, 66:25, 73:5, 92:14
Dated [1] - 122:19
DATED [2] - 3:21, 89:22
days [2] - 32:17, 75:3
deal [2] - 16:22, 116:3
dealers [1] - 35:8
dealing [3] - 17:23, 54:15, 92:10
death [18] - 42:4, 42:5, 62:5, 62:10, 62:11, 62:12, 63:22, 63:26, 65:4, 65:9, 65:11, 65:13, 65:14, 65:17, 89:26, 90:6, 121:13, 121:19
deaths [14] - 56:13, 63:13, 64:3, 65:22, 90:2, 91:2, 91:5, 91:6, 91:8, 91:9, 91:10, 91:20, 93:8
DEATHS [2] - 4:4, 93:16
debating [1] - 36:2
debilitating [2] - 62:22, 62:23
DECEMBER [2] - 3:22, 89:23
December [1] - 87:5
decision [3] - 40:26, 41:6, 57:24
declined [5] - 26:19, 26:23, 27:11, 27:22, 28:6
declining [1] - 27:25
decrease [3] - 67:2, 72:13, 73:11
decreased [4] - 24:8, 24:12, 25:9, 29:1
decreasing [1] - 24:5
DEFENDANT [1] - 1:13
Defendant [1] - 2:7
definitely [4] - 38:17, 43:9, 43:16, 86:17
definition [2] - 31:22, 32:2
deliberate [1] - 65:8
deliberately [2] - 57:17, 57:18
delivered [1] - 13:10
demonstrate [1] - 89:12
demonstrates [1] - 77:20
deny [1] - 106:15
Department [1] - 2:9
dependent [3] - 30:15, 31:16, 51:26
depression [2] - 51:7, 52:1
describe [2] - 42:21, 49:11
described [5] - 26:16, 35:17, 36:12, 36:13, 69:22
describes [1] - 22:3
describing [4] - 34:8, 49:4, 52:11, 86:1
DESCRIPTION [3] - 3:6, 3:20, 3:24
description [1] - 92:7
deserves [1] - 76:22
designed [8] - 33:18, 37:23, 38:7, 47:15, 47:16, 47:19, 47:21, 49:19
destructive [1] - 63:9
detail [2] - 94:1, 109:11
details [1] - 94:1
determine [3] - 23:25, 50:17, 63:25
determined [5] - 58:6, 58:9, 58:17, 58:26, 89:26
develop [6] - 22:18, 22:24, 22:26, 26:14, 28:24, 114:20
developed [7] - 10:6, 11:14, 22:13, 22:14, 22:16, 34:23, 114:24
developing [5] - 21:4, 22:4, 22:11, 28:18, 83:23
development [1] - 22:17
develops [1] - 40:16
die [4] - 42:7, 63:10, 63:17, 76:16
died [5] - 6:3, 54:11, 62:14, 62:16
differ [1] - 4:9
difference [4] - 31:2, 50:23, 109:12, 109:16
differences [2] - 18:11, 109:7
different [12] - 18:3, 18:8, 21:16, 31:11, 34:1, 39:22, 54:24, 56:26, 71:24, 98:19, 105:11, 111:10
differently [2] - 25:24, 34:24
difficult [3] - 64:12, 112:27, 115:26
difficulty [2] - 29:6, 38:5
Dilaudid [28] - 36:14, 36:18, 37:8, 41:5, 42:1, 48:4, 48:15, 48:22, 50:7, 50:12, 67:10, 67:22, 68:1, 68:2, 68:9, 69:7, 72:9, 72:12, 72:24, 73:7, 77:19, 107:15, 107:21, 108:22, 109:9, 110:12, 111:5
directly [3] - 15:24, 49:20, 70:12
disabling [2] - 41:27, 62:9
Disclaimer [1] - 5:1
discuss [2] - 41:14, 87:8
discussed [2] - 9:4, 92:23
discussion [2] - 78:12, 78:15
DISCUSSION [3] - 7:19, 30:3, 87:1
disease [3] - 40:8, 63:24, 93:24
diseases [2] - 91:18, 93:5
DISEASES [2] - 4:3, 93:15
disengage [7] - 119:2, 119:3, 119:21, 119:23, 119:24, 120:20, 120:24
disengaged [1] - 120:7
disengages [2] - 120:2, 121:1
disorder [21] - 16:21, 18:21, 18:22, 32:1, 34:14, 35:1, 36:8, 43:6, 43:22, 44:3, 58:19, 59:2, 60:13, 61:2, 83:27, 95:27, 97:7, 102:24, 118:18, 119:27, 120:23
disruption [4] - 30:16, 31:8, 31:10, 31:17
distance [1] - 81:22
distaste [1] - 86:4
diversion [8] - 10:7, 11:22, 81:8, 87:27, 88:8, 88:11, 88:15, 88:23
diverted [14] - 12:22, 12:23, 67:22, 68:2, 68:10, 69:4, 69:5, 71:8, 71:11, 81:11, 81:19, 81:23, 81:27, 87:27
diverting [1] - 70:24
divide [1] - 58:16
doctor [1] - 80:6
doctors [9] - 98:9, 98:10, 98:11, 98:13, 98:15, 99:10, 102:7, 102:8, 102:17
document [1] - 103:24
document's [1] - 101:3
documentary [1] - 55:24
documentation [3] - 30:23, 104:7, 105:8
documented [2] - 31:27, 55:5
done [11] - 19:24, 25:14, 56:8, 90:19, 90:25, 98:12, 98:19, 100:13, 104:14, 105:26, 114:5
door [1] - 83:2
doorbell [1] - 82:27
dosage [2] - 23:5, 28:10
dose [24] - 21:5, 21:11, 21:25, 23:13, 23:21, 24:6, 24:7, 24:8, 26:15, 26:20, 27:2, 27:9, 28:5, 28:19, 29:1, 29:3, 29:7, 29:17, 51:4, 112:5, 112:6, 112:9, 114:16
doses [9] - 26:11, 26:24, 27:14, 31:26, 32:13, 47:2, 112:12, 112:26, 114:15

dosing [5] - 29:10, 112:11, 112:16, 115:13, 115:19
double [6] - 90:1, 90:6, 91:10, 91:14, 91:15, 91:16
down [5] - 56:13, 110:24, 117:14, 118:10, 122:16
downside [2] - 56:7, 88:23
downtown [1] - 112:10
DR [4] - 3:26, 4:1, 15:20, 20:26
Dr [40] - 6:19, 7:20, 8:16, 10:16, 14:26, 15:1, 24:11, 24:14, 24:16, 24:23, 24:25, 24:27, 25:6, 25:8, 25:11, 25:19, 26:9, 41:13, 57:24, 58:1, 73:19, 73:22, 74:11, 79:12, 83:11, 89:19, 89:24, 93:20, 94:3, 94:4, 94:7, 104:6, 105:12, 105:21, 106:13, 106:19, 108:6, 109:5, 111:24
drawn [1] - 109:26
dropped [1] - 32:10
drops [1] - 5:2
drug [32] - 6:4, 6:17, 13:5, 13:9, 19:17, 19:23, 19:25, 22:27, 25:13, 25:15, 25:18, 30:15, 31:3, 35:7, 42:8, 50:6, 50:12, 51:7, 62:14, 63:18, 66:21, 76:10, 76:20, 90:5, 91:7, 91:9, 91:21, 93:8, 107:10, 113:5, 114:12
DRUG [2] - 4:4, 93:17
drugs [28] - 39:12, 45:20, 62:19, 62:27, 65:16, 66:12, 66:17, 66:18, 69:15, 70:6, 70:16, 71:9, 71:12, 81:11, 81:20, 81:23, 81:27, 85:20, 87:27, 94:22, 107:18, 107:21, 108:9, 108:15, 108:20, 108:23, 108:26, 109:3
Due [1] - 5:1
during [3] - 26:25, 39:17, 64:26
dying [2] - 76:9, 76:13

E

early [1] - 113:17
easy [1] - 45:4
Edmonton [4] - 30:19, 30:20, 46:6, 122:19
Education [1] - 83:14
education [4] - 19:11, 83:13, 83:23, 95:10
effect [13] - 21:6, 21:24, 26:16, 39:12, 48:5, 50:25, 50:26, 51:3, 88:18, 113:12, 114:1, 115:14, 115:15
effective [7] - 96:5, 96:11, 97:6, 101:23, 104:10, 107:1, 118:23
effectiveness [3] - 29:4, 29:5, 30:11
effects [19] - 10:19, 11:15, 45:6, 45:19, 45:21, 45:24, 48:7, 51:16, 51:17, 54:8, 54:21, 76:17, 78:24, 79:2, 79:19, 85:24, 87:27, 115:17, 115:18
efficacies [1] - 57:4
efficacious [1] - 57:13
efficacy [4] - 45:14, 54:25, 78:12, 112:15
either [5] - 39:24, 55:11, 92:27, 104:22, 122:7
elaborate [2] - 80:2, 87:11
elementary [1] - 68:11
elevate [1] - 21:12
Elgin [1] - 6:11
eligible [1] - 38:23
eliminate [1] - 111:18
eliminated [2] - 24:15, 25:11
EMAIL [2] - 3:21, 89:22
email [1] - 87:4
emergency [1] - 14:12
emotional [1] - 116:11
emotionally [2] - 115:8, 116:12
encampments [2] - 81:9, 81:14
encompass [1] - 55:25
encouragement [1] - 33:21
encouraging [2] - 120:9, 120:24
end [1] - 74:13
endocarditis [20] - 41:15, 45:22, 48:10, 50:16, 54:6, 64:11, 64:23, 65:15, 66:24, 66:27, 67:3, 72:16, 72:17, 73:12, 75:24, 77:14, 78:6, 90:21, 110:5
endorphins [1] - 51:1
ends [1] - 23:16
engage [1] - 120:15
engaged [2] - 99:18, 120:10
engaging [1] - 120:12
ensure [3] - 4:10, 40:13, 78:11
ensuring [1] - 77:4
enter [2] - 47:24, 89:18
entered [2] - 38:22, 39:7
entire [2] - 27:16, 30:8
environment [2] - 38:18, 96:14
epidemic [1] - 64:11
EQUAL [2] - 4:5, 93:17
equal [7] - 63:26, 89:27, 90:5, 91:7, 91:10, 91:21, 93:9
equally [1] - 59:8
equivalent [1] - 52:17
escalated [1] - 82:12
escaped [1] - 14:12
Eslon [2] - 41:4, 48:16
essentially [3] - 48:8, 49:1, 108:13
ethical [1] - 118:24
euphoria [2] - 22:21, 51:18
euphoric [4] - 26:16, 39:12, 113:12, 114:1
eventually [1] - 86:21
everywhere [1] - 44:15
evidence [36] - 6:20, 6:22, 6:23, 6:25, 7:3, 7:4, 7:22, 14:4, 25:6, 27:5, 27:8, 28:13, 29:19, 30:4, 40:22, 41:20, 53:22, 57:6, 57:15, 69:9, 69:27, 70:1, 72:26, 72:27, 77:23, 80:16, 89:16, 93:22, 99:2, 100:23, 104:4, 105:4, 105:6, 105:24, 112:2, 112:3
evidence-based [5] - 53:22, 57:6, 80:16, 104:4, 105:4
evident [1] - 108:26
evidentiary [1] - 26:5
evils [1] - 107:22
exactly [6] - 8:5, 10:27, 20:12, 53:7, 54:2, 92:7
examinations [1] - 16:13
example [10] - 35:23, 45:3, 53:10, 56:12, 107:2, 108:16, 110:12, 111:3, 111:11, 113:2
exceeds [2] - 91:4, 91:7
excluded [1] - 57:17
exhibit [2] - 89:18, 89:19
Exhibit [2] - 8:27, 19:7
EXHIBIT [1] - 89:21
EXHIBITS [1] - 3:19
exist [4] - 33:24, 34:6, 34:9, 97:19
existence [1] - 104:22
exists [3] - 44:4, 45:13, 46:19
exit [3] - 62:1, 63:9, 96:21
expanded [1] - 34:27
expectation [1] - 116:15
expecting [1] - 72:10
experience [58] - 11:11, 11:12, 17:24, 19:11, 21:9, 34:10, 34:11, 45:17, 45:18, 45:26, 46:5, 55:13, 55:14, 56:22, 59:8, 59:12, 59:13, 67:4, 69:14, 69:15, 69:19, 69:20, 70:3, 70:8, 70:13, 70:20, 71:16, 72:27, 73:1, 74:23, 75:8, 75:14, 75:17, 75:20, 75:21, 77:2, 82:22, 83:4, 87:21, 87:26, 88:1, 88:20, 104:26, 105:14, 105:15, 106:3, 115:10, 115:12, 115:15, 115:27, 116:16, 116:18, 118:5, 118:14, 120:6, 120:11, 120:13
experienced [5] - 68:27, 84:8, 85:16, 87:11, 116:2
experiences [3] - 74:24, 88:5, 88:8
experiencing [1] - 114:8
experiment [1] - 34:3
expert [41] - 5:20, 6:22, 6:23, 6:25, 6:27, 7:12, 8:9, 8:13, 8:26, 9:20, 10:11, 10:18, 10:26, 11:1, 11:19, 11:20, 13:22, 14:4, 15:4, 15:11, 16:3, 19:6, 19:15, 19:27, 20:8, 20:15, 32:26, 44:22, 53:3, 54:23, 57:25, 58:4, 67:20, 69:26, 71:14, 74:13, 78:9, 80:1, 92:11, 104:24, 104:25
EXPERT [4] - 3:26, 4:2, 15:21, 20:26
expertise [25] - 5:22, 6:21, 7:21, 8:6, 8:19, 8:20, 8:21, 8:22, 9:3, 9:11, 9:12, 9:13, 9:17, 10:4, 10:5, 10:7, 10:22, 11:9, 11:16, 12:8, 13:21, 16:8, 45:14, 55:3, 118:15
experts [7] - 55:1, 64:1, 84:20, 84:23, 92:10, 95:7, 103:10
explain [2] - 54:13, 109:12
exposure [1] - 21:18
expressed [3] - 85:17, 85:18, 85:27
expressing [1] - 86:4
expression [1] - 86:9
extent [1] - 17:23
extrapolating [1] - 75:17
extrapolation [2] - 66:25, 75:20
extremely [2] - 80:21, 107:26

F

faced [1] - 116:5
facility [5] - 22:9, 112:9, 112:12, 112:16, 113:5
fact [7] - 25:23, 26:6, 27:24, 29:2, 40:21, 91:6, 114:4
factors [2] - 22:22, 29:14
failed [1] - 40:3
fair [6] - 26:4, 43:23,

63:5, 69:25, 75:13, 121:8
fairly [8] - 17:18, 22:7, 22:25, 23:14, 23:21, 107:6, 107:11, 108:25
familiar [7] - 5:26, 11:19, 34:9, 34:11, 44:17, 45:25, 108:4
family [1] - 5:24
far [6] - 40:7, 43:13, 46:17, 85:2, 95:24, 105:23
farm [1] - 80:24
fashion [1] - 32:19
fast [3] - 22:15, 22:18, 47:11
fast-acting [1] - 47:11
fear [2] - 62:11, 62:12
fearmongering [2] - 84:12, 85:22
FEBRUARY [1] - 1:18
February [7] - 1:26, 3:3, 5:15, 23:17, 79:13, 94:5, 122:20
felt [5] - 21:23, 33:4, 86:9, 104:25, 111:6
fentanyl [17] - 22:8, 24:2, 24:13, 24:15, 24:16, 24:20, 24:21, 24:25, 25:2, 25:10, 25:12, 25:22, 25:23, 72:1, 72:3, 107:25, 121:21
few [3] - 43:24, 43:25, 106:10
field [2] - 84:24, 95:7
fight [1] - 51:2
figure [1] - 74:4
FILE [1] - 1:5
fillers [1] - 49:17
filling [1] - 17:14
filter [1] - 111:4
findings [1] - 67:14
fine [3] - 12:27, 13:14, 74:7
finish [4] - 60:7, 74:1, 79:16, 89:8
finished [1] - 39:21
Finland [2] - 19:18, 62:26
first [19] - 7:10, 7:12, 7:20, 12:3, 19:9, 21:15, 21:18, 21:23, 34:16, 41:3, 42:17, 60:16, 69:2, 69:3, 69:5, 79:18, 109:27, 110:4, 114:3
firsthand [1] - 11:14
fit [1] - 102:24
five [1] - 74:5
five-minute [1] - 74:5
focus [1] - 76:16
focuses [1] - 64:27
fold [1] - 56:15
follow [2] - 41:25, 54:9
forced [1] - 118:18
forcing [2] - 118:19, 118:21
foregoing [1] - 122:15
foremost [1] - 79:18
forgot [1] - 87:14
form [39] - 30:24, 33:8, 36:15, 37:9, 37:22, 43:10, 44:11, 47:14, 47:19, 48:16, 51:12, 52:3, 62:1, 62:2, 67:6, 67:17, 86:16, 90:23, 96:2, 96:5, 96:6, 97:5, 97:6, 97:27, 99:1, 101:17, 101:20, 101:23, 101:26, 103:3, 103:6, 103:7, 105:19, 107:7, 107:14, 117:5, 119:1, 119:20
format [2] - 46:24, 47:8
forms [5] - 47:2, 50:19, 57:12, 65:3, 91:4
formulation [1] - 107:3
four [1] - 32:17
fourth [1] - 87:7
frame [2] - 85:12, 121:24
frank [1] - 36:3
free [1] - 27:5
frequent [1] - 21:6
frequently [1] - 84:4
friend [3] - 73:25, 92:25, 106:27
friends [1] - 82:23
FROM [4] - 4:3, 4:4, 93:14, 93:16
furniture [3] - 82:20, 82:24, 87:16

G

GARTKE [24] - 8:7, 11:3, 15:15, 20:21, 25:3, 27:4, 57:19, 57:27, 64:4, 73:14, 73:22, 74:7, 79:5, 89:20, 91:13, 92:4, 92:21, 92:24, 93:11, 95:18, 106:10, 106:13, 111:20, 122:7
Gartke [4] - 2:8, 3:15, 106:9, 106:12
gastrointestinal [2] - 47:20, 47:22
gel [1] - 109:19
General [1] - 6:11
general [3] - 11:18, 36:24, 88:10
generally [7] - 19:2, 32:12, 37:20, 37:25, 39:25, 40:12, 44:4
genuinely [1] - 60:18
given [5] - 26:25, 38:2, 39:16, 116:26
goal [1] - 51:19
government [1] - 121:25
governmental [1] - 35:6
grab [1] - 86:24
grade [1] - 87:24
grants [1] - 35:22
great [2] - 75:23, 93:20
greatest [1] - 121:21
grind [2] - 109:23, 110:13
group [2] - 77:23, 83:19
guess [6] - 9:9, 21:14, 21:15, 33:14, 63:11, 108:25
guide [1] - 99:23
guideline [1] - 98:25
guidelines [3] - 52:27, 98:26, 99:24
Gupta [4] - 15:1, 94:4, 94:7, 104:6
Gupta's [5] - 79:12, 105:12, 105:21, 108:6, 109:5

H

Hamilton [3] - 44:13, 84:25, 95:5
hard [2] - 78:18, 78:19
harm [17] - 5:27, 7:13, 8:22, 9:12, 9:17, 9:22, 10:13, 11:20, 11:27, 12:10, 13:23, 16:25, 78:24, 80:7, 80:16, 97:14, 114:9
harmful [1] - 55:2
harms [13] - 7:23, 9:5, 10:12, 10:19, 12:4, 13:22, 55:3, 55:4, 61:21, 72:13, 75:24, 79:2, 88:8
headings [1] - 11:4
health [15] - 5:26, 5:27, 14:18, 30:24, 45:2, 64:1, 64:10, 64:18, 73:17, 86:5, 86:6, 88:24, 89:2, 89:4
Health [7] - 6:9, 35:23, 63:24, 80:5, 81:3, 81:7, 83:15
healthcare [1] - 84:1
hear [2] - 29:26, 64:25
heard [4] - 18:14, 64:26, 77:5, 78:12
hearing [2] - 58:21, 73:16
hearsay [1] - 88:16
heart [4] - 49:25, 50:2, 50:4, 110:4
heat [1] - 111:16
Hebb [2] - 2:14, 122:24
help [4] - 16:22, 18:23, 18:25, 34:25
helpful [3] - 11:5, 20:7, 54:20
HER [4] - 3:26, 4:2, 15:20, 20:26
hereby [1] - 122:14
heroin [1] - 22:8
herself [4] - 21:17, 22:3, 26:16, 41:7
hide [1] - 65:21
high [9] - 21:4, 31:26, 32:13, 38:8, 63:26, 108:1, 117:8, 117:11, 120:3
higher [7] - 21:5, 28:5, 28:19, 89:27, 91:7, 107:27, 108:2
highlight [5] - 56:24, 56:26, 57:3, 59:7, 59:24
highlighted [3] - 60:10, 65:6, 78:16
highlights [3] - 59:15, 59:19, 106:2
highly [1] - 13:8
HIS [1] - 1:13
hm [3] - 19:13, 60:9, 86:19
hoc [2] - 17:9, 45:1
hold [1] - 86:20
home [4] - 80:12, 82:17, 82:26, 113:27
homelessness [1] - 56:14
homes [1] - 82:6
honest [1] - 87:13
hope [1] - 77:19
hoping [4] - 49:16, 54:20, 54:21, 72:11
horrible [1] - 62:9
horrific [7] - 41:27, 49:27, 50:1, 54:7, 72:20, 76:3, 78:15
horrors [1] - 76:5
Hospital [3] - 6:11, 83:22, 99:26
hospital [14] - 6:13, 18:17, 18:25, 19:3, 19:4, 21:19, 47:2, 68:6, 97:22, 112:24, 113:2, 115:16, 116:1
hospitals [1] - 16:20
houses [1] - 80:9
housing [1] - 81:17
human [1] - 78:18
Hydromorph [23] - 45:21, 47:13, 48:5, 48:7, 48:11, 48:19, 48:20, 50:3, 50:15, 54:5, 64:13, 66:24, 66:26, 67:12, 72:5, 72:13, 72:17, 77:13, 78:5, 90:21, 109:18, 109:21, 110:27
hydromorphone [44] - 21:12, 21:18, 21:22, 21:26, 23:5, 26:25, 37:8, 37:15, 37:22, 37:23, 38:1, 38:6, 42:19, 47:10, 47:11, 47:12, 47:14, 47:18, 47:27, 48:2, 48:12, 48:22, 49:15, 65:26, 66:2, 66:7, 66:9, 66:21, 67:1, 67:7, 67:10, 67:11, 67:16, 71:17, 71:21, 79:23, 96:12, 97:4, 101:9, 102:26, 107:3, 109:8, 109:10, 114:26

I

idea [1] - 73:18
ideally [1] - 51:25
identified [3] - 36:9, 64:20, 78:16
identifies [2] - 116:27, 121:25
identify [2] - 43:15, 89:3
ignored [1] - 76:23
illegal [5] - 35:10, 35:11, 35:13, 35:24, 68:2

illegally [1] - 70:25
illnesses [1] - 76:22
imagine [1] - 46:27
immediate [12] - 47:18, 48:4, 48:22, 66:6, 66:20, 67:9, 67:10, 69:6, 72:9, 72:11, 72:24, 109:8
immediate-release [11] - 47:18, 48:4, 48:22, 66:20, 67:9, 67:10, 69:6, 72:9, 72:11, 72:24, 109:8
impact [1] - 47:27
impacts [3] - 67:15, 79:25, 82:8
implemented [1] - 100:12
implies [2] - 52:13, 52:16
imply [1] - 52:12
important [8] - 33:4, 49:22, 50:22, 64:19, 79:4, 81:1, 88:19, 112:18
improved [2] - 43:8, 51:17
improvement [3] - 54:7, 61:19, 67:2
IN [7] - 1:13, 3:26, 4:1, 4:3, 15:20, 20:26, 93:15
in-patients [1] - 18:16
include [11] - 55:11, 55:22, 57:3, 57:14, 57:24, 58:9, 58:17, 58:27, 97:16, 98:22, 108:21
included [14] - 38:27, 41:22, 57:11, 58:7, 60:5, 60:10, 60:22, 60:24, 60:26, 61:8, 104:24, 105:20
includes [3] - 11:17, 51:12, 112:19
including [17] - 5:3, 10:9, 11:18, 11:24, 19:18, 19:23, 20:10, 41:15, 42:20, 48:3, 51:6, 55:12, 62:7, 70:3, 74:24, 88:1, 108:13
income [3] - 70:23, 71:7, 71:11
incorrect [1] - 109:17
increase [21] - 24:7, 26:14, 26:23, 26:24, 27:25, 28:9, 48:9, 49:26, 50:1, 50:5, 50:11, 51:4, 70:23, 73:8, 73:13, 82:1, 82:2, 82:5, 88:27, 89:3, 89:14
increased [7] - 23:13, 28:18, 29:7, 50:16, 56:14, 81:15
increases [5] - 26:20, 27:2, 27:10, 67:4, 90:9
increasing [4] - 27:14, 75:3, 75:6, 77:14
INDEX [1] - 3:1
indicate [9] - 25:17, 25:21, 30:11, 38:12, 39:18, 41:13, 53:24, 54:19
indicated [6] - 17:1, 23:4, 60:14, 60:16, 79:18, 89:25
indicating [1] - 9:16
indication [2] - 40:24, 41:9
indicative [1] - 24:24
indicator [1] - 25:26
indiscernible [1] - 26:19
individual [3] - 22:18, 22:27, 38:7
individually [1] - 45:1
individuals [3] - 12:21, 32:13, 95:16
infection [26] - 18:20, 19:25, 50:19, 61:22, 61:27, 62:3, 62:9, 62:22, 63:26, 65:12, 74:17, 74:26, 75:1, 75:4, 75:6, 75:9, 75:12, 90:10, 90:24, 90:27, 109:7, 109:12, 110:21, 110:26, 111:9, 111:13
infections [27] - 41:14, 41:26, 41:27, 49:27, 50:2, 50:4, 50:6, 50:11, 54:8, 54:16, 62:16, 62:18, 62:24, 67:5, 72:14, 72:20, 72:25, 73:9, 73:13, 76:10, 77:19, 85:19, 90:4, 91:3, 97:23, 111:7
INFECTIOUS [2] - 4:3, 93:15
infectious [11] - 6:3, 6:17, 19:22, 19:25, 42:8, 63:17, 63:23, 76:20, 91:18, 93:5, 93:24
inferring [1] - 71:13
influence [1] - 22:22
influenced [2] - 87:20, 87:22
influencing [1] - 88:3
information [15] - 20:6, 24:3, 27:26, 28:14, 28:17, 46:16, 50:8, 68:5, 70:7, 75:17, 78:23, 92:9, 92:19, 104:22, 106:20
informed [2] - 69:7, 80:1
infrequent [1] - 116:6
ingested [2] - 47:20, 47:21
inherently [2] - 33:18, 33:22
inhibits [1] - 51:1
initial [2] - 8:25, 41:2
inject [11] - 37:27, 38:3, 38:15, 52:14, 74:25, 107:14, 109:18, 109:19, 109:21, 114:4, 114:7
injectable [21] - 37:21, 37:22, 38:6, 48:25, 49:2, 49:6, 49:7, 49:13, 50:20, 53:1, 94:9, 96:12, 97:3, 101:7, 107:2, 107:7, 107:14, 114:2, 114:26, 121:15, 121:17
injected [7] - 11:24, 11:26, 36:26, 37:24, 49:20, 61:26, 110:2
injecting [71] - 6:24, 7:15, 8:21, 9:6, 10:13, 10:20, 11:17, 12:5, 12:14, 13:23, 13:25, 19:17, 33:17, 41:17, 42:1, 42:12, 42:15, 45:20, 45:21, 45:24, 48:10, 49:5, 49:14, 50:7, 50:13, 50:18, 52:15, 61:20, 61:21, 61:25, 62:19, 62:27, 63:1, 63:11, 65:16, 67:15, 74:15, 74:25, 74:27, 75:2, 75:11, 85:20, 88:12, 88:21, 90:8, 97:21, 97:26, 106:16, 106:19, 106:21, 106:23, 107:6, 107:7, 107:8, 107:21, 107:24, 108:1, 108:2, 108:22, 108:26, 109:3, 110:7, 111:16, 111:19, 112:22, 112:23, 113:9, 113:12, 114:6, 114:27
injection [25] - 6:3, 6:17, 19:17, 19:23, 24:6, 42:8, 50:6, 50:11, 62:14, 63:18, 65:25, 76:10, 76:20, 80:19, 80:20, 88:13, 90:5, 91:6, 91:21, 93:8, 97:12, 97:17, 107:9, 107:16, 113:5
injects [1] - 101:8
inpatient [7] - 17:3, 17:26, 18:2, 18:9, 18:14, 118:1, 118:4
inside [2] - 47:16, 109:22
insinuation [1] - 25:6
instances [2] - 96:4, 96:6
instant [4] - 47:10, 66:2, 66:9, 97:4
instant-acting [1] - 97:4
instant-release [2] - 47:10, 66:2
instructions [1] - 36:24
insurance [1] - 30:23
Integration [1] - 83:16
intended [9] - 11:26, 37:23, 41:5, 56:1, 59:14, 61:26, 78:10, 105:17, 107:9
intentions [1] - 78:26
interactions [1] - 14:17
InterCommunity [3] - 80:4, 81:3, 81:7
interested [1] - 83:27
internet [1] - 5:2
interviewing [6] - 53:19, 119:4, 120:8, 120:10, 120:14, 120:26
intravenous [7] - 41:6, 89:26, 91:3, 91:9, 96:11, 97:5, 102:26
INTRAVENOUS [2] - 4:4, 93:17
intravenously [13] - 21:22, 36:19, 37:10, 37:13, 37:16, 38:2, 41:11, 42:20, 42:25, 43:2, 43:4, 48:1, 75:26
introduced [2] - 60:15, 73:8
introduction [2] - 50:12, 88:26
invisible [1] - 61:22
involve [1] - 95:24
involved [27] - 6:14, 20:5, 33:13, 42:22, 45:23, 54:18, 66:23, 68:24, 83:22, 86:16, 90:20, 98:14, 99:9, 99:12, 99:13, 99:20, 99:21, 99:23, 99:24, 100:1, 100:4, 100:24, 101:25, 102:8, 102:17, 106:17, 114:24
involvement [2] - 45:5, 69:3
involving [1] - 107:2
iOAT [11] - 37:18, 37:20, 37:26, 38:16, 38:18, 38:19, 39:26, 40:11, 52:8, 107:1
issue [1] - 64:2
items [1] - 109:5
itself [6] - 13:6, 52:25, 56:11, 59:10, 66:5, 110:21
IV [2] - 22:8

J

Journal [2] - 46:8, 46:9
JUDICIAL [1] - 1:8
June [2] - 21:20, 39:9
jurisdiction [3] - 34:19, 34:20, 35:26
jurisdiction" [1] - 36:1
jurisdictions [4] - 34:12, 34:18, 35:3, 35:15
Justice [1] - 2:9

K

Kadian [8] - 27:22, 48:20, 66:15, 66:16, 113:9, 113:27, 114:14, 114:17
keep [1] - 85:13
keeping [2] - 16:23
kilometre [1] - 80:4
kind [7] - 12:24, 20:9, 45:17, 65:20, 69:27, 99:17, 100:16
KING [1] - 1:13
King's [1] - 5:11
KING'S [1] - 1:7
knowing [1] - 73:15
knowledge [9] -

28:17, 33:20, 68:7, 76:12, 88:23, 104:26, 105:15, 107:5, 109:14
known [1] - 114:26
Koivu [20] - 5:9, 5:10, 6:19, 7:20, 8:16, 10:16, 57:24, 58:1, 73:19, 73:22, 74:11, 79:12, 83:11, 89:19, 89:24, 93:20, 94:3, 106:13, 111:24
KOIVU [12] - 1:20, 3:3, 3:7, 3:12, 3:21, 3:26, 4:1, 5:6, 15:20, 20:26, 79:9, 89:22

L

lack [1] - 36:20
large [8] - 5:23, 66:9, 81:7, 84:26, 103:19, 103:21, 109:24, 109:25
largely [1] - 66:22
larger [1] - 110:7
last [7] - 13:16, 26:21, 44:5, 58:13, 74:14, 109:4, 114:16
Lawson [1] - 6:15
layers [1] - 95:25
lead [7] - 22:1, 51:10, 51:20, 61:27, 62:3, 62:4, 62:21
leading [2] - 45:22, 95:7
leads [1] - 30:16
learned [1] - 92:11
least [5] - 62:15, 63:16, 97:18, 101:21, 115:2
leave [2] - 83:5, 96:22
leaves [1] - 31:8
leaving [3] - 13:9, 47:1, 83:9
led [4] - 49:27, 60:19, 88:27, 89:14
left [2] - 39:21, 50:2
left-sided [1] - 50:2
legal [1] - 8:14
length [5] - 17:11, 28:16, 28:25, 29:8, 38:4
less [4] - 27:17, 28:21, 39:8, 117:25
lessened [1] - 97:15
lesser [1] - 107:21
level [1] - 34:25
life [1] - 111:1
lifestyle [1] - 31:15
likelihood [2] - 117:7, 117:10
likely [2] - 38:8, 121:13
limited [9] - 34:3, 55:16, 66:13, 76:11, 95:9, 115:10, 115:12, 115:14, 116:18
limiting [1] - 31:6
line [1] - 79:21
link [4] - 77:16, 77:20, 90:21, 90:23
list [1] - 10:10
listed [5] - 4:8, 4:10, 61:14, 88:10, 88:15
listserv [22] - 83:11, 83:16, 83:18, 83:19, 83:20, 83:24, 84:2, 84:3, 84:16, 84:18, 84:19, 84:26, 84:27, 85:1, 85:4, 85:9, 85:13, 85:14, 86:13, 86:15, 87:5, 87:7
literature [13] - 19:12, 19:14, 19:16, 19:21, 19:27, 20:11, 37:2, 46:11, 52:26, 64:25, 64:26, 105:9, 110:17
LITERATURE [2] - 4:1, 20:25
live [3] - 80:7, 119:26, 120:22
lived [5] - 6:6, 11:12, 80:10, 82:4, 88:19
liver [2] - 47:23, 47:25
living [5] - 11:12, 80:23, 88:2, 88:7, 88:17
local [4] - 45:7, 45:17, 45:18, 63:14
locally [5] - 44:17, 44:18, 45:27, 49:21, 110:23
locations [1] - 44:9
locked [1] - 31:7
lodge [1] - 110:18
log [1] - 74:6
London [34] - 6:9, 11:13, 19:20, 34:21, 41:20, 42:6, 44:12, 45:17, 45:26, 46:7, 50:5, 50:10, 54:2, 54:12, 56:13, 60:17, 61:18, 63:24, 64:10, 71:17, 73:8, 80:4, 81:7, 89:13, 91:19, 93:6, 94:24, 94:25, 100:7, 102:20, 103:20, 108:13, 108:16
LONDON [2] - 4:4, 93:15
long-acting [2] - 48:19, 113:9
look [5] - 9:27, 16:9, 39:5, 45:24, 83:13
looked [10] - 20:12, 46:13, 62:13, 62:18, 63:14, 63:15, 63:25, 92:17, 104:13
looking [12] - 21:14, 21:17, 22:12, 22:15, 39:11, 39:26, 45:20, 48:8, 51:12, 51:27, 53:9, 108:7
looks [2] - 87:6, 90:27
loose [1] - 51:22
loosely [1] - 52:5
lose [2] - 22:24, 51:1
lost [2] - 41:25, 54:9
Louise [1] - 5:9
loved [1] - 80:27
low [1] - 21:25

M

M-Eslon [2] - 41:4, 48:16
m-hm [3] - 19:13, 60:9, 86:19
macrodosing [1] - 99:25
Madam [1] - 92:25
main [4] - 14:23, 17:19, 86:3, 116:5
maintain [2] - 21:11, 91:2
MAJESTY [1] - 1:13
majority [10] - 48:14, 69:2, 70:18, 72:23, 86:15, 94:19, 98:21, 100:9, 103:9, 103:15
man [2] - 64:7, 74:3
mandate [1] - 65:22
MANY [2] - 4:5, 93:18
marginal [1] - 77:22
marginalized [4] - 76:25, 77:25, 78:1
massive [1] - 67:22
matter [3] - 7:21, 8:14, 55:16
matters [2] - 8:2, 14:3
mean [21] - 16:18, 18:15, 26:27, 31:20, 34:17, 34:19, 35:9, 36:1, 49:1, 49:11, 64:21, 65:19, 69:13, 69:14, 75:27, 77:12, 86:2, 87:13, 100:20, 103:6, 103:23
means [6] - 16:19, 18:16, 59:4, 70:23, 76:1, 113:26
meant [8] - 6:19, 42:24, 45:7, 55:25, 56:17, 59:6, 59:7, 106:16
meantime [1] - 77:21
media [2] - 42:3, 64:24
Medical [1] - 46:9
medical [20] - 5:25, 15:3, 17:8, 19:1, 36:6, 36:7, 55:18, 64:17, 64:18, 94:12, 95:1, 98:25, 101:22, 101:24, 102:22, 103:4, 106:14, 106:25, 107:12, 121:5
medicate [1] - 121:6
medication [20] - 8:21, 22:5, 24:10, 29:22, 29:24, 30:7, 30:20, 30:22, 36:15, 37:3, 41:3, 42:19, 49:16, 67:18, 70:24, 91:4, 107:14, 112:14, 113:1, 115:25
medications [6] - 14:15, 26:18, 41:2, 41:3, 41:10, 51:13
medicine [10] - 5:24, 6:8, 6:10, 16:16, 18:4, 18:8, 19:2, 53:23, 102:9
meet [1] - 115:7
meetings [1] - 80:18
member [2] - 80:23, 84:2
mention [4] - 7:10, 53:5, 54:23, 109:6
mentioned [16] - 7:12, 8:26, 10:23, 12:1, 12:19, 20:14, 37:19, 55:20, 62:12, 62:25, 66:12, 66:14, 76:15, 101:2, 103:9, 105:22
mentoring [1] - 83:12
Mentoring [1] - 83:14
message [1] - 64:15
messages [1] - 84:4
META:PHI [3] - 83:11, 87:5, 99:27
metabolized [2] - 47:23, 47:25
methadone [12] - 38:10, 39:13, 39:24, 40:19, 40:22, 51:13, 52:6, 70:27, 95:2, 96:10, 96:24, 108:11
method [3] - 79:20, 79:25
methods [3] - 37:2, 87:23, 98:8
microdosing [1] - 99:25
middle [1] - 67:21
might [6] - 15:16, 85:11, 96:1, 96:7, 97:16, 114:8
milligram [1] - 21:26
milligrams [13] - 21:21, 23:7, 23:8, 23:13, 23:15, 27:3, 27:10, 27:16, 27:18, 28:3, 28:4, 28:15, 28:25
mind [1] - 84:10
mindful [1] - 73:15
mine [2] - 23:16, 55:19
minimal [1] - 17:18
minority [4] - 98:11, 99:6, 99:8, 99:11
minute [1] - 74:5
minutes [1] - 74:1
misleading [1] - 32:4
missed [5] - 5:4, 18:5, 20:2, 54:17
missing [1] - 12:3
misuse [4] - 7:14, 11:24, 13:17, 14:1
modalities [1] - 96:19
modified [3] - 119:1, 119:19, 121:23
month [1] - 17:13
months [1] - 39:21
morning [1] - 83:1
morphine [1] - 22:8
most [14] - 44:6, 44:7, 66:22, 68:15, 68:25, 69:4, 76:18, 86:8, 100:20, 104:6, 104:7, 105:22, 109:1, 109:5
mostly [1] - 84:1
motivational [5] - 119:4, 120:8, 120:9, 120:14, 120:26
move [1] - 31:15
moved [5] - 80:3, 80:5, 81:9, 81:12, 81:18
MUCH [2] - 4:5, 93:18
mugged [1] - 83:8
multiple [2] - 40:19, 95:25
mumbling [1] - 59:17

N

name [4] - 5:8, 14:11, 33:5, 33:6
Nanda [11] - 2:3, 2:4, 3:8, 3:12, 3:16, 5:7, 27:4, 73:14, 79:5, 79:10, 111:23
NANDA [41] - 5:8, 7:17, 7:20, 8:18, 11:6, 15:13, 15:17, 15:23, 20:17, 20:23, 21:1, 25:4, 25:5, 27:7, 27:8, 30:1, 30:4, 57:22, 57:23, 58:3, 64:7, 64:21, 73:20, 73:27, 74:8, 74:11, 79:11, 86:26, 87:4, 89:18, 89:24, 91:27, 93:20, 106:7, 111:22, 111:24, 119:14, 119:24, 120:16, 121:4, 122:5
narratives [1] - 105:6
narrow [1] - 76:17
Nate [1] - 2:8
natural [1] - 51:1
nature [1] - 121:4
near [1] - 112:9
necessarily [7] - 24:19, 26:1, 40:6, 40:10, 43:27, 99:14, 101:15
necessary [2] - 16:9, 96:7
necessity [1] - 96:14
need [8] - 21:13, 38:15, 86:24, 96:20, 114:4, 114:7, 114:11, 121:5
needed [1] - 30:21
needle [4] - 113:14, 113:24, 113:25, 114:10
needs [8] - 51:5, 64:20, 78:16, 96:18, 113:27, 114:23, 115:7, 119:5
negative [3] - 25:16, 56:9, 56:10
neglect [1] - 109:6
neighbourhood [9] - 80:13, 82:4, 82:8, 83:7, 87:10, 87:22, 88:7, 89:1, 89:14
neighbourhoods [1] - 80:14
neighbouring [3] - 12:16, 12:25, 13:26
neurobiochemical [2] - 50:25, 51:24
neutral [1] - 94:26
never [11] - 24:1, 29:24, 30:10, 46:22, 61:21, 69:16, 83:6, 83:7, 109:2, 115:20, 118:22
new [10] - 38:25, 51:2, 111:26, 111:27, 112:8, 117:1, 118:27, 119:19, 121:23, 121:24
next [3] - 70:8, 72:4, 72:7
NIMBY [1] - 80:8
NO [3] - 15:18, 20:24, 93:13
non [4] - 57:15, 77:23, 88:9, 105:25
non-evidence-based [2] - 57:15, 77:23
non-peer-reviewed [1] - 105:25
non-witness [1] - 88:9
normal [2] - 51:3, 51:8
note [1] - 41:13
notes [8] - 14:14, 14:16, 15:23, 15:27, 16:2, 27:19, 27:20, 122:18
nothing [2] - 39:18, 87:18
notice [1] - 53:5
noticed [1] - 19:26
notion [2] - 88:25, 89:6
novel [1] - 101:15
number [8] - 5:12, 17:17, 69:1, 80:10, 81:20, 90:1, 100:14, 101:4
NUMBER [3] - 1:5, 3:20, 3:24
numbers [2] - 100:12, 102:12
numerous [1] - 80:18
nurse [1] - 113:2
nursing [1] - 116:8

O

o'clock [1] - 82:27
object [4] - 57:19, 57:27, 64:4, 95:18
objections [1] - 89:20
objective [1] - 16:3
observational [2] - 57:9, 57:15
observations [2] - 55:27, 60:19
observed [1] - 77:13
obviously [1] - 44:13
occasion [1] - 87:19
occasions [1] - 40:20
occur [2] - 5:3, 112:12
occurring [1] - 37:3
occurs [1] - 61:23
OF [9] - 1:7, 1:13, 1:19, 3:25, 4:3, 15:19, 93:15, 122:12
OFF [3] - 7:19, 30:3, 87:1
offer [3] - 44:9, 99:1, 101:4
offered [6] - 26:20, 27:9, 28:5, 81:25, 98:8, 117:24
offering [1] - 27:21
office [1] - 65:5
officer [2] - 5:26, 64:18
offset [1] - 51:15
often [14] - 40:7, 47:12, 48:16, 48:20, 48:23, 51:3, 66:15, 66:16, 71:26, 81:22, 113:1, 113:8, 114:15
ON [4] - 1:18, 3:2, 4:1, 20:26
once [4] - 27:18, 41:11, 72:1, 110:25
one [24] - 13:2, 13:16, 14:27, 15:2, 28:20, 31:5, 32:17, 39:7, 40:10, 65:23, 79:11, 80:13, 86:3, 86:11, 86:20, 87:15, 87:19, 94:25, 96:2, 98:7, 109:4, 114:21, 116:4, 120:1
ones [4] - 20:4, 20:5, 102:18, 102:19
Ontario [9] - 33:25, 34:10, 34:20, 35:4, 46:4, 46:12, 50:9, 50:13, 56:13
open [2] - 112:13, 112:17
operated [1] - 102:7
OPHELIA [1] - 1:11
Ophelia [1] - 112:19
Ophelia/Sasha [1] - 25:21
opine [2] - 9:19, 26:6
opining [1] - 7:22
opinion [11] - 7:12, 8:10, 11:1, 16:3, 19:10, 20:10, 29:13, 55:6, 88:6, 88:20, 97:2
opinions [2] - 55:12, 106:4
opioid [73] - 6:6, 7:1, 8:23, 9:13, 9:18, 9:24, 10:14, 11:21, 11:23, 12:12, 13:13, 13:17, 13:24, 13:27, 14:1, 16:27, 21:3, 29:7, 32:1, 34:14, 35:1, 36:8, 36:14, 43:6, 43:22, 44:3, 48:25, 49:6, 49:9, 50:23, 51:11, 51:20, 51:26, 52:6, 52:18, 53:1, 55:26, 56:18, 58:19, 59:2, 60:13, 61:2, 63:12, 64:27, 70:9, 70:11, 71:1, 71:2, 83:24, 83:27, 88:4, 88:13, 89:27, 94:9, 95:26, 95:27, 96:25, 97:3, 97:7, 101:7, 101:8, 102:24, 108:18, 112:22, 113:15, 113:26, 117:5, 118:18, 119:26, 120:23, 121:15, 121:18
opioid-use [18] - 32:1, 34:14, 35:1, 36:8, 43:6, 43:22, 44:3, 58:19, 59:2, 60:13, 61:2, 83:27, 95:27, 97:7, 102:24, 118:18, 119:26, 120:23
opioids [62] - 6:27, 10:5, 11:17, 12:14, 12:23, 13:8, 13:25, 21:19, 21:24, 23:25, 24:2, 25:7, 26:8, 27:25, 30:25, 30:27, 31:16, 31:26, 32:14, 33:11, 34:26, 35:11, 35:12, 35:19, 35:21, 35:24, 40:10, 46:26, 47:1, 48:24, 50:24, 52:2, 68:10, 68:26, 69:3, 69:4, 69:5, 69:17, 69:21, 72:2, 75:25, 76:17, 87:25, 95:24, 96:1, 112:23, 116:7, 117:2, 117:8, 117:11, 117:15, 117:21, 119:25, 120:21, 121:3, 121:7, 121:10, 121:12, 121:20, 121:27, 122:2, 122:4
opportunities [2] - 97:16, 97:19
opposed [3] - 65:24, 95:19, 96:3
opposition [1] - 95:14
optimistic [2] - 60:15, 60:17
option [19] - 43:6, 43:9, 43:18, 43:26, 44:1, 45:15, 58:11, 59:2, 60:12, 61:8, 61:9, 61:11, 96:12, 107:1, 111:26, 114:25, 114:27, 115:7, 117:2
options [10] - 40:16, 44:2, 57:4, 57:7, 61:13, 61:14, 65:25, 106:4, 115:5, 117:10
OR [2] - 4:5, 93:17
oral [33] - 7:14, 7:15, 7:24, 8:21, 9:5, 9:6, 10:8, 10:13, 10:20, 11:25, 12:5, 13:23, 24:6, 36:23, 37:8, 37:15, 37:21, 41:3, 41:5, 41:10, 42:18, 42:24, 42:25, 79:22, 96:13, 97:4, 97:9, 97:11, 97:13, 101:8, 102:26, 106:16, 106:19
orally [5] - 36:19, 36:25, 41:1, 47:17
order [2] - 16:2, 26:6
organized [2] - 83:19, 113:1
originally [3] - 32:5, 83:25, 84:6
originated [1] - 83:21
otherwise [1] - 118:21
Ottawa [3] - 44:13, 84:24, 95:4
outcomes [1] - 107:17
outlined [1] - 60:27
outpatient [11] - 17:6, 17:8, 17:12, 17:24, 18:2, 18:9, 19:1, 19:2, 115:9, 115:11, 118:1
outpatients [1] - 18:27
outside [4] - 23:19, 23:26, 100:6, 102:20
outweigh [3] - 43:13, 98:3, 98:5
overall [3] - 50:4, 73:9, 73:13
overdose [23] - 10:5, 10:9, 11:18, 29:20, 29:21, 29:25, 30:5,

30:10, 30:13, 42:3, 42:9, 54:13, 56:12, 62:17, 63:12, 64:2, 64:15, 64:25, 76:16, 90:6, 91:4, 91:8
OVERDOSES [2] - 4:5, 93:18
overdoses [6] - 54:17, 64:22, 90:2, 91:11, 91:22, 93:10
overshadowing [3] - 64:16, 64:22
overview [3] - 55:17, 55:19, 55:21
own [6] - 19:23, 26:11, 79:23, 79:25, 87:25, 120:9
owned [1] - 31:16
oxymoron [1] - 48:27
OxyNEO [1] - 109:20

P

P.M [4] - 79:8, 87:2, 87:3, 122:9
p.m [6] - 3:11, 3:12, 3:13, 3:14, 3:17, 79:10
PAGE [3] - 3:6, 3:20, 3:24
page [5] - 13:20, 21:1, 67:20, 71:14, 74:13
pages [1] - 122:15
pain [4] - 6:5, 49:27, 51:2, 64:27
palliative [3] - 6:1, 40:5, 78:17
pandemic [2] - 32:8, 39:17
papers [1] - 104:19
paragraph [12] - 7:7, 19:9, 38:12, 67:24, 70:8, 70:21, 71:15, 71:16, 74:13, 74:14, 87:8
paralysis [1] - 50:1
parameters [1] - 102:25
pardon [4] - 47:5, 48:2, 118:2, 120:4
parking [1] - 81:10
part [37] - 23:23, 33:23, 34:16, 36:11, 37:9, 41:18, 43:21, 44:1, 58:13, 58:14, 58:15, 62:10, 70:6, 71:6, 72:7, 78:15, 80:11, 80:25, 84:26, 88:2, 88:9, 88:10, 88:15, 88:17, 91:26, 95:10, 97:17, 98:22, 102:1, 105:7, 105:8, 106:1, 106:14, 106:24, 114:8, 117:19, 120:25
participants [1] - 53:13
particles [10] - 75:4, 109:24, 109:26, 110:7, 110:8, 110:13, 110:14, 110:18, 110:21, 111:8
particular [3] - 70:6, 95:16, 118:20
particularly [3] - 6:16, 63:23, 115:3
parties [1] - 5:3
Partners [1] - 83:15
parts [2] - 58:16, 60:1
pass [1] - 110:9
past [4] - 23:7, 26:26, 27:10, 27:15
patient [8] - 38:14, 39:3, 61:17, 76:8, 97:15, 118:27, 119:5, 119:18
patients [37] - 18:16, 18:23, 18:24, 38:25, 42:13, 43:18, 47:1, 50:14, 50:17, 56:8, 56:9, 59:13, 68:3, 68:4, 68:6, 68:15, 69:16, 70:3, 70:7, 70:20, 70:22, 70:26, 70:27, 71:5, 72:18, 72:23, 73:1, 76:24, 80:10, 81:16, 97:5, 101:16, 101:18, 101:19, 117:4, 117:9
pattern [3] - 28:20, 28:22, 28:26
pause [1] - 79:6
pay [1] - 31:3
peer [9] - 46:11, 46:17, 53:13, 53:22, 57:7, 104:4, 105:5, 105:24, 105:25
peer-review [1] - 104:4
peer-reviewed [4] - 46:17, 53:22, 57:7, 105:24
people [142] - 6:2, 6:12, 12:22, 13:3, 16:19, 18:16, 19:2, 21:16, 22:18, 22:23, 22:24, 22:25, 25:14, 30:14, 31:1, 31:27, 32:10, 32:23, 33:11, 33:20, 34:13, 34:22, 35:4, 36:7, 37:26, 38:8, 39:26, 40:4, 41:20, 41:23, 41:24, 42:1, 42:7, 42:10, 42:22, 43:3, 43:16, 44:2, 44:7, 44:18, 45:8, 46:10, 51:3, 51:25, 54:9, 54:10, 54:11, 54:16, 54:17, 54:20, 55:14, 55:23, 56:10, 62:16, 62:23, 63:10, 63:17, 66:15, 68:12, 68:16, 68:22, 68:23, 68:25, 69:1, 69:2, 69:21, 70:9, 70:10, 70:12, 70:16, 71:10, 71:13, 72:2, 72:15, 72:22, 75:8, 76:2, 76:4, 76:8, 76:13, 76:19, 77:8, 77:25, 78:19, 78:25, 79:4, 80:11, 80:21, 81:9, 81:12, 81:20, 83:26, 84:19, 84:22, 85:20, 85:26, 86:2, 86:3, 86:8, 86:15, 87:24, 94:19, 94:23, 95:6, 95:26, 96:2, 96:15, 96:22, 97:22, 98:12, 98:14, 98:19, 99:13, 99:22, 101:27, 102:23, 103:13, 103:14, 103:26, 103:27, 106:17, 108:18, 109:18, 109:19, 109:20, 109:23, 112:25, 113:1, 113:10, 114:11, 115:23, 116:6, 117:18, 118:5, 118:6, 118:7, 118:23, 120:7, 120:9, 120:12, 120:15
people's [4] - 25:26, 55:6, 55:12, 57:12
per [1] - 53:16
percent [5] - 113:13, 113:15, 113:23, 113:24, 113:25
percentages [3] - 74:15, 74:22, 75:13
perhaps [2] - 90:1, 94:13
period [8] - 17:13, 22:7, 23:22, 26:12, 30:8, 38:9, 40:3, 81:3
periods [1] - 85:5
person [6] - 30:17, 32:18, 33:13, 61:24, 74:15, 94:25
personal [6] - 68:7, 75:19, 87:21, 88:1, 88:5, 88:7
personally [2] - 82:23, 120:11
perspective [5] - 16:26, 77:5, 78:11, 98:20
perspectives [6] - 55:17, 55:19, 55:22, 56:27, 57:18, 57:25
pertinent [1] - 19:12
pharmaceutical [3] - 45:24, 63:2, 87:24
pharmaceutical-grade [1] - 87:24
pharmaceuticals [2] - 75:12, 88:22
pharmacies [1] - 32:16
pharmacy [5] - 30:20, 81:6, 81:9, 81:10, 81:18
PhD [2] - 86:5, 86:6
phrase [1] - 13:12
phrases [1] - 5:4
physically [1] - 115:8
physician [21] - 6:2, 11:10, 11:11, 14:10, 14:11, 14:13, 17:19, 35:20, 35:24, 40:17, 40:18, 40:20, 41:8, 46:27, 78:18, 86:7, 100:1, 100:3, 112:20, 113:17
physicians [37] - 35:12, 35:16, 35:18, 35:21, 36:6, 37:11, 40:26, 42:11, 43:12, 45:11, 46:2, 55:7, 55:8, 55:10, 68:26, 83:26, 86:1, 86:12, 94:24, 94:27, 95:4, 95:11, 98:21, 98:27, 99:8, 99:10, 99:12, 100:4, 100:5, 100:8, 100:14, 100:23, 100:26, 100:27, 102:14, 103:16, 114:24
physiological [2] - 115:14, 115:15
physiologically [2] - 112:26, 116:12
pick [2] - 30:25, 31:1
picked [1] - 32:15
picking [1] - 42:18
pickup [1] - 36:15
picture [2] - 26:2, 26:5
pill [14] - 33:17, 36:15, 42:13, 42:15, 47:19, 48:15, 49:18, 74:26, 90:23, 91:4, 110:13, 115:1
pills [40] - 6:16, 6:24, 7:14, 7:15, 7:24, 9:6, 10:8, 10:13, 10:20, 11:25, 12:5, 13:23, 19:17, 32:14, 33:20, 36:19, 36:23, 37:9, 41:17, 42:24, 45:25, 48:1, 48:3, 48:23, 50:18, 63:1, 63:2, 63:12, 71:22, 74:25, 76:14, 96:13, 97:26, 106:19, 106:21, 106:23, 110:8, 111:19
piping [1] - 82:7
place [5] - 33:10, 81:8, 85:2, 85:3, 97:13
places [14] - 34:1, 35:3, 36:5, 43:9, 43:17, 43:22, 43:24, 43:25, 44:15, 44:27, 45:10, 99:6, 99:7, 113:8
plaintiff [31] - 14:9, 14:20, 14:21, 21:3, 21:15, 21:17, 23:4, 25:21, 26:7, 26:23, 27:9, 37:15, 38:13, 38:14, 38:22, 45:16, 58:12, 62:7, 67:7, 67:17, 71:20, 79:21, 98:2, 101:6, 101:13, 106:21, 112:3, 116:19, 116:25, 121:14, 121:22
PLAINTIFF [1] - 1:11
Plaintiff [1] - 2:2
plaintiff's [11] - 7:24, 8:3, 15:3, 16:4, 16:5, 21:10, 27:13, 41:7, 61:7, 101:14, 111:25
plan [3] - 96:21, 112:19, 118:10
planned [1] - 30:19
plans [1] - 117:19
point [7] - 54:22, 77:26, 90:12, 90:13, 97:18, 98:4, 98:6
pointed [1] - 105:3
pointing [1] - 71:25
populations [7] - 17:4, 17:6, 17:8, 17:25,

18:2, 18:9, 18:10
porch [3] - 80:9, 82:20, 82:24
portion [1] - 101:22
portions [1] - 69:25
position [4] - 86:18, 87:22, 100:17, 100:22
positive [3] - 25:15, 53:26, 57:8
positives [5] - 57:4, 60:27, 61:3, 61:5, 61:14
possibilities [1] - 120:1
possibility [2] - 26:17, 119:22
possible [4] - 23:18, 109:11, 114:19, 115:21
possibly [2] - 39:16, 63:16
post [3] - 84:4, 85:4, 85:9
posted [2] - 85:12, 85:14
posting [2] - 85:1, 86:5
posts [2] - 86:17
potential [1] - 97:6
PowerPoint [2] - 92:12, 92:22
precautionary [1] - 115:1
preferably [1] - 96:13
preparation [7] - 14:6, 14:8, 15:7, 19:15, 20:15, 44:21, 53:3
prepare [1] - 58:3
prepared [1] - 7:4
preparing [1] - 15:11
PREPARING [2] - 3:26, 15:20
prescribe [5] - 35:16, 35:19, 35:21, 35:24, 66:14
prescribed [13] - 23:20, 32:15, 33:11, 44:16, 46:26, 47:1, 66:13, 66:15, 66:17, 69:17, 71:21, 73:2, 79:22
prescriber [7] - 46:20, 46:22, 47:4, 47:6, 47:7, 96:24, 96:25
prescribing [18] - 6:26, 29:8, 31:26, 32:7, 32:8, 32:13, 33:20, 34:5, 35:5, 35:11, 35:12, 37:11, 44:12, 45:12, 48:24, 71:4, 96:1, 107:15
prescription [4] - 13:8, 13:11, 21:26, 39:15
prescriptions [2] - 32:6, 68:26
Present [1] - 2:12
present [3] - 7:3, 7:4, 62:23
presentation [4] - 92:8, 92:12, 92:22, 94:8
presentations [1] - 91:24
presented [3] - 5:19, 60:18, 67:9
presently [1] - 16:15
prestigious [1] - 94:17
pretty [1] - 74:1
previous [3] - 7:11, 28:26, 120:18
previously [2] - 81:14, 82:11
price [3] - 31:2, 31:3, 68:1
primarily [3] - 17:3, 117:27, 118:4
primary [2] - 17:10, 104:14
principle [2] - 97:24, 115:2
privileged [1] - 15:16
problem [10] - 30:26, 41:21, 64:17, 64:19, 83:3, 110:20, 116:11, 116:14, 116:17
problems [5] - 6:13, 30:17, 31:6, 33:13, 72:3
proceeding [3] - 5:20, 6:20, 7:23
Proceedings [7] - 3:9, 3:9, 3:10, 3:11, 3:13, 3:14, 3:17
proceedings [1] - 122:16
PROCEEDINGS [8] - 3:5, 74:9, 74:10, 79:7, 79:8, 87:2, 87:3, 122:9
process [1] - 40:8
produce [1] - 92:5
professional [1] - 88:1
professionals [1] - 84:1
program [116] - 6:26, 11:23, 13:3, 13:4, 23:6, 23:10, 23:12, 23:24, 23:26, 27:17, 28:2, 28:21, 28:23, 29:21, 30:11, 30:14, 31:7, 31:9, 31:12, 31:13, 33:7, 33:12, 34:22, 34:27, 36:9, 37:13, 38:16, 38:18, 38:20, 38:24, 38:26, 39:7, 39:19, 39:20, 39:22, 39:26, 40:11, 41:19, 42:18, 42:27, 44:10, 45:8, 45:27, 52:25, 53:6, 53:9, 53:11, 53:17, 53:18, 53:19, 53:20, 53:27, 54:3, 54:12, 55:5, 55:24, 56:16, 57:1, 58:11, 59:10, 59:16, 59:20, 59:22, 59:26, 60:2, 60:20, 61:1, 61:6, 61:25, 62:1, 62:2, 62:7, 62:10, 63:8, 66:3, 66:4, 66:7, 68:21, 71:4, 71:7, 71:10, 78:24, 78:25, 79:2, 81:4, 83:21, 88:4, 88:10, 89:13, 95:3, 95:6, 95:20, 96:22, 100:2, 100:4, 100:10, 100:11, 101:1, 102:25, 103:10, 103:17, 104:1, 104:5, 105:1, 105:3, 105:5, 105:16, 106:18, 108:11, 108:12, 121:14, 121:16, 121:18
programs [53] - 12:16, 12:20, 12:25, 13:25, 19:20, 33:23, 33:25, 34:6, 34:8, 34:13, 36:11, 37:7, 37:26, 42:23, 44:4, 48:13, 48:14, 52:20, 53:1, 54:1, 54:25, 54:26, 55:2, 55:9, 55:11, 66:1, 66:8, 66:19, 66:22, 71:27, 78:13, 83:23, 88:27, 94:10, 94:21, 95:12, 95:15, 95:23, 96:16, 96:22, 99:3, 99:9, 99:12, 99:14, 100:24, 100:26, 101:4, 101:11, 102:6, 104:12, 104:15, 105:17
prohibition [1] - 38:25
projects [1] - 45:23
prolonged [1] - 111:1
promote [1] - 80:19
promoted [1] - 80:7
promotion [1] - 5:27
proper [1] - 30:22
proposed [1] - 112:15
protect [1] - 114:18
protection [1] - 6:1
prove [2] - 50:3, 77:16
proven [1] - 104:9
PROVIDE [6] - 3:25, 4:1, 4:3, 15:19, 20:25, 93:14
provide [19] - 8:6, 8:9, 14:4, 20:6, 20:18, 20:21, 34:13, 37:7, 75:10, 77:4, 78:10, 78:21, 78:22, 92:1, 92:20, 93:12, 95:26, 105:14, 114:17
provided [30] - 4:9, 5:10, 5:14, 8:19, 8:27, 13:21, 14:16, 14:25, 15:6, 15:27, 16:1, 16:6, 25:25, 28:14, 38:15, 38:17, 48:13, 61:10, 61:12, 68:5, 78:10, 92:13, 99:2, 101:3, 102:13, 104:5, 105:2, 105:11, 106:20
providers [1] - 26:21
providing [8] - 6:22, 6:23, 6:24, 7:11, 10:11, 15:4, 36:14, 45:3
Province [1] - 122:19
psychological [2] - 38:14, 115:18
public [8] - 64:1, 64:9, 86:5, 86:6, 88:24, 89:2, 89:4, 94:21
publicized [1] - 53:18
published [7] - 46:7, 46:11, 46:17, 70:1, 73:5, 91:23, 91:26
publishings [1] - 46:6
purchasing [1] - 12:22
purport [1] - 89:12
purposes [1] - 6:19
purview [1] - 64:6
put [2] - 12:24, 27:4
puts [1] - 51:4

Q

qualify [2] - 8:13, 40:11
Quebec [2] - 34:7, 34:9
questioned [4] - 3:7, 3:12, 5:6, 79:9
questioning [5] - 14:7, 14:8, 24:27, 26:10, 89:19
QUESTIONING [2] - 1:18, 3:2
questions [13] - 8:8, 19:8, 67:26, 73:25, 79:15, 79:17, 92:27, 106:8, 106:11, 111:20, 111:22, 122:5, 122:7
Questions [4] - 3:15, 3:16, 106:12, 111:23
quick [2] - 26:12, 74:12
quicker [1] - 81:19
quickly [3] - 22:14, 22:17, 22:25
quite [5] - 22:14, 22:16, 45:1, 85:6, 116:25

R

raise [2] - 7:27, 10:16
raised [2] - 95:21, 95:23
raises [1] - 94:7
raising [1] - 64:1
randomized [1] - 53:12
rapid [2] - 17:7, 95:1
rate [2] - 22:23, 90:24
rates [2] - 89:26, 90:6
rather [1] - 69:27
reach [1] - 110:3
read [27] - 8:1, 14:9, 14:14, 14:22, 14:26, 15:1, 15:23, 16:12, 28:8, 44:20, 46:5, 58:23, 61:3, 79:12, 79:14, 86:21, 86:23, 92:26, 94:3, 95:17, 104:19, 105:20, 108:5, 110:17, 119:14, 120:17
readily [3] - 68:10, 68:11, 69:8
reading [1] - 8:11
ready [1] - 67:26
real [2] - 82:13, 82:15
really [18] - 36:2, 50:22, 54:18, 64:8, 69:13, 72:10, 73:16, 75:16, 76:27, 77:10, 79:3, 81:1, 108:13, 112:18, 117:12, 118:11, 119:8, 119:10

reason [7] - 15:26, 18:22, 20:1, 54:22, 71:6, 104:21, 108:21
reasons [1] - 116:8
receive [3] - 71:8, 112:25
received [7] - 21:21, 21:25, 21:27, 68:25, 69:5, 84:18, 113:22
receives [5] - 28:19, 58:12, 79:22, 98:2, 101:6
receiving [9] - 17:25, 38:22, 61:15, 96:13, 101:14, 101:16, 101:19, 114:25, 116:20
recent [2] - 23:16, 109:5
recently [1] - 51:14
recessed [3] - 3:9, 3:10, 3:13
RECESSED [3] - 74:9, 79:7, 87:2
recognition [2] - 77:1, 101:21
recognize [6] - 50:22, 80:22, 98:7, 107:13, 107:15, 109:1
recognized [8] - 43:5, 43:8, 43:16, 44:1, 76:5, 76:26, 94:18, 103:2
recommend [1] - 97:25
recommended [1] - 107:27
recommending [2] - 43:1, 107:24
RECONVENED [3] - 74:10, 79:8, 87:3
reconvened [3] - 3:9, 3:11, 3:14
record [3] - 7:18, 30:1, 86:27
RECORD [3] - 7:19, 30:3, 87:1
recorded [2] - 63:21, 65:16
RECORDS [2] - 3:25, 15:19
records [6] - 4:9, 4:10, 15:3, 15:5, 24:17, 24:18
recovery [3] - 51:21, 51:22, 51:23
redirect [2] - 106:9, 106:10
reduced [1] - 25:22
reduction [13] - 5:27, 8:22, 9:12, 9:17, 9:22, 10:14, 11:20, 11:27, 12:10, 13:23, 16:25, 80:7, 80:17
refer [9] - 24:11, 32:11, 32:20, 32:22, 32:27, 40:4, 52:8, 71:26, 108:8
reference [1] - 109:15
referred [10] - 18:27, 24:5, 32:5, 32:6, 32:7, 32:8, 47:13, 49:5, 56:6, 57:9
referring [7] - 24:9, 31:25, 32:11, 32:12, 32:24, 33:1, 49:2
refers [6] - 19:2, 21:2, 21:22, 31:24, 37:20, 106:27
reflect [2] - 56:1, 90:3
reflective [1] - 94:11
regarding [9] - 14:14, 23:16, 71:27, 75:11, 84:7, 88:3, 88:9, 105:1, 105:16
regime [5] - 112:4, 117:1, 121:24, 122:1, 122:3
regular [2] - 84:21, 116:10
regularly [1] - 50:24
regulated [1] - 66:20
regulation [1] - 112:8
regulations [1] - 111:27
regulatory [2] - 117:1, 121:24
rejecting [1] - 121:23
related [24] - 6:13, 11:23, 13:3, 18:19, 18:20, 19:16, 19:22, 19:24, 38:5, 39:16, 48:10, 50:6, 50:7, 50:11, 61:5, 62:19, 65:15, 66:23, 76:10, 85:19, 85:23, 90:7, 111:7, 116:12
relation [3] - 19:8, 79:15, 85:16
relative [1] - 47:10
release [25] - 47:10, 47:12, 47:17, 47:18, 47:26, 47:27, 48:4, 48:22, 51:8, 66:2, 66:7, 66:9, 66:20, 67:9, 67:10, 67:15, 69:6, 71:18, 71:21, 72:9, 72:11, 72:24, 109:8, 109:9, 109:23
released [1] - 47:9
relevant [1] - 72:9
relied [1] - 20:19
RELIED [2] - 4:1, 20:26
religion [1] - 33:16
religiously [1] - 103:13
relying [1] - 75:14
remember [1] - 94:1
remind [1] - 92:21
remotely [1] - 49:23
removed [1] - 51:7
rephrase [1] - 119:13
report [62] - 8:12, 8:26, 9:20, 10:18, 10:26, 11:2, 11:4, 13:22, 15:4, 15:11, 19:6, 19:15, 19:19, 19:27, 20:15, 21:2, 24:11, 24:23, 25:20, 32:27, 42:5, 44:22, 53:3, 54:24, 55:13, 55:15, 56:20, 56:22, 57:11, 57:26, 58:4, 58:10, 58:20, 59:3, 59:6, 59:7, 59:21, 60:1, 60:4, 61:4, 65:2, 65:7, 65:11, 65:22, 67:21, 68:20, 69:26, 70:2, 70:19, 71:15, 74:13, 78:9, 80:1, 104:24, 104:25, 105:19, 105:21, 106:1, 106:2, 108:24
REPORT [4] - 3:26, 4:2, 15:21, 20:27
reported [5] - 54:15, 65:4, 65:13, 89:16, 89:17
Reporter [2] - 92:25, 122:25
Reporting [1] - 2:15
reporting [3] - 30:12, 53:10, 61:20
reports [5] - 19:19, 20:8, 57:15, 63:21, 74:24
reprimanded [1] - 84:27
require [1] - 20:9
requires [1] - 112:4
requiring [2] - 21:5, 28:18
Research [1] - 6:15
research [31] - 6:15, 19:11, 19:24, 44:20, 44:23, 44:24, 44:26, 45:5, 45:10, 45:13, 45:23, 56:1, 59:13, 66:23, 75:24, 77:3, 77:6, 77:10, 77:11, 77:15, 77:20, 77:24, 77:26, 77:27, 78:2, 93:23, 104:14, 105:15, 106:15, 106:26
resistant [1] - 39:27
resort [1] - 44:5
resources [1] - 17:2
respect [5] - 61:7, 84:5, 104:15, 104:23, 106:4
respected [1] - 95:11
respiratory [2] - 51:6, 52:1
respond [1] - 94:13
rest [3] - 50:13, 69:22, 94:26
result [3] - 53:26, 107:16, 122:1
resulting [1] - 91:3
retained [1] - 8:9
return [2] - 121:27, 122:2
returning [2] - 117:10, 121:10
reusing [2] - 111:3
reverse [1] - 51:15
reversion [2] - 119:25, 120:21
reverting [1] - 117:7
review [9] - 15:3, 19:14, 20:14, 56:18, 67:25, 74:19, 99:17, 104:4, 105:17
REVIEWED [2] - 3:26, 15:20
reviewed [12] - 15:5, 19:16, 19:19, 46:11, 46:17, 52:26, 53:13, 53:22, 57:7, 105:5, 105:24, 105:25
reviewing [1] - 19:11
reviews [2] - 53:6, 53:8
RIGHT [1] - 1:13
right-sided [1] - 50:4
ring [1] - 82:27
risk [56] - 6:25, 11:17, 11:18, 11:21, 11:22, 11:23, 11:24, 11:26, 12:4, 12:14, 12:16, 12:20, 12:24, 13:1, 13:10, 13:17, 13:25, 14:1, 21:2, 21:4, 27:13, 28:27, 38:8, 50:16, 50:19, 51:5, 52:1, 67:2, 67:4, 74:16, 74:26, 75:1, 75:3, 75:6, 75:12, 77:14, 83:2, 90:9, 90:27, 97:20, 106:18, 106:21, 106:23, 107:27, 108:1, 108:2, 109:16, 110:25, 111:12, 115:3, 117:23, 117:25, 121:2, 121:9, 121:21
risks [37] - 6:23, 7:13, 7:23, 8:20, 9:5, 10:4, 10:7, 10:8, 10:12, 13:4, 13:5, 13:6, 13:22, 13:24, 19:16, 38:19, 41:14, 41:16, 42:11, 42:12, 42:14, 43:11, 43:13, 43:20, 52:15, 55:9, 64:16, 75:18, 88:13, 97:14, 98:3, 98:5, 106:15, 109:7, 109:12, 121:18, 121:19
risky [2] - 107:26, 108:27
robbed [2] - 82:20, 82:25
robberies [2] - 82:18, 87:10
robbery [2] - 87:18, 87:21
role [2] - 17:10, 17:26
route [1] - 33:22
run [3] - 11:3, 12:2, 13:19

S

safe [28] - 11:13, 12:16, 13:25, 16:23, 31:20, 31:22, 31:24, 32:3, 32:4, 32:5, 32:11, 32:23, 38:18, 39:20, 47:6, 47:7, 49:20, 52:10, 52:11, 52:13, 52:24, 61:21, 85:3, 85:5, 104:10, 114:27, 117:13
safely [1] - 38:15
safer [81] - 6:25, 12:20, 19:20, 32:9, 32:12, 32:20, 32:22, 32:24, 32:27, 33:6, 33:23, 33:25, 34:6, 34:13, 34:21, 35:17, 36:8, 36:10, 37:3, 37:9, 38:20, 40:13, 42:21, 42:22, 42:27, 44:10, 44:20, 44:24, 45:15, 46:20, 46:22, 48:13, 48:14, 52:2,

52:3, 52:12, 54:25, 56:6, 58:10, 58:18, 59:1, 59:5, 59:6, 59:11, 59:16, 59:20, 59:22, 59:26, 60:2, 60:3, 60:11, 61:1, 66:8, 67:22, 70:22, 71:4, 71:26, 72:6, 78:13, 79:19, 81:4, 84:5, 84:8, 85:17, 85:25, 87:23, 88:26, 89:13, 94:20, 100:1, 100:11, 107:1, 107:6, 107:8, 107:13, 108:8, 114:13, 114:21, 118:10, 122:2, 122:3
safety [2] - 88:4, 88:21
sake [2] - 18:13, 92:21
saline [2] - 114:2, 114:6
samples [1] - 25:1
satisfaction [1] - 9:11
saw [9] - 49:26, 50:5, 68:25, 77:12, 77:17, 77:18, 80:27, 81:2, 110:5
scan [1] - 116:9
scenario [3] - 39:4, 117:22, 121:11
scenarios [1] - 96:9
schedules [1] - 115:24
scheduling [1] - 116:8
schools [2] - 68:11, 68:16
science [1] - 57:9
Sciences [2] - 6:9, 63:24
scientific [2] - 106:14, 106:25
scientifically [1] - 33:17
scope [9] - 5:22, 5:23, 6:20, 8:18, 9:3, 11:1, 12:7, 13:21
screen [1] - 25:18
screening [1] - 46:15
screens [1] - 25:13
se [1] - 53:16
seamless [2] - 18:25, 112:21
search [1] - 105:18
second [9] - 7:18, 7:27, 21:1, 30:2, 58:15, 67:24, 71:15, 74:14, 86:20
second-last [1] - 74:14
seconds [1] - 111:17
see [25] - 11:14, 16:22, 18:24, 21:6, 39:15, 41:24, 55:4, 56:16, 66:15, 68:6, 68:23, 69:1, 69:2, 71:18, 73:21, 76:15, 78:19, 80:9, 84:11, 91:25, 92:13, 96:23, 96:26, 117:16, 117:18
seeing [31] - 45:6, 54:7, 54:9, 55:3, 55:4, 68:22, 69:15, 69:19, 69:20, 70:19, 72:8, 72:14, 72:20, 75:8, 76:2, 76:3, 76:6, 77:9, 77:17, 78:8, 78:14, 78:17, 78:20, 79:3, 84:7, 84:17, 85:19, 85:21, 88:18, 111:7
seek [1] - 8:13
seeking [1] - 22:4
seem [1] - 23:14
self [6] - 30:12, 53:10, 54:15, 108:25, 114:9, 121:5
self-reported [1] - 54:15
self-reporting [1] - 53:10
selling [2] - 34:26, 70:24
sense [4] - 20:11, 44:9, 77:11, 78:4
SENT [2] - 3:21, 89:22
sent [2] - 30:20, 87:4
separate [1] - 88:12
sepsis [1] - 65:15
serious [2] - 50:6, 76:22
service [2] - 17:12, 26:20
Services [1] - 2:15
services [4] - 18:15, 107:19, 108:14, 108:19
set [2] - 112:6, 112:9
setting [7] - 19:5, 38:2, 40:26, 101:10, 115:16, 116:1, 120:25
settings [2] - 65:26, 104:17
seven [1] - 13:16
several [2] - 8:2, 17:13
several-month [1] - 17:13
severe [22] - 34:14, 36:7, 41:25, 43:6, 54:16, 60:12, 61:1, 62:3, 62:9, 62:22, 62:23, 67:5, 68:27, 73:9, 74:16, 76:5, 97:7, 97:22, 102:24, 118:17, 119:26, 120:23
share [5] - 84:16, 84:25, 84:26, 85:2, 100:14
Sharon [3] - 5:9, 5:10
SHARON [8] - 1:20, 3:3, 3:7, 3:12, 3:21, 5:6, 79:9, 89:22
shelters [1] - 81:24
shift [1] - 17:16
shifts [3] - 17:17, 17:21, 17:22
short [2] - 22:7, 22:11
shorthand [2] - 122:17
Shorthand [1] - 122:25
show [8] - 29:3, 29:9, 29:11, 62:27, 86:19, 111:1, 111:14, 113:18
showing [1] - 54:20
shown [2] - 24:1, 51:15
shows [3] - 29:10, 30:14, 31:12
side [5] - 10:19, 54:8, 78:24, 79:1, 85:24
sided [2] - 50:2, 50:4
significant [14] - 30:17, 43:20, 49:26, 50:5, 50:10, 52:15, 54:27, 67:5, 69:1, 81:5, 82:13, 84:16, 115:2, 116:14
significantly [2] - 63:19, 82:9
silence [1] - 76:27
similar [2] - 101:6, 101:19
similarities [1] - 18:11
similarly [1] - 106:24
simple [1] - 36:5
site [4] - 34:21, 80:15, 80:20, 97:17
sites [2] - 34:4, 44:25
situation [1] - 111:25
situations [1] - 96:8
six [2] - 12:1, 56:15
six-fold [1] - 56:15
skill [1] - 122:18
slight [1] - 65:20
slow [1] - 67:15
slow-release [1] - 67:15
small [3] - 49:23, 49:24, 110:18
smaller [2] - 110:9, 110:15
smashed [2] - 82:12, 87:18
snorted [3] - 36:21, 36:22, 36:27
snorting [1] - 43:4
solve [1] - 30:26
someone [12] - 17:15, 21:9, 22:13, 28:24, 31:19, 31:24, 107:4, 107:5, 115:3, 117:22, 118:19, 120:1
something's [1] - 117:24
sometimes [4] - 32:17, 40:4, 48:18, 114:10
somewhat [4] - 34:10, 61:22, 94:26, 95:9
sorry [38] - 7:17, 8:24, 13:2, 15:7, 17:16, 18:5, 20:2, 20:3, 26:22, 28:13, 29:26, 30:1, 31:21, 33:26, 38:22, 46:8, 56:25, 58:13, 58:21, 59:17, 60:21, 63:1, 63:5, 73:14, 89:9, 91:13, 91:16, 92:4, 92:21, 92:24, 99:11, 102:8, 102:16, 113:24, 117:6, 119:3, 120:5
sort [15] - 23:3, 52:11, 59:17, 68:17, 82:3, 82:5, 82:13, 82:15, 83:4, 83:6, 93:23, 99:18, 101:5, 105:14
sorts [2] - 82:9, 97:18
sought [1] - 13:8
sounds [2] - 74:8, 77:3
source [28] - 24:2, 26:7, 26:10, 75:13, 92:1, 100:16, 107:20, 107:25, 108:2, 108:15, 108:20, 108:26, 109:3, 111:9, 117:11, 117:15, 117:21, 119:25, 120:21, 121:7, 121:10, 121:11, 121:20, 121:21, 121:27, 122:2, 122:4
SOURCE [2] - 4:3, 93:14
sourced [6] - 107:18, 108:9, 108:23, 117:2, 117:8, 121:3
sources [3] - 20:13, 20:19, 75:11
SOURCES [2] - 4:1, 20:25
speaking [3] - 37:25, 39:25, 40:12
specialist [2] - 63:24, 93:25
specialists [4] - 94:18, 98:17, 99:15, 99:22
specific [11] - 11:11, 19:14, 21:11, 21:14, 22:23, 22:27, 27:5, 29:3, 37:27, 75:15, 75:16
specifically [28] - 9:4, 12:21, 22:12, 25:8, 25:20, 34:20, 35:1, 35:18, 38:7, 39:9, 45:20, 45:23, 51:23, 52:22, 52:25, 63:1, 66:20, 68:3, 71:12, 72:5, 72:18, 80:5, 85:19, 90:7, 90:20, 90:26, 102:1, 111:1
spectrum [1] - 43:21
speculate [1] - 64:5
spine [4] - 41:26, 49:25, 49:26, 72:20
spite [1] - 40:21
spoken [1] - 100:14
St [1] - 6:11
stability [3] - 29:9, 29:10, 61:18
stabilized [2] - 29:16, 70:26
stabilizing [1] - 29:13
stable [6] - 21:11, 23:14, 23:21, 28:15, 29:2, 29:17
staffed [2] - 102:7, 102:10
standard [2] - 107:7, 107:12
standards [1] - 83:23
start [5] - 34:16, 40:26, 41:1, 41:10, 66:11
started [15] - 23:10, 34:24, 35:4, 39:9, 41:19, 54:7, 68:24, 69:6, 72:2, 72:6, 72:8, 72:14, 72:19, 72:21, 78:25
starting [1] - 28:23
state [1] - 24:14
statement [1] - 113:23

states [2] - 109:6, 121:26
stay [2] - 38:4, 81:26
stayed [1] - 28:15
STENOGRAPHER [4] - 58:25, 93:2, 119:16, 120:19
stenographer [1] - 5:4
Stenographer [1] - 2:13
still [9] - 24:24, 26:7, 38:19, 39:20, 58:21, 84:20, 91:1, 99:5, 105:4
store [1] - 13:9
storefronts [1] - 81:12
strategies [1] - 18:8
strategy [4] - 62:1, 63:9, 96:21, 114:20
street [34] - 24:2, 25:7, 26:7, 34:25, 70:17, 81:6, 107:18, 107:20, 107:25, 108:2, 108:9, 108:15, 108:20, 108:23, 108:26, 109:3, 117:2, 117:8, 117:11, 117:15, 117:21, 117:26, 118:9, 119:25, 120:21, 121:3, 121:7, 121:10, 121:11, 121:20, 121:21, 121:27, 122:2, 122:4
street-level [1] - 34:25
street-source [21] - 24:2, 107:20, 107:25, 108:2, 108:15, 108:20, 108:26, 109:3, 117:11, 117:15, 117:21, 119:25, 120:21, 121:7, 121:10, 121:11, 121:20, 121:21, 121:27, 122:2, 122:4
street-sourced [6] - 107:18, 108:9, 108:23, 117:2, 117:8, 121:3
stress [1] - 81:2
stroke [1] - 41:15
strong [1] - 80:16
stronger [1] - 100:22
structure [1] - 113:5
studied [9] - 42:5, 45:19, 47:26, 48:2, 48:3, 48:4, 48:6, 104:8, 104:12
studies [18] - 44:20, 57:25, 62:25, 70:1, 76:18, 88:24, 88:25, 89:5, 89:11, 90:13, 90:14, 90:22, 95:16, 104:4, 105:22, 105:25, 105:27, 108:5
study [27] - 19:18, 48:6, 48:8, 62:25, 63:23, 68:17, 73:4, 75:15, 75:16, 89:2, 89:4, 89:17, 90:11, 90:18, 90:19, 91:23, 92:7, 98:24, 99:18, 100:18, 100:21, 100:25, 100:27, 105:3, 105:4, 105:8, 105:13
subject [3] - 77:27, 106:7, 122:6
SUBJECT [1] - 122:10
subjected [1] - 77:23
Sublocade [1] - 51:14
Suboxone [14] - 38:11, 39:15, 39:19, 39:21, 39:24, 40:24, 40:25, 51:13, 51:27, 52:7, 70:27, 96:10, 96:24, 108:12
substance [5] - 16:20, 18:19, 18:20, 18:22, 25:16
substances [1] - 49:17
SUBSTANTIATE [2] - 4:4, 93:16
substantiate [4] - 50:10, 73:7, 92:1, 92:14
success [2] - 31:12, 96:15
successful [2] - 29:12, 38:10
suffer [1] - 82:17
suffering [8] - 41:23, 76:2, 76:3, 76:4, 76:6, 76:27, 78:17, 78:20
sufficient [1] - 16:7
suggest [1] - 53:26
suggested [1] - 41:9
suggestion [1] - 112:2
suggestions [1] - 61:13
summary [6] - 14:16, 15:5, 15:14, 16:1, 16:7, 113:22
SUMMARY [2] - 3:25, 15:19
supervised [5] - 38:16, 38:18, 80:15, 80:19, 97:17
supplies [1] - 52:24
supply [82] - 6:25, 11:13, 12:16, 12:20, 13:25, 19:20, 31:20, 31:22, 31:24, 32:4, 32:6, 32:9, 32:11, 32:12, 32:21, 32:22, 32:24, 32:27, 33:6, 33:23, 33:25, 34:6, 34:13, 34:21, 35:17, 36:8, 36:10, 37:3, 37:9, 42:21, 42:22, 42:27, 44:10, 44:20, 44:24, 45:15, 46:20, 46:23, 47:6, 47:7, 48:13, 48:14, 52:10, 52:12, 54:25, 56:6, 58:11, 58:18, 59:1, 59:5, 59:7, 59:11, 59:16, 59:20, 59:22, 59:26, 60:2, 60:3, 60:12, 61:1, 66:8, 67:23, 70:22, 71:4, 71:27, 72:6, 78:13, 79:20, 81:4, 84:5, 84:8, 85:5, 85:17, 85:25, 87:23, 88:26, 89:13, 94:21, 100:2, 100:11
supply" [1] - 32:3
support [22] - 33:19, 43:3, 43:12, 43:17, 44:27, 55:10, 68:20, 76:12, 89:5, 95:2, 95:5, 95:12, 97:26, 97:27, 100:26, 101:1, 101:26, 103:10, 103:17, 104:1, 106:26, 114:17
supported [6] - 35:22, 41:8, 54:3, 54:4, 88:25, 102:11
supporting [2] - 43:19, 105:5
supportive [1] - 86:18
supports [3] - 76:7, 102:3, 103:25
survey [5] - 54:16, 54:19, 100:13, 100:18, 100:19
surveys [2] - 53:24, 57:8
suspension [2] - 109:25, 110:14
sustained [1] - 47:17
swallowed [1] - 33:18
swear [1] - 5:17
switched [2] - 41:4, 72:8
switching [1] - 72:11
swore [1] - 5:18
sworn [1] - 94:4
SWORN [1] - 1:18
symptoms [1] - 51:6

T

tablet [24] - 47:19, 48:25, 48:27, 49:2, 49:5, 49:6, 49:14, 50:20, 52:14, 52:16, 52:27, 61:20, 74:15, 75:25, 90:8, 90:9, 94:9, 96:1, 97:3, 97:21, 101:7, 106:27, 121:15, 121:17
tablet-based [7] - 48:25, 52:27, 94:9, 97:3, 101:7, 121:15, 121:17
tablets [15] - 6:16, 21:27, 49:13, 65:26, 66:2, 66:9, 67:11, 89:27, 90:27, 97:11, 102:27, 106:16, 107:16, 108:1, 108:23
tailored [1] - 38:6
talks [2] - 10:18, 19:9
tapering [1] - 47:2
teaching [1] - 44:2
teams [1] - 36:6
techniques [10] - 8:22, 9:12, 9:18, 9:22, 9:24, 10:14, 11:20, 11:27, 12:10, 13:24
temporarily [2] - 61:17, 96:20
ten [7] - 17:21, 17:22, 21:27, 74:1, 99:3, 111:17
tend [2] - 20:9, 48:15
tended [1] - 65:1
tends [5] - 33:5, 48:21, 62:19, 62:20, 66:21
tent [1] - 81:14
tents [2] - 81:9, 81:18
term [5] - 32:3, 32:4, 51:22, 52:21, 121:15
terms [4] - 18:1, 32:23, 52:5, 59:23
test [1] - 25:15
testified [2] - 90:3, 90:4
testimony [5] - 10:11, 25:24, 26:11, 89:25
testing [1] - 25:16
tests [1] - 23:25
THAT [2] - 4:4, 93:16
THE [17] - 1:13, 3:25, 4:1, 4:3, 7:19, 15:19, 20:25, 30:3, 58:25, 87:1, 93:2, 93:14, 119:16, 120:19, 122:10
theft [3] - 82:6, 87:16
thefts [1] - 87:15
themselves [2] - 42:13, 111:8
theory [1] - 110:4
therapies [9] - 10:14, 12:12, 13:24, 49:9, 49:10, 52:18, 96:26, 104:23, 108:19
therapy [32] - 7:1, 8:23, 9:14, 16:27, 37:21, 49:6, 49:8, 50:21, 50:24, 51:11, 51:20, 52:4, 52:6, 52:16, 52:17, 70:9, 70:11, 71:1, 71:3, 95:26, 97:3, 97:13, 98:1, 99:1, 101:5, 101:8, 101:14, 101:17, 101:20, 105:19, 117:5
therefore [5] - 5:5, 33:19, 65:5, 65:13, 67:1
they've [4] - 25:27, 40:1, 40:2, 65:19
thinking [2] - 9:9, 73:20
third [1] - 71:15
Thomas [1] - 6:11
three [9] - 7:2, 14:24, 74:16, 74:27, 75:1, 112:5, 112:7, 112:12, 112:16
throughout [2] - 69:8, 89:24
tide [1] - 113:10
timing [5] - 112:25, 112:27, 115:24, 116:7, 116:10
timings [1] - 116:15
TiOAT [13] - 52:8, 52:13, 52:19, 52:21, 52:25, 53:9, 54:26, 66:1, 66:3, 66:5, 106:27, 108:8, 108:22
title [1] - 10:18
titles [1] - 11:4

TO [5] - 4:4, 4:5, 93:15, 93:17, 122:10
today [3] - 5:19, 89:25, 90:3
today's [2] - 14:6, 14:8
tolerance [19] - 10:6, 11:21, 21:3, 21:5, 22:2, 22:11, 22:13, 22:14, 22:16, 22:17, 22:19, 22:22, 22:24, 22:25, 22:26, 26:14, 28:18, 28:24, 28:27
took [1] - 39:22
tool [1] - 96:26
Tools [1] - 83:15
tooth [1] - 111:11
Toronto [3] - 44:12, 84:24, 95:4
total [2] - 14:24, 23:10
towards [3] - 112:21, 113:7, 120:26
toxic [2] - 72:1, 72:3
toxicity [3] - 10:4, 11:18, 65:1
track [1] - 85:13
tract [2] - 47:20, 47:22
traditional [1] - 51:12
transcribed [2] - 5:5, 122:17
Transcript [1] - 3:18
TRANSCRIPT [1] - 122:12
transcript [5] - 4:8, 4:9, 18:13, 89:10, 122:16
transcripts [1] - 16:13
transition [2] - 111:25, 112:21
trauma [1] - 68:27
treat [3] - 18:9, 34:13, 36:7
treated [2] - 45:16, 102:25
treating [2] - 18:2, 118:17
treatment [102] - 9:18, 9:24, 13:13, 13:27, 16:3, 16:4, 16:5, 17:25, 18:12, 18:15, 23:6, 23:24, 29:3, 29:4, 29:12, 29:23, 30:6, 30:9, 33:9, 36:11, 38:23, 40:15, 40:27, 42:18, 43:5, 43:8, 43:10, 43:13, 43:17, 43:26, 44:1, 44:2, 45:15, 48:26, 52:27, 53:1, 55:20, 56:21, 56:23, 56:27, 57:4, 57:7, 57:12, 58:11, 58:19, 59:1, 60:12, 61:8, 61:9, 61:11, 61:13, 61:14, 65:24, 79:20, 79:25, 87:23, 89:13, 94:10, 96:5, 96:7, 96:19, 97:7, 98:1, 98:8, 98:23, 101:23, 101:27, 103:3, 104:10, 106:4, 107:2, 111:26, 112:4, 112:15, 112:19, 114:20, 116:27, 117:19, 118:8, 118:10, 118:20, 118:21, 118:22, 118:24, 118:25, 119:1, 119:20, 120:7, 120:10, 120:12, 120:15, 120:27, 121:2, 121:6, 121:9, 121:16, 121:18, 121:23, 122:1, 122:3
treatments [6] - 40:1, 40:2, 53:6, 55:18, 115:5, 118:18
trial [6] - 39:24, 40:25, 53:12, 53:14, 53:16
trialled [1] - 96:10
trick [1] - 11:7
tricuspid [7] - 67:3, 72:16, 73:12, 109:27, 110:7, 110:11, 111:12
tried [5] - 39:13, 40:1, 40:18, 40:22, 40:23
true [2] - 66:1, 92:16
truly [1] - 52:2
truthfully [1] - 60:18
try [2] - 46:15, 105:2
trying [9] - 65:21, 78:21, 78:22, 79:1, 84:9, 85:24, 96:21, 105:7, 105:13
turn [6] - 7:8, 21:1, 67:20, 84:18, 109:19, 121:7
turning [2] - 117:14, 118:9
twice [9] - 42:7, 62:15, 63:10, 63:17, 63:27, 91:17, 91:22, 93:3, 93:9
TWICE [2] - 4:5, 93:18
two [22] - 14:23, 22:26, 23:7, 23:10, 23:12, 26:21, 26:26, 27:11, 27:15, 27:18, 28:1, 28:2, 28:21, 32:17, 39:21, 58:14, 62:15, 86:11, 92:27, 109:13, 112:12, 112:15
two-part [1] - 58:14
type [11] - 34:4, 35:4, 43:12, 43:17, 48:24, 56:21, 62:4, 76:7, 77:18, 83:3, 111:18
types [3] - 48:23, 76:5, 78:20

U

ultimately [2] - 62:4, 63:8
unable [1] - 38:10
unattended [1] - 83:10
unaware [1] - 43:19
UNDER [4] - 3:27, 4:6, 15:22, 93:19
under [8] - 12:24, 15:15, 92:4, 105:26, 111:26, 112:7, 117:1, 121:24
undersigned [1] - 122:14
understood [3] - 37:1, 37:6, 41:17
undertaking [7] - 15:13, 20:18, 20:22, 91:27, 92:20, 93:1, 93:12
UNDERTAKING [3] - 15:18, 20:24, 93:13
UNDERTAKINGS [1] - 3:23
Undertakings [1] - 4:8
undertakings [3] - 4:10, 106:8, 122:6
unequivocally [1] - 121:26
unfortunately [2] - 39:16, 100:20
unintended [4] - 10:19, 76:13, 78:23, 79:1
unit [1] - 64:10
unmonitored [1] - 79:23
unsafe [1] - 66:26
unsupervised [1] - 101:9
unwitnessed [15] - 6:27, 32:14, 32:19, 33:12, 36:16, 37:16, 47:3, 65:26, 66:16, 66:17, 66:19, 88:4, 94:22, 95:24, 101:10
up [20] - 22:15, 26:11, 27:2, 27:10, 28:3, 30:25, 31:1, 32:16, 41:25, 42:18, 54:10, 63:16, 84:14, 91:14, 91:17, 93:3, 99:5, 99:23, 109:26, 110:13
urban [1] - 80:6
urine [6] - 23:24, 24:17, 25:1, 25:13, 25:27
urines [1] - 25:26
usage [1] - 24:13
USE [2] - 4:4, 93:17
USED [2] - 4:3, 93:14

V

valuable [1] - 80:21
valve [11] - 50:2, 50:4, 67:3, 72:16, 73:12, 109:27, 110:1, 110:4, 110:7, 110:11, 111:12
valves [1] - 49:25
Vancouver [7] - 34:11, 44:13, 52:22, 52:23, 53:10, 66:5, 95:5
vandalism [1] - 82:18
variations [1] - 5:2
varied [1] - 56:24
variety [1] - 56:26
various [9] - 26:20, 34:12, 34:18, 35:3, 35:15, 36:5, 115:23, 116:7, 121:26
vast [7] - 48:14, 70:18, 72:22, 94:19, 98:21, 100:9, 103:9
vehicle [1] - 87:19
vein [3] - 49:20, 49:21, 110:2
veins [1] - 110:24
version [1] - 48:12
versus [3] - 18:9, 108:23, 109:9
vessels [3] - 49:23, 49:24
VIA [1] - 1:26
VIDEOCONFERENCE [1] - 1:26
Videoconferencing [1] - 5:1
view [5] - 31:11, 95:8, 95:9, 95:10, 100:15
viewpoints [1] - 56:18
views [16] - 54:24, 54:27, 55:16, 55:25, 56:2, 56:3, 56:24, 56:27, 84:5, 84:25, 85:2, 85:4, 85:16, 85:18, 94:11, 95:15
violence [6] - 11:23, 13:1, 13:3, 13:10, 13:12, 13:26
viruses [1] - 111:2
visits [1] - 26:3
vocal [1] - 86:8
voice [2] - 75:26, 76:21
voiceless [3] - 41:24, 75:27, 76:19
vulnerability [1] - 13:7
vulnerable [2] - 44:6, 44:7

W

walk [2] - 80:11, 83:7
wants [1] - 119:7
washroom [1] - 74:2
watch [1] - 78:19
water [1] - 86:24
ways [1] - 27:22
week [1] - 22:26
weeks [1] - 22:26
well-recognized [1] - 94:18
who'd [1] - 107:5
who've [3] - 70:9, 76:9, 120:7
windows [2] - 82:3, 82:12
withdrawal [4] - 16:24, 51:10, 114:18, 116:16
witness [1] - 88:9
Witness [4] - 3:15, 3:16, 106:12, 111:23
witnessed [9] - 31:27, 38:1, 38:3, 39:20, 79:24, 96:14, 97:14, 112:9, 114:16
woman [3] - 39:11, 62:3, 63:7
Women's [2] - 83:21, 99:26
wondering [2] - 79:5, 92:26
word [7] - 13:14, 29:5, 40:6, 53:25, 78:27, 84:9, 84:10
wording [1] - 24:25
Words [1] - 5:4
workers [1] - 34:25
works [1] - 13:6
worried [5] - 62:2, 82:14, 83:6, 83:7, 83:9
wraparound [3] -

107:18, 108:14, 108:19
written [1] - 41:2

Y

year [5] - 28:20, 28:22, 39:8, 40:10
years [13] - 5:25, 23:7, 23:10, 23:12, 26:21, 26:26, 27:11, 27:15, 27:18, 28:1, 28:2, 28:22, 85:7
yesterday [1] - 94:4
young [4] - 39:11, 61:24, 68:12, 115:3
younger [3] - 68:22, 69:16, 69:21
yourself [2] - 58:4, 82:17

EXHIBIT “D”

Our Waterloo Region Community Health Van

For many years, Sanguen Health Centre has worked with people who are living with or at risk of contracting Hepatitis C. As an organization we were aware that community health outreach is one of the most effective strategies to engage with people who live 'outside' of the system, who are marginalized, chronically poor, homeless or at risk of homelessness and who use substances. Creating the ability to go out and meet people where they are at really decreases barriers faced in accessing services, and builds relationship of trust and respect that translates immediately into better whole health outcomes. The model of a mobile community health van just made sense for Sanguen and the work we wanted to accomplish, and so the long road to acquire community partners and funding began.

The Waterloo Region Community Health Van was launched in 2015, and services have grown through partnerships with the Region of Waterloo and the TELUS HEALTH FOR GOOD Program. The 'Van' services Kitchener and Cambridge and makes different stops throughout these cities. Our interdisciplinary team staffs the Van, and connects community members with harm reduction supplies, such as new drug gear, needle exchange, condoms, etc; naloxone training and distribution; food, clothing, hygiene items, nursing, peer and social supports.

The Community Health Van works in close collaboration and partnership with so many other excellent services, strengthening the services offered to our community members.

Nursing Care Announcement:

THE HEALTH VAN IS STAFFED BY AN INTERDISCIPLINARY AND MULTI-AGENCY TEAM MADE UP OF A HARM REDUCTION COORDINATOR, PEER SUPPORT COORDINATOR, REGISTERED NURSE, SOCIAL SUPPORT COORDINATOR, PEER

ERS, AND A HARM REDUCTION NURSE. IN ADDITION, ON OUR WATERLOO VAN
PLE CAN RECEIVE NURSING SUPPORT PROVIDING WOUND CARE, VACCINES,
NG FOR HIV, HEP C AND STBBIS, ETC. ON THE VAN, NURSES ARE ALSO ABLE TO
OFFER HIV TAKE HOME TESTING.

Important Update

WE CAN PICK UP DONATIONS, HOWEVER, WE ARE STILL NOT DOING HOME DELIVERIES FOR HARM REDUCTION.

Van Schedule

Monday Kitchener	Tuesday Cambridge	Wednesday Kitchener	Thursday Kitchener	Friday
– The Healing of the Seven Generations (10:30am-10:50am)	– Preston Kiwanis Building 1195 King St East (2:30pm-3:20pm)	-100 Victoria Street Encampment (11:30-12:20pm)	– A Better Tent City (1:00pm-2:00pm) – Weber Inn	No Service

Transitional Housing (11:00am-11:30am)	– Cambridge Foodbank Parking lot (3:30pm-4:30pm)	– 1470 Block Line Rd. Women's Supportive Housing (12:30pm-1:20pm) – Mayflower Motel (1:30pm-3:00pm)	(5:00pm-6:15pm) – Ray of Hope (6:30pm-8:00pm)

Please Note: **The KW Van is not running Dec 25 & 26 and January 1st but is otherwise the regular schedule.**
We are still not doing home deliveries for harm reduction.
On nights when The Van is out you can call or text 519-591-4826 to get an update on our location.

What Do The Vans Carry?

- EMERGENCY CONTRACEPTION
- NURSING SERVICES & VEIN AND WOUND CARE
- HARM REDUCTION SUPPLIES AND
- SNACKS & DRINKS
- CLOTHING
- HYGIENE PRODUCTS

- CONDOMS & LUBRICANTS (INCLUDING LATEX FREE)
- NALOXONE KITS & OVERDOSE PREVENTION TRAINING
- SHARPS CONTAINERS PICKUPS
- REFERRALS TO COMMUNITY AGENCIES
- SUPPORTIVE COUNSELING
- HEPATITIS, H.I.V. AND STI TESTING
- PREGNANCY TESTING

We Need Your Support.

Community support is crucial to the success of The Van. As a registered charity, Sanguen will provide a tax receipt for your donations.

- You can donate to The Van various ways through our Donations Page
- If you'd like to donate food, clothing, hygiene, or other items, or if you work for an agency or group that offers services or supports, and you'd like to be part of The Van project,please contact our Van Coordinator to find out our current needs.

Visit The Community Health Van – Waterloo Region on Facebook

© Copyright - Sanguen Health Centre . Sanguen is a not-for-profit, community-based health care agency with offices in Waterloo and Guelph, Ontario. Privacy Policy, Terms of Service.

EXHIBIT “2”

4984

As a library, NLM provides access to scientific literature. Inclusion in an NLM database does not imply endorsement of, or agreement with, the contents by NLM or the National Institutes of Health.
Learn more: PMC Disclaimer | PMC Copyright Notice

JAMA Network Click to view article >

JAMA Intern Med. 2018 Jul 30;178(9):1242–1248. doi: 10.1001/jamainternmed.2018.2924

Mortality Among Unsheltered Homeless Adults in Boston, Massachusetts, 2000-2009

Jill S Roncarati [1,2,3,✉], Travis P Baggett [3,4], James J O'Connell [3,4], Stephen W Hwang [5], E Francis Cook [6], Nancy Krieger [1], Glorian Sorensen [1,2]

Author information Article notes Copyright and License information

PMCID: PMC6142967 PMID: 30073282

See "Prevalence of SARS-CoV-2 Infection in Residents of a Large Homeless Shelter in Boston" in *JAMA*, volume 323 on page 2191.
See commentary "Death Among the Unsheltered Homeless: Hidden in Plain Sight." with doi: 10.1001/jamainternmed.2018.2919.

Key Points

Question

What are the mortality patterns for unsheltered homeless adults who primarily sleep outdoors?

Findings

4985

In this 10-year cohort study of 445 unsheltered homeless adults, the age-standardized all-cause mortality rate was almost 3-fold larger than that for a cohort of homeless adults primarily sleeping in shelters and nearly 10-fold larger than that for the adult population of Massachusetts; both represented significant differences. Common causes of death were cancer and heart disease.

Meaning

Interventions and models of care need to address the unique needs of the unsheltered homeless adult population to improve outcomes.

Abstract

Importance

Previous studies have shown high mortality rates among homeless people in general, but little is known about the patterns of mortality among "rough sleepers," the subgroup of unsheltered urban homeless people who avoid emergency shelters and primarily sleep outside.

Objectives

To assess the mortality rates and causes of death for a cohort of unsheltered homeless adults from Boston, Massachusetts.

Design, Setting, and Participants

A 10-year prospective cohort study (2000-2009) of 445 unsheltered homeless adults in Boston, Massachusetts, who were seen during daytime street and overnight van clinical visits performed by the Boston Health Care for the Homeless Program's Street Team during 2000. Data used to describe the unsheltered homeless cohort and to document causes of death were gathered from clinical encounters, medical records, the National Death Index, and the Massachusetts Department of Public Health death occurrence files. The study data set was linked to the death occurrence files by using a probabilistic record linkage program to confirm the deaths. Data analysis was performed from May 1, 2015, to September 6, 2016.

4986

Exposure

Being unsheltered in an urban setting.

Main Outcomes and Measures

Age-standardized all-cause and cause-specific mortality rates and age-stratified incident rate ratios that were calculated for the unsheltered adult cohort using 2 comparison groups: the nonhomeless Massachusetts adult population and an adult homeless cohort from Boston who slept primarily in shelters.

Results

Of 445 unsheltered adults in the study cohort, the mean (SD) age at enrollment was 44 (11.4) years, 299 participants (67.2%) were non-Hispanic white, and 72.4% were men. Among the 134 individuals who died, the mean (SD) age at death was 53 (11.4) years. The all-cause mortality rate for the unsheltered cohort was almost 10 times higher than that of the Massachusetts population (standardized mortality rate, 9.8; 95% CI, 8.2-11.5) and nearly 3 times higher than that of the adult homeless cohort (standardized mortality rate, 2.7; 95% CI, 2.3-3.2). Non-Hispanic black individuals had more than half the rate of death compared with non-Hispanic white individuals, with a rate ratio of 0.4 (95% CI, 0.2-0.7; $P < .001$). The most common causes of death were noncommunicable diseases (eg, cancer and heart disease), alcohol use disorder, and chronic liver disease.

Conclusions and Relevance

Mortality rates for unsheltered homeless adults in this study were higher than those for the Massachusetts adult population and a sheltered adult homeless cohort with equivalent services. This study suggests that this distinct subpopulation of homeless people merits special attention to meet their unique clinical and psychosocial needs.

This cohort study investigates all-cause and cause-specific mortality and age-stratified incident rate ratios among unsheltered homeless adults in Boston, Massachusetts, 2000-2009, compared with the entire Massachusetts population and also with a cohort of sheltered homeless adults in Boston.

4987

Introduction

A paucity of literature exists regarding the health status of unsheltered, urban homeless adults, also known as "rough sleepers." These elusive, yet highly visible unsheltered individuals eschew organized shelters and choose to sleep on park benches, in back alleyways, in doorways, under bridges, near train stations, and in abandoned cars.

In the United States, the unsheltered population constitutes more than a third of the overall homeless population, with an estimated 192 875 people sleeping unsheltered on a single night in January 2017.[1] Most of these individuals were men 24 years or older of white or non-Hispanic race/ethnicity.[1] Despite their visibility, this population wanders across our urban landscapes, and data on these individuals are difficult to gather. Previous studies of mortality have focused on the homeless population who primarily sleep in shelters, and these studies have found higher rates of death in homeless populations compared with nonhomeless populations.[2,3,4,5,6,7,8,9] Studies from the 1980s showed common causes of death to be from substance use disorders and unintentional injuries.[3,4,5] Studies from the 1990s revealed HIV/AIDS, when combined, to be a leading cause of death.[6,7] More recently, unintentional overdose was shown to have replaced HIV/AIDS as a leading cause of death in the homeless population.[10] Literature on the unsheltered population has shown that they have more risk factors for death, more behavioral health issues, more trauma, and poorer health than their sheltered counterparts.[11,12,13] However, these studies have not looked specifically at mortality outcomes for unsheltered individuals, whose unique blend of comorbidities and environmental exposures may place them at higher risk for death.

A better understanding of the demographics, mortality patterns, and causes of death among unsheltered individuals could inform social policy and clinical practice initiatives to improve outcomes in this vulnerable population. To address the current gap in the literature about this unique subpopulation, we conducted a 10-year, prospective cohort study using an unsheltered cohort from Boston, Massachusetts, that was established in 2000 and followed up through the end of 2009. We described the unsheltered cohort, examined causes of death, and calculated age-specific rate ratios and age-standardized all-cause and cause-specific mortality rates and compared this cohort with both the nonhomeless adult population living in Massachusetts and a cohort of homeless adults living in Boston who primarily slept in emergency shelters. We hypothesized that the unsheltered cohort would have higher all-cause and cause-specific mortality rates than the nonhomeless and sheltered homeless populations, and that those unsheltered homeless individuals would die prematurely from common but preventable and treatable causes, such as cancer, heart disease, and substance use disorders.

4988

Methods

Study Population

The study population consisted of adults living outside who were primary care patients of the Boston Health Care for the Homeless Program's (BHCHP's) Street Team. Eligibility criteria for the study included the following: (1) sleeping outside for 1 or more nights during 2000; (2) 18 years or older by January 1, 2000; (3) at least 1 face-to-face encounter with the BHCHP's Street Team staff during 2000; and (4) a first and last name and either a date of birth or a Social Security number in the study database. Participants were excluded if there was a lack of identifying information in the study database. Of 568 records in the BHCHP's Street Team database, 445 unsheltered adults (78.3%) met the eligibility criteria. The study was approved by the institutional review board of Boston University Medical Center, Boston, Massachusetts. Participant informed consent was waived by BHCHP. The study posed minimal risk to privacy.

Study Design and Data Collection

We conducted a 10-year prospective study from January 1, 2000, through December 31, 2009. Data analysis was performed from May 1, 2015, to September 6, 2016. Data from face-to-face encounters with the BHCHP's Street Team were used for the study and stored prospectively. Face-to-face encounters for primary care consisted of a BHCHP's Street Team clinician meeting an unsheltered individual on the street or at an outside location during a daytime or nighttime clinical session. The clinicians of the BHCHP's Street Team documented these encounters on paper at the time of the visit and the notes were later transcribed by a research assistant into a database (Microsoft Office Access; Microsoft Corporation). Data collected at the initial and subsequent visits included the following information: first and last names, date and location of the encounter, date of birth, Social Security number, sex, race/ethnicity, medical and behavioral health diagnoses, and the name of the clinician performing the visit. Any new data, such as a date of death, was added to the database. The cohort had no known duplicates, and no individual was added to the cohort after December 31, 2000. Everyone in the cohort was alive at the time of enrollment.

After the study concluded, the database was matched to BHCHP's electronic medical record to confirm data such as the correct spelling of the first and last name, sex, race/ethnicity, date of birth, and Social Security number. The records were then matched with the Massachusetts Department of Public Health death occurrence files from 2000 to 2009 (received on CD from Massachusetts Department of Public Health; November 3, 2014) in the manner described below to confirm deaths,

add the dates of deaths if they were previously unknown, and add the underlying and multiple causes of death. Over the course of the study, reports were requested from the National Death Index[14] in 2006 and in 2011 to investigate the possibility of a death occurring outside the state for a proportion of the cohort whose whereabouts were unknown. Data extracted from the National Death Index[14] reports included the date of death, the state in which death occurred, and the underlying and multiple causes of death.

All data describing the causes of death were in the format of the *International Statistical Classification of Diseases and Related Health Problems, Tenth Edition* (*ICD-10*) diagnosis codes. The data identifying the underlying and multiple causes of death taken from the Massachusetts Department of Public Health and the National Death Index[14] were previously processed by the National Center for Health Statistics using well-established computer algorithms to select the underlying cause of death from conditions reported on death certificates. Underlying causes of death codes were used for this study and grouped based on previous literature.[7,10,15,16] Definitions of codes from the Centers for Disease Control and Prevention (CDC) Wide-Ranging Online Data for Epidemiologic Research (WONDER) were also used for interpretation of the *ICD-10* codes.[17] The *ICD-10* groupings, terminology, and definitions used to combine the *ICD-10* categories can be found in the eTable in the Supplement.

Race/ethnicity categories created by BHCHP were as follows: non-Hispanic white, non-Hispanic black, and persons of color/unknown identified as Asian, Hispanic, American Indian, or unknown race/ethnicity. Age categories included 18 to 44 years, 45 to 64 years, and 65 to 84 years. Sex was dichotomous without unknowns. There were 2 variables with missing data: Social Security number was missing in 15 of 445 records (3.4%) and race/ethnicity, 7 of 445 records (1.6%).

Comparison Groups

Two comparison groups (the Massachusetts population and a sheltered homeless cohort from Boston) were used to calculate the standardized mortality ratios (SMRs). Data for the Massachusetts population were taken from the CDC's WONDER for ages 18 to 84 years from 2000-2009. The Massachusetts population was chosen as a comparison group because our study methods were analogous to methods used in a 2013 study by Baggett et al,[10] who also used the Massachusetts population as a comparison group.

Data for the adult homeless cohort were obtained from the 2013 study by Baggett et al.[10] They retrospectively assembled a homeless cohort of 28 033 adults 18 years or older who had 1 or more

encounters with a BHCHP clinician between January 1, 2003, and December 31, 2008.[10] The comparison cohort included homeless adults who were seen by BHCHP from 2003 to 2008.[10]

Matching Data

Link Plus 2.0, a probabilistic record linkage program developed at the CDC Division of Cancer Prevention and Control in support of the CDC's National Program of Cancer Registries, was used to match BHCHP's data to the Massachusetts Department of Public Health data. Each match was manually reviewed. A death record was accepted as a match if it had the same data on 1 or more of the following: Social Security number; first and last name and month and year of birth within a range of 1 year; or first and last name and month and day of birth.[7,10,14] The algorithm was similar to that used by the National Death Index[14] to match records and has been reliably used by previous researchers who studied mortality among homeless populations.[7,10,14]

Statistical Analysis

We described the demographic characteristics of the unsheltered cohort overall and by subgroups, including sex and vital status (whether the cohort member was alive or dead and information about the decedent). Among those in the cohort who died, we noted the place of death and whether an autopsy was performed.

Crude mortality rates for all-cause and cause-specific mortality were calculated using the number of deaths in each category divided by person-years of observation for that category to create incident rates, expressed as events per 100 000 person-years. Strata-specific incident rate ratios were calculated by taking one crude mortality rate within a stratum and dividing it by another crude mortality rate within the same stratum. For rate ratios, women, non-Hispanic white, and the young age category (18-44 years) were used as reference groups.

Age-standardized all-cause and cause-specific mortality rates were calculated using indirect standardization, with the unsheltered cohort as the standard population. The SMRs were calculated as follows: by creating age-specific mortality rates per person-year for young (18-44 years), middle (45-64 years), and old age (65-84 years) categories for both the Massachusetts population and the adult homeless cohort; by multiplying the age-specific mortality rates by the age-specific person-years from the unsheltered cohort; by summing the 3 age-specific results to determine the expected number of deaths; and then by dividing the number of observed deaths by the number of expected

deaths. The SMRs were calculated when the number of deaths in a category was 5 or more.[15]

Statistical analyses were performed using Stata, version 14 (StataCorp) and Microsoft Excel 2013 (Microsoft Corporation) and consisted of calculating incidence rates, rate ratios, and SMRs. Corresponding 95% CIs for rates and ratios were calculated using OpenEpi (Open Source Epidemiologic Statistics for Public Health), version 3.01.[18] A 2-sided significance level of <.05 was used for testing.

Results

Cohort Characteristics

The study cohort comprised 445 unique unsheltered adults who were followed for a total of 3608.7 person-years (mean, 8.2 years; range 0.1-9.9 years). The mean (SD) age at enrollment was 44 (11.4) years with a range of 18 to 81 years. Of 445 participants in the cohort, 299 (67.2%) were non-Hispanic white and 322 (72.4%) were men (Table 1).

4992

Table 1. Characteristics of the Unsheltered Cohort, 2000-2009.

Characteristic	No. (%)					
	Unsheltered Adult Homeless Cohort				Sheltered Adult Homeless Cohort ≥18 y (n = 28 033)[a]	MA 2000 Census Population ≥18 y (n = 4 849 033)[b]
	Full Cohort (N = 445)	Men (n = 322)	Women (n = 123)	Decedents (n = 134)		
Age, y						
18-44	248 (55.7)	165 (51.2)	83 (67.5)	56 (41.8)	17 298 (61.8)	2 569 111 (53.0)
45-64	176 (39.6)	140 (43.5)	36 (29.3)	65 (48.5)	9924 (35.4)	1 419 760 (29.3)
≥65	21 (4.7)	17 (5.3)	4 (3.3)	13 (9.7)	811 (2.8)	860 162 (17.7)
Race/ethnicity						
Non-Hispanic white	299 (67.2)	223 (69.3)	76 (61.8)	108 (80.6)	11 912 (42.5)	4 180 644 (86.1)
Non-Hispanic black	94 (21.1)	62 (19.3)	32 (26.0)	15 (11.2)	8066 (28.8)	236 027 (4.9)
Persons of color or unknown[c]	52 (11.7)	37 (11.5)	15 (12.2)	11 (8.2)	8055 (28.7)	432 362 (8.9)
Sex						
Men	322 (72.4)	NA	NA	116 (86.6)	18 612 (66.4)	2 289 671 (47.2)
Women	123 (27.6)	NA	NA	18 (13.4)	9421 (33.6)	2 559 362 (52.8)

Open in a new tab

4993

Abbreviations: MA, Massachusetts; NA, not applicable.

[a]Adult homeless cohort from the study by Baggett et al.[10]

[b]Based on US Census Bureau data.[19]

[c]Individuals who identified as Asian, Hispanic, American Indian, or whose race/ethnicity was unknown.

Decedent Characteristics

Of the 445 unsheltered adults, 134 died during the study period. A total of 122 deaths were confirmed through linkage with the Massachusetts Department of Public Health data, and an additional 12 records were manually matched to the National Death Index[14] reports. The mean (SD) age at death was 53 (11.4) years. Of the 134 decedents, 116 (86.6%) were men and 108 (80.6%) were non-Hispanic white. A mean (SD) of 13 (3.4) deaths per year occurred throughout the study. Most deaths (87 of 134 [64.9%]) occurred inside a health care facility (ie, inpatient wards, outpatient clinics, emergency departments, and nursing homes), and 48 (35.8%) resulted in an autopsy.

Mortality Rates

The crude mortality rate overall was 3713.2 (95% CI, 3110.9-4397.5) deaths per 100 000 person-years (Table 2). The race/ethnicity specific mortality rate ratio for non-Hispanic blacks was 0.4 times the rate ratio of death for non-Hispanic whites (95% CI, 0.2-0.7; $P < .001$) (Table 2). The SMR for the unsheltered cohort was 9.8 (95% CI, 8.2-11.5) relative to the Massachusetts population and 2.7 (95% CI, 2.3-3.2) relative to the sheltered adult homeless cohort (Table 3).

Table 2. Stratum-Specific Mortality Rates and Rate Ratios of Unsheltered Cohort, 2000-2009.

Characteristic	Deaths, No. (%)	Person-Years, No.	Mortality Rate, Deaths per 100 000 Person-Years (95% CI)	Rate Ratio (95% CI)	*P* Value
Overall	134 (100)	3608.7	3713.2 (3110.9-4397.5)	NA	NA
Age, y					
18-44	56 (41.8)	2124.6	2635.8 (1990.7-3422.2)	1 [Reference]	NA
45-64	65 (48.5)	1350.3	4813.8 (3716.0-6136.9)	1.8 (1.3-2.7)	<.001
65-84	13 (9.7)	133.8	9715.9 (5165.6-16589.9)	3.7 (1.8-6.8)	<.001
Race/ethnicity					
Non-Hispanic white	108 (80.6)	2325.2	4644.7 (3810.5-5608.3)	1 [Reference]	NA
Non-Hispanic black	15 (11.2)	835.4	1795.5 (1005.4-2962.9)	0.4 (0.2-0.7)	<.001
Persons of color or unknown[a]	11 (8.2)	448.1	2455.1 (1225.7-4393.3)	0.5 (0.3-1.0)	.03
Sex					
Women	18 (13.4)	1130.6	1592.1 (943.2-2515.3)	1 [Reference]	NA
Men	116 (86.6)	2478.1	4681.0 (3868.2-5614.7)	2.9 (1.8-5.1)	<.001

Open in a new tab

4995

Abbreviation: NA, not applicable.

[a]Individuals who identified as Asian, Hispanic, American Indian, or whose race/ethnicity was unknown.

Table 3. Age-Standardized All-Cause and Cause-Specific Mortality Ratios for the Unsheltered Cohort (2000-2009) Compared With the Massachusetts Population (2000-2009) and With a Sheltered Adult Homeless Cohort (2003-2008)[a].

Underlying Cause of Death[b]	**Overall Deaths, No. (%) (n = 134)**	**SMR (95% CI)**[c]	
		Unsheltered Homeless Adults vs MA Population	**Unsheltered vs Sheltered Homeless Adults**
All causes for entire cohort	134 (100)	9.8 (8.2-11.5)	2.7 (2.3-3.2)
Natural causes			
Cancer	21 (15.7)	4.8 (3.1-7.3)	2.8 (1.8-4.2)
Heart diseases	18 (13.4)	6.4 (3.9-9.9)	2.4 (1.4-3.7)
Chronic substance use	16 (11.9)	88.9 (52.7-141.5)	4.2 (2.5-6.7)
Chronic liver disease	15 (11.2)	32.2 (18.7-51.9)	4.5 (2.6-7.3)
HIV/AIDS	10 (7.5)	63.8 (32.4-113.8)	3.4 (1.7-6.0)
Ill-defined conditions	5 (3.7)	26.8 (9.8-59.3)	NC
External causes			
Nonpoisoning injuries[d]	19 (14.2)	33.3 (20.7-51.1)	7.1 (4.4-11.0)
Drug overdose	8 (6.0)	14.1 (6.5-26.7)	0.9 (0.4-1.7)[e]
Substance use disorder causes	39 (29.1)	43.6 (31.4-58.9)	2.5 (1.8-3.3)
Alcohol use disorder	30 (22.4)	110.2 (75.7-155.3)	NC
Opioid use disorder	9 (6.7)	15.7 (7.6-28.8)	NC

Open in a new tab

Abbreviations: *ICD-10, International Statistical Classification of Diseases and Related Health Problems, Tenth Revision*; MA, Massachusetts; NC, not calculated; SMR, standardized mortality ratio.

4997

[a]Adult sheltered homeless cohort from the study by Baggett et al.[10]
[b]There were no unknown causes of death, and fewer than 5 deaths in each category were suppressed.
[c]The SMR was calculated when there were 5 or more deaths in each category.
[d]Nonpoisoning injuries (*ICD-10* diagnosis codes): transportation accidents (codes V01-V99), other external causes of accidental injuries (codes W00-X59, except X40-X49), and events of undetermined intent (codes Y20-Y34, except Y10-Y19). Methodology in combining the *ICD-10* categories were based on the Health of Boston 2014-2015 report.[15]
[e]The SMR was not significant.

Causes of Death

Thirty-nine deaths (29.1%) were directly attributable to substance use disorders and unintentional overdose (Table 3). Nonpoisoning injuries represented 19 of the 134 deaths (14.2%). Mortality rates in the unsheltered cohort for HIV/AIDS (10 of 134 deaths [7.5%]) were considerably higher than rates in the Massachusetts population and in the sheltered adult homeless cohort, and SMRs were significantly elevated among the unsheltered cohort when compared with both the Massachusetts population (SMR, 63.8; 95% CI, 32.4-113.8) and the sheltered adult homeless cohort (SMR, 3.4; 95% CI, 1.7-6.0). The one exception was drug overdose, which did not differ between the unsheltered cohort and adult homeless cohort (SMR, 0.9; 95% CI, 0.4-1.7). No deaths occurred from diabetes or tuberculosis. External causes, such as suicide, homicide, and hypothermia, which were included in the nonpoisoning injury category, accounted for fewer than 5 deaths each.

Discussion

All-cause mortality rates in the unsheltered cohort were nearly 3 times greater than those in an adult homeless cohort and almost 10 times greater than in the Massachusetts population. Our cause-specific mortality findings underscore a high burden of substance use in this population. In addition to the deaths directly attributable to substance use, many of the deaths due to nonpoisoning injuries, which primarily included motor vehicle crashes, falls, and drownings, have been shown by previous researchers to be related to alcohol or other drug use.[20,21,22] The SMR for nonpoisoning injuries was high for the unsheltered cohort compared with the adult homeless cohort; these results may indicate a possibly greater risk of death for rough sleepers, but more research is warranted. Other common causes of death, such as cancer and heart disease, have a strong link to cigarette smoking, which is highly prevalent among homeless people.[20] To effectively decrease morbidity and mortality in the

unsheltered population, it is necessary to have fully integrated clinical outreach teams to meet rough sleepers where they live on the streets in order to establish and maintain continuity of care.[13,23,24] Addiction treatment and recovery programs should be readily available, with treatment on demand to support motivation for action and prevent further morbidity and mortality. Future research should include harm reduction policies, such as managed alcohol programs or supervised injection sites within shelters and homeless programs, which might make shelters more tolerable for those who currently fear substance abuse withdrawal.[25,26]

Higher rates of death among non-Hispanic white individuals compared with non-Hispanic black individuals and persons of color have been consistently observed in previous studies of homeless persons, and the causes for this phenomenon are likely multifactorial.[2,4,5,7,8,10] Similarly, studies have shown that homeless men have higher rates of death than homeless women. Non-Hispanic white individuals and men, on average, have more economic resources than non-Hispanic black individuals and women and are less likely to have experienced adverse social and economic effects due to bias or discrimination.[27] Thus, non-Hispanic white individuals and men may, on average, have reached a higher threshold of comorbidities at the time that they become homeless compared with non-Hispanic black individuals and persons of color. Men, whether or not they are homeless, are at a higher risk of death at an earlier age than women because of risk-taking behaviors related to the male sex. However, more research with empirical data needs to be conducted to fully understand these disparities among the unsheltered homeless.

Limitations

Although the study was subject to some biases that we could not control, we believe the influences were minor. Some unsheltered adults living on the streets of Boston may not have been seen by BHCHP's Street Team during enrollment and were not included in the cohort, which created a potential selection bias toward those homeless adults who sought health services. Since Boston is a moderately sized city with an extensive network of outreach services provided by the BHCHP's Street Team and their community partners, the number of individuals not served by BHCHP during enrollment was likely to have been small. Additional bias could have occurred if someone entered the cohort and then traveled to another state and died while living in another state. Obtaining National Death Index[14] records improved our ability to detect deaths that occurred outside the state. The BHCHP's Street Team database contained 123 records with insufficient identifying information to be included in the study. These excluded individuals could be systematically different from individuals included in the study in important ways, such as their level of illness or the length of time that they were homeless. Based on our clinical experience, an alternative explanation was that most of these

records with insufficient identifying information were duplicate records of identified cohort members because a new record was opened, rather than an existing one updated, when identifiers were learned.

Additional limitations included a lack of information about individual comorbidities or the chronicity of being homeless before or during the observation period; both could have contributed to a more nuanced understanding of mortality risk in this population. Some causes of death were too rare to ascertain mortality rates. A larger cohort would be required to address this limitation in future studies. Some overlap of the 2 homeless cohorts may have occurred, but the overlap was believed to have been small because BHCHP's data on sleeping location from 2008 showed that the proportion of patients sleeping outside was small (1%-3%) and the time frames of the 2 cohorts were not exact. If there was overlap, estimates of mortality using the sheltered adult homeless cohort as a comparison would be conservative.

Choosing Massachusetts as a comparison population instead of Boston could be considered a limitation of the study; however, some of our methods were based on those used by Baggett et al[10] in their 2013 study, in which the Massachusetts population was the comparison group. In addition, during the time frame of the study, the age-adjusted, all-cause mortality rate in Boston (687 per 100 000 population) was only slightly higher than the age-adjusted, all-cause mortality rate for Massachusetts (669 per 100 000 population).[15,28] We anticipated that confounding by race/ethnicity would be minimal given that the study cohort was disproportionately of non-Hispanic white race/ethnicity as was the Massachusetts population.

Generalizability to cities outside Boston could be affected by difference in access to homeless shelters, health insurance, and health care. Boston guarantees each homeless person access to emergency homeless shelters each night.[29] Not every city across the United States makes this guarantee, and the homeless people accessing shelters in Boston may differ from the homeless accessing, or not accessing, shelters in another city. Most of Boston's shelters have few limits on the length of stay and have little to no requirements regarding sobriety. These shelters accept individuals struggling with alcohol and other drugs, an important factor in minimizing the number of unsheltered individuals in Boston. Shelters in many cities have limits on the length of stay or requirements for sobriety and do not allow individuals with active substance use disorders, which increases the number of homeless people living outside. Access to health care and health insurance were available to our cohort, but it was not uniform across the United States, particularly during the time of the study. These factors could influence mortality for those individuals sleeping outside in different locations and thereby influence the generalizability of our results. Our study provides

5000

important insights about mortality patterns in this previously overlooked group of highly vulnerable individuals.

Conclusions

Our study results showed that unsheltered adults had a higher all-cause mortality rate than a mostly sheltered homeless adult population in Boston, a finding that to our knowledge is not previously reported in the literature. The unsheltered cohort died at a relatively young age of both noncommunicable and substance-attributable causes of death. Access to a patient-centered, outreach service model with integrated medical and behavioral health care delivered directly to the unsheltered population is necessary to begin to address these disparities. A better understanding of the social and supportive services is necessary to augment an integrated outreach team. Services such as harm-reduction models; greater availability and access to substance use disorder treatment, including smoking cessation; and a continuum of housing models with flexible social services to meet individual needs for successful tenancies and improved health are also needed to ultimately improve health disparities borne by those sleeping outside.[30]

Supplement.

eTable. *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (*ICD-10*) Codes and Groupings

Click here for additional data file. (15.8KB, pdf)

References

1. US Department of Housing and Urban Development The 2017 Annual Homeless Assessment Report (AHAR) to Congress, part 1: point-in-time estimates of homelessness. Published 2017. https://www.hudexchange.info/resources/documents/2017-ahar-part-1.pdf . Accessed January 11, 2018.

2. Barrow SM, Herman DB, Córdova P, Struening EL. Mortality among homeless shelter residents in New York City. Am J Public Health. 1999;89(4):529-534. doi: 10.2105/

5001

AJPH.89.4.529 [DOI] [PMC free article] [PubMed] [Google Scholar]

3. Centers for Disease Control (CDC) Deaths among the homeless—Atlanta, Georgia. MMWR Morb Mortal Wkly Rep. 1987;36(19):297-299. [PubMed] [Google Scholar]

4. Centers for Disease Control (CDC) Deaths among homeless persons—San Francisco, 1985-1990. MMWR Morb Mortal Wkly Rep. 1991;40(50):877-880. [PubMed] [Google Scholar]

5. Hibbs JR, Benner L, Klugman L, et al. Mortality in a cohort of homeless adults in Philadelphia. N Engl J Med. 1994;331(5):304-309. doi: 10.1056/NEJM199408043310506 [DOI] [PubMed] [Google Scholar]

6. Hwang SW, Lebow JM, Bierer MF, O'Connell JJ, Orav EJ, Brennan TA. Risk factors for death in homeless adults in Boston. Arch Intern Med. 1998;158(13):1454-1460. doi: 10.1001/archinte.158.13.1454 [DOI] [PubMed] [Google Scholar]

7. Hwang SW, Orav EJ, O'Connell JJ, Lebow JM, Brennan TA. Causes of death in homeless adults in Boston. Ann Intern Med. 1997;126(8):625-628. doi: 10.7326/0003-4819-126-8-199704150-00007 [DOI] [PubMed] [Google Scholar]

8. Kasprow WJ, Rosenheck R. Mortality among homeless and nonhomeless mentally ill veterans. J Nerv Ment Dis. 2000;188(3):141-147. doi: 10.1097/00005053-200003000-00003 [DOI] [PubMed] [Google Scholar]

9. Hwang SW, Wilkins R, Tjepkema M, O'Campo PJ, Dunn JR. Mortality among residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study. BMJ. 2009;339:b4036. doi: 10.1136/bmj.b4036 [DOI] [PMC free article] [PubMed] [Google Scholar]

10. Baggett TP, Hwang SW, O'Connell JJ, et al. Mortality among homeless adults in Boston: shifts in causes of death over a 15-year period. JAMA Intern Med. 2013;173(3):189-195. doi: 10.1001/jamainternmed.2013.1604 [DOI] [PMC free article] [PubMed] [Google Scholar]

11. Levitt AJ, Culhane DP, DeGenova J, O'Quinn P, Bainbridge J. Health and social characteristics of homeless adults in Manhattan who were chronically or not chronically unsheltered. Psychiatr Serv. 2009;60(7):978-981. doi: 10.1176/ps.2009.60.7.978 [DOI] [PubMed] [Google Scholar]

12. Montgomery AE, Szymkowiak D, Marcus J, Howard P, Culhane DP. Homelessness,

5002

unsheltered status, and risk factors for mortality: findings from the 100 000 homes campaign. Public Health Rep. 2016;131(6):765-772. doi: 10.1177/0033354916667501 [DOI] [PMC free article] [PubMed] [Google Scholar]

13. Nyamathi AM, Leake B, Gelberg L. Sheltered versus nonsheltered homeless women: differences in health, behavior, victimization, and utilization of care. J Gen Intern Med. 2000;15(8):565-572. doi: 10.1046/j.1525-1497.2000.07007.x [DOI] [PMC free article] [PubMed] [Google Scholar]

14. National Center for Health Statistics National Death Index. https://www.cdc.gov/nchs/ndi/index.htm . Accessed June 18, 2018.

15. *Health of Boston 2014-2015* Boston, MA: Research & Evaluation Office, Boston Public Health Commission; 2015. http://www.bphc.org/healthdata/health-of-boston-report/documents/hob-2014-2015/fullreport_hob_2014-2015.pdf . Accessed September 19, 2016.

16. *Instruction Manual, Part 9:* ICD-10 *Cause-of-Death Lists for Tabulating Mortality Statistics (Updated March 2011 to Include WHO Updates to* ICD-10 *for Data Year 2011)* Hyattsville, MD: National Center for Health Statistics, Centers for Disease Control & Prevention, US Dept of Health & Human Services; March 2011. https://www.cdc.gov/nchs/data/dvs/part9instructionmanual2011.pdf . Accessed September 19, 2016.

17. Centers for Disease Control and Prevention Wide-Ranging Online Data for Epidemiologic Research (WONDER): about underlying cause of death, 1999-2016. https://wonder.cdc.gov/ucd-icd10.html . Accessed June 18, 2018.

18. Dean AG, Sullivan KM, Soe MM OpenEpi: open source epidemiologic statistics for public health, version 3.01. Updated April 6, 2013. http://www.OpenEpi.com . Accessed September 19, 2016.

19. US Census Bureau Census 2000. summary file 1 (SF 1) 100-percent data: sex by age. American FactFinder. https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_00_SF1_P012&prodType=table . Accessed March 18, 2016.

20. Baggett TP, Chang Y, Singer DE, et al. Tobacco-, alcohol-, and drug-attributable deaths and their contribution to mortality disparities in a cohort of homeless adults in Boston. Am J Public Health. 2015;105(6):1189-1197. doi: 10.2105/AJPH.2014.302248 [DOI] [PMC free article] [PubMed] [Google Scholar]

21. Single E, Rehm J, Robson L, Truong MV. The relative risks and etiologic fractions of

different causes of death and disease attributable to alcohol, tobacco and illicit drug use in Canada. CMAJ. 2000;162(12):1669-1675. [PMC free article] [PubMed] [Google Scholar]

22. Single E, Robson L, Rehm J, Xie X. Morbidity and mortality attributable to alcohol, tobacco, and illicit drug use in Canada [published correction appears in *Am J Public Health*. 1999;89(5):785]. Am J Public Health. 1999;89(3):385-390. doi: 10.2105/AJPH.89.3.385 [DOI] [PMC free article] [PubMed] [Google Scholar]

23. Brickner PW, Scanlan BC, Conanan B, et al. Homeless persons and health care. Ann Intern Med. 1986;104(3):405-409. doi: 10.7326/0003-4819-104-3-405 [DOI] [PubMed] [Google Scholar]

24. Petrovich JC, Cronley CC. Deep in the heart of Texas: a phenomenological exploration of unsheltered homelessness. Am J Orthopsychiatry. 2015;85(4):315-323. doi: 10.1037/ort0000043 [DOI] [PubMed] [Google Scholar]

25. Potier C, Laprévote V, Dubois-Arber F, Cottencin O, Rolland B. Supervised injection services: what has been demonstrated? a systematic literature review. Drug Alcohol Depend. 2014;145:48-68. doi: 10.1016/j.drugalcdep.2014.10.012 [DOI] [PubMed] [Google Scholar]

26. Podymow T, Turnbull J, Coyle D, Yetisir E, Wells G. Shelter-based managed alcohol administration to chronically homeless people addicted to alcohol. CMAJ. 2006;174(1):45-49. doi: 10.1503/cmaj.1041350 [DOI] [PMC free article] [PubMed] [Google Scholar]

27. Pruitt L. Welfare queens and white trash. *Southern California Interdisciplinary Law Journal* 2016;25:289-312. UC Davis Legal Studies Research Paper No. 486. Updated April 26, 2016. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2740095 . Accessed September 19, 2016.

28. Office of Data Management and Outcomes Assessment, Massachusetts Department of Public Health *Massachusetts Deaths 2012: Data Brief* Boston: Massachusetts Dept of Public Health; 2015. https://www.mass.gov/files/documents/2016/07/mx/death-databrief-2012.pdf . Accessed January 12, 2018.

29. Emergency Health Commission *Dignity and Respect: Making Room for Boston's Homeless: A Report on the City of Boston's Comprehensive Policy for Boston's Homeless.* Boston, MA: Emergency Shelter Commission; 1987. https://archive.org/details/dignityrespectma00bost . Accessed September 19, 2016.

5004

30. Aubry T, Tsemberis S, Adair CE, et al. One-year outcomes of a randomized controlled trial of housing first with ACT in five Canadian cities. Psychiatr Serv. 2015;66(5):463-469. doi: 10.1176/appi.ps.201400167 [DOI] [PubMed] [Google Scholar]

Associated Data

This section collects any data citations, data availability statements, or supplementary materials included in this article.

Supplementary Materials

Supplement.

eTable. *International Statistical Classification of Diseases and Related Health Problems, Tenth Revision* (*ICD-10*) Codes and Groupings

Click here for additional data file. (15.8KB, pdf)

Articles from JAMA Internal Medicine are provided here courtesy of **American Medical Association**

EXHIBIT “3”

Hepatitis A Virus Outbreaks Associated with Drug Use and Homelessness — California, Kentucky, Michigan, and Utah, 2017

Monique Foster, MD[1]; Sumathi Ramachandran, PhD[1]; Katie Myatt, MS[2]; Danielle Donovan, MS[3]; Susan Bohm, MS[3]; Jay Fiedler, MS[3]; Bree Barbeau, MPH[4]; Jim Collins, MPH[3]; Douglas Thoroughman, PhD[2,6]; Eric McDonald, MD[5]; Jonathan Ballard, MD[2]; Jeffrey Eason, MPH[4]; Cynthia Jorgensen, DrPH[1]

During 2017, CDC received 1,521 reports of acute hepatitis A virus (HAV) infections from California, Kentucky, Michigan, and Utah; the majority of infections were among persons reporting injection or noninjection drug use or homelessness. Investigations conducted by local and state health departments indicated that direct person-to-person transmission of HAV infections was occurring, differing from other recent, large HAV outbreaks attributed to consumption of contaminated commercial food products. Outbreaks with direct HAV transmission among persons reporting drug use or homelessness signals a shift in HAV infection epidemiology in the United States, and vaccination of these populations at high risk can prevent future outbreaks.

Epidemiologic Investigation

Outbreak cases were defined as those meeting the 2012 CDC-Council of State and Territorial Epidemiologists' (CSTE) definition of acute hepatitis A infection,* having a specimen matching an outbreak strain, or an epidemiologic link to a previously identified case. Local and state health department personnel reviewed clinical charts and interviewed patients using standard questionnaires that evaluated risk factors associated with infection, including recent drug use, sexual history, housing status, recent international travel, and contact with another person with HAV infection.

Among states reporting increases in HAV infections to CDC outside or inside the National Notifiable Disease Surveillance System, only California, Kentucky, Michigan, and Utah reported sustained within-state transmission. This report includes outbreaks that occurred during 2017 in these four states. Additional cases reported from other states were excluded because they were attributed to HAV exposure during travel to one of the four outbreak states, and because prolonged, ongoing transmission did not occur in the other states.

During 2017, a total of 1,521 outbreak-associated HAV cases were reported from California, Kentucky, Michigan, and Utah, with 1,073 (71%) hospitalizations and 41 (3%) deaths (Table 1). Among patients for whom clinical or laboratory records were available for review, 42 (3%) had confirmed or probable hepatitis B virus coinfection, and 341 (22%) had confirmed or probable hepatitis C virus coinfection. Overall, 866 (57%) patients reported drug use, homelessness, or both (Table 2). Among all cases, 818 (54%) had an indication for hepatitis A vaccination before becoming infected (i.e., using drugs or being men who had sex with men [MSM]) as recommended by the Advisory Committee on Immunization Practices (ACIP) (*1*).

Laboratory Investigation

When available, serum specimens from patients who met the CSTE case definition were sent to CDC's Division of Viral Hepatitis laboratory for HAV RNA isolation, genotyping, and genetic characterization. HAV RNA was extracted from immunoglobulin M antibody-positive serum samples and used to amplify and Sanger-sequence a 315–base-pair fragment of the VP1/P2B region (*2*). During 2017, 1,169 specimens from outbreak-associated cases from the four affected states were sent to CDC for additional testing. A total of 1,054 (90%) specimens had HAV confirmed by polymerase chain reaction, 1,014 (96%) of which tested positive for a genotype 1b viral strain. The strains circulating in California, Kentucky, and Utah were genetically different from those circulating in Michigan.

Public Health Response

CDC worked with affected local and state health departments to apply control measures through health advisories, public education, and vaccination clinics that provided outreach and vaccination to the targeted populations. Vaccine was administered in jails, emergency departments, syringe exchange programs, drug treatment facilities, and homeless shelters. In certain jurisdictions, investigation teams also visited homeless encampments to educate and vaccinate unsheltered homeless groups. Although reporting of new outbreak cases in California has ended, new case investigations continue in Kentucky, Michigan, and Utah. Vaccination campaigns also continue for MSM and persons who use drugs or report homelessness in the affected states.

Discussion

After the introduction of hepatitis A vaccine in 1996, the incidence of reported HAV infection steadily decreased in the United States until 2011 and then stabilized at an annual

* https://wwwn.cdc.gov/nndss/conditions/hepatitis-a-acute/case-definition/2012.

TABLE 1. Demographic and clinical characteristics of hepatitis A outbreak–associated cases, by state — four states, 2017

Characteristic	California	Kentucky	Michigan	Utah	Total
Total cases, no.	**682**	**59**	**632**	**148**	**1,521**
Male, no. (%)	471 (69)	39 (66)	412 (65)	97 (66)	**1,019 (67)**
Median age, yrs (range)	42 (5–87)	36 (1–84)	41 (<1–90)	38 (22–83)	—
Earliest onset, date	01/17/2017	08/29/2017	01/05/2017	05/08/2017	—
Outcome					
Hospitalized, no. (%)	442 (65)	45 (76)	508 (80)	78 (53)	**1,073 (70)**
Died, no. (%)	21 (3)	0	20 (3)	0	**41 (3)**
Comorbidities					
Hepatitis B infection, no. (%)	10 (1)	4 (7)	16 (3)	12 (8)	**42 (3)**
Hepatitis C infection, no. (%)	116 (17)	29 (49)	165 (26)	31 (21)	**341 (22)**

TABLE 2. Risk exposures of hepatitis A outbreak–associated patients, by state — four states, 2017

	No. (%)				
Reported risk exposure	California	Kentucky	Michigan	Utah	Total
Homelessness and drug use	247 (36)	27 (46)	64 (10)	75(51)	**395 (26)**
Homelessness only	65 (10)	3 (5)	7 (1)	5 (3)	**78 (5)**
Homelessness, drug use unknown	43 (6)	2 (3)	2 (0.3)	5 (3)	**51 (3)**
Drug use only	67 (10)	11 (19)	165 (26)	28 (19)	**265 (17)**
Drug use, homelessness unknown	11 (2)	1 (2)	58 (9)	7 (5)	**77 (5)**
Neither homelessness nor drug use	190 (28)	13 (22)	286 (45)	15 (10)	**504 (33)**
Men who have sex with men	18 (3)	4 (7)	61 (10)	1 (0.7)	**81 (5)**
Unknown	59 (9)	2 (3)	27 (4)	13 (9)	**114 (8)**

* Percentage totals sum >100 because of men who had sex with men being included independently and as part of "homelessness," "drug use," and "neither homeless nor drug use" categories.

average of approximately 1,600 reported cases, mostly among international travelers returning from countries with endemic HAV or as part of foodborne outbreaks (*1*,*3*). HAV outbreaks among illicit drug users were common in the prevaccine era; during the mid-1980s, drug users accounted for >20% of all HAV cases reported to CDC (*3*,*4*). However, large community outbreaks within this population rarely occurred after 1996, when hepatitis A vaccine was first recommended for persons who use illicit drugs (*3*,*4*).

Person-to-person transmission of HAV between those who report drug use or homelessness can result from unsafe sanitary conditions or specific sexual contact or practices, or it can be parenterally transmitted through contaminated needles or other injection paraphernalia (*4*–*6*). Transient housing, economic instability, limited access to health care, and distrust of government services make outbreaks among affected populations more difficult to control, requiring tailored comprehensive public health interventions that address their specific circumstances and needs (*5*–*7*).

During 2016, U.S. hospitalization and mortality rates associated with HAV infections were 42% and 0.7%, respectively (*3*). Increased hospitalization and mortality rates observed in the 2017 HAV outbreaks might be attributable to preexisting illnesses, including chronic hepatitis B and hepatitis C infections, other comorbidities, age, and risk behaviors common among persons reporting drug use and homelessness (e.g., heavy alcohol use) (*8*).

Increasingly, investigations of HAV infections are using molecular epidemiology to confirm outbreaks (*2*). Laboratory data, when combined with reliable epidemiologic data, can be effective in understanding transmission networks, particularly among populations distrustful of investigators. The majority of surveillance specimens tested by CDC's laboratory before 2017 were genotype 1a, the most common genotype in North and South America, but expansion of genotype 1b attributed to the current outbreaks is leading to increased detection of this previously uncommon genotype (*2*,*9*).

Vaccination rates among existing ACIP-identified risk groups are unknown but are believed to be low (*10*). On October 24, 2018, ACIP voted unanimously to add "homelessness" as an indication for ACIP-recommended HAV vaccination (*1*).[†] Although the outbreak has ended in California, hepatitis A outbreaks among persons reporting drug use or homelessness continue in Kentucky, Michigan, and Utah, and, as of October 12, 2018, >7,000 outbreak associated cases have been reported from 12 states.[§]

Increasing vaccination coverage among all at-risk groups recommended by ACIP to receive hepatitis A vaccine might halt ongoing outbreaks and prevent future large community outbreaks (*1*).

[†] https://www.cdc.gov/vaccines/acip/meetings/downloads/agenda-archive/agenda-2018-10-508.pdf.
[§] https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm.

CDC has recommended that local health jurisdictions experiencing HAV outbreaks among persons who report drug use or homelessness ensure procedures are in place for identifying these risk factors and that these groups are vaccinated against HAV infection.¶ State and local health departments and CDC should be notified of any new suspected clusters of acute HAV infections.

¶ https://emergency.cdc.gov/han/han00412.asp.

Acknowledgments

Jennifer Zipprich, PhD, California Department of Public Health; Kathleen Harriman, PhD, California Department of Public Health; Utah's local health departments; California's local health departments; medical and mental health partners; corrections partners; syringe service providers.

Corresponding author: Monique A. Foster, ydg9@cdc.gov, 404-718-8561.

[1]Division of Viral Hepatitis, National Center for HIV, Viral Hepatitis, STD, and TB Prevention, CDC; [2]Kentucky Department for Public Health; [3]Michigan Department of Health and Human Services; [4]Utah Department of Health; [5]San Diego County Health and Human Services Agency, San Diego, California; [6]CEFO Program, Division of State and Local Readiness, Center for Preparedness and Response, CDC.

All authors have completed and submitted the ICMJE form for disclosure of potential conflicts of interest. No potential conflicts of interest were disclosed.

Summary

What is already known about this topic?

Hepatitis A is a vaccine-preventable viral infection of the liver that is commonly transmitted through consumption of microscopic amounts of feces. Outbreaks of hepatitis A infections are infrequent in the United States and are typically associated with contaminated food items.

What is added by this report?

During 2017, California, Kentucky, Michigan, and Utah reported 1,521 hepatitis A infections, mostly among persons who reported drug use or homelessness, signaling a shift in hepatitis A epidemiology from point-source outbreaks associated with contaminated food to large community outbreaks with person-to-person transmission.

What are the implications for public health practice?

Increasing vaccination among groups at risk for hepatitis A infection might halt ongoing outbreaks and prevent future outbreaks.

References

1. Advisory Committee on Immunization Practices. Fiore AE, Wasley A, Bell BP. Prevention of hepatitis A through active or passive immunization: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep 2006;55(No. RR-7).
2. Nainan OV, Armstrong GL, Han XH, Williams I, Bell BP, Margolis HS. Hepatitis A molecular epidemiology in the United States, 1996–1997: sources of infection and implications of vaccination policy. J Infect Dis 2005;191:957–63. https://doi.org/10.1086/427992
3. CDC. Viral hepatitis surveillance, United States 2016. Atlanta, GA: US Department of Health and Human Services, CDC; 2017. https://www.cdc.gov/hepatitis/statistics/2016surveillance/pdfs/2016HepSurveillanceRpt.pdf
4. CDC. Hepatitis surveillance: report no. 55. Atlanta, GA: US Department of Health and Human Services, CDC; 1994. https://babel.hathitrust.org/cgi/pt?id=mdp.39015026224173;view=1up;seq=24
5. Villano SA, Nelson KE, Vlahov D, Purcell RH, Saah AJ, Thomas DL. Hepatitis A among homosexual men and injection drug users: more evidence for vaccination. Clin Infect Dis 1997;25:726–8. https://doi.org/10.1086/513757
6. Collier MG, Drobeniuc J, Cuevas-Mota J, Garfein RS, Kamili S, Teshale EH. Hepatitis A and B among young persons who inject drugs—vaccination, past, and present infection. Vaccine 2015;33:2808–12. https://doi.org/10.1016/j.vaccine.2015.04.019
7. James TL, Aschkenasy M, Eliseo LJ, Olshaker J, Mehta SD. Response to hepatitis A epidemic: emergency department collaboration with public health commission. J Emerg Med 2009;36:412–6. https://doi.org/10.1016/j.jemermed.2007.10.001
8. Ly KN, Klevens RM. Trends in disease and complications of hepatitis A virus infection in the United States, 1999–2011: a new concern for adults. J Infect Dis 2015;212:176–82. https://doi.org/10.1093/infdis/jiu834
9. Hofmeister MG, Foster MA, Teshale EH. Epidemiology and transmission of hepatitis A virus and hepatitis E virus infections in the United States. Cold Spring Harb Perspect Med 2018;a033431. https://doi.org/10.1101/cshperspect.a033431
10. Williams WW, Lu PJ, O'Halloran A, et al. Surveillance of vaccination coverage among adult populations—United States, 2015. MMWR Surveill Summ 2017;66(No. SS-11). https://doi.org/10.15585/mmwr.ss6611a1

EXHIBIT “4”

Check for updates

doi:10.1111/j.1440-1746.2006.04568.x

HEPATOLOGY

Transmission of hepatitis C virus by needle-stick injury in community settings

Paul S Haber,* Margaret M Young,† Lloyd Dorrington,† Andrew Jones,† John Kaldor,‡ Sophie De Kanzow¶ and William D Rawlinson¶,§

*Royal Prince Alfred Hospital and Discipline of Medicine, University of Sydney, ‡National Center for HIV Epidemiology and Clinical Research, School of Community Medicine and Public Health, University of New South Wales, ¶Virology Division, Department of Microbiology SEALS, Prince of Wales Hospital, and §School of Medicine, University of New South Wales, Sydney, New South Wales, and †South Coast Public Health Unit, Southport, Queensland, Australia

Key words
hepatitis C virus, needle stick, polymerase chain reaction, transmission.

Accepted for publication 7 April 2006.

Correspondence
Associate Professor Paul Haber, Drug Health Services, Royal Prince Alfred Hospital, Camperdown, NSW 2050, Australia.
Email: phaber@mail.usyd.edu.au

Abstract

Background: Hepatitis C virus (HCV) is predominantly transmitted by blood-to-blood contact, typically by sharing of needles by injecting drug users. Discarded needles could act as a vector for transmission of this infection.
Methods: Two cases of HCV seroconversion following a needle-stick injury in a community setting were identified. The effects of specimen processing and storage conditions on detection of HCV RNA were assessed to provide information about the likelihood of discarded needles containing infectious HCV.
Results: Consistent with a role for discarded needles in viral transmission, *in vitro* studies demonstrated that viral load declined by less than one log following storage for 24 h.
Conclusion: All needle-stick injuries should be promptly investigated by serology and HCV-PCR.

Introduction

Hepatitis C virus (HCV) is transmitted by blood-to-blood contact. Worldwide, therapeutic injections are thought to be the most common source of infection whereas in the USA and Australia, sharing of needles by injecting drug users appears to be the most common mode of transmission. Needle-stick injuries in healthcare settings are recognized as an uncommon mode of transmission. Needles discarded by HCV-infected injecting drug users have the potential to act as a vector for transmission of this infection to the general community.

Transmission via needle-stick injury in the community requires survival of viable virus. Existing data regarding the effect of temperature, storage conditions and time on the stability of HCV RNA are conflicting. Some authors show no or minimal effect after storage for 3 days with freezing and thawing the samples,[1] and no effect of storage at 25°C for 14 days or 5°C for 3 months.[2] However, other authors indicate significant falls in HCV RNA levels over hours to days.[3,4]

This report describes two cases of HCV transmission by needle-stick injury in a community setting. Consistent with the clinical findings, we documented that the HCV viral load in blood declines relatively slowly with storage at room temperature. It reaffirms the need to carefully implement existing policies to prevent needle-stick injuries and monitor those affected for viral transmission.

Case reports

Case 1

A young man working in a caravan park sustained a needle-stick injury to his right index finger while manually emptying rubbish bins. The puncture wound bled slightly and the finger was not washed until some time after the injury. A park manager was notified immediately, and a 1 mL tuberculin needle and syringe was found and removed from the rubbish bin. The bins were emptied daily so the needle had probably been discarded within the previous 24 h. The man and his manager took the needle and syringe to the local public hospital where they were advised testing for blood-borne viruses could not be performed on them. The man had blood taken for baseline antibody tests. As there was no history of hepatitis B vaccination or exposure, he was given an intramuscular injection of hepatitis B immunoglobulin. He received counseling regarding the injury and risk of blood-borne virus infection and was advised to have follow-up testing performed in 3 months' time. He was quite distressed by the injury, requiring further counseling. He returned to work 3 weeks after the injury.

Sixty-four days after the needle-stick injury, he attended his local medical officer with a 2-day history of nausea, headaches, myalgia, slight dry cough and fever. There was no jaundice. No

Journal of Gastroenterology and Hepatology **22** (2007) 1882–1885 © 2006 The Authors
Journal compilation © 2007 Journal of Gastroenterology and Hepatology Foundation and Blackwell Publishing Asia Pty Ltd

diagnosis was made, and he took 2 days sick leave before recovering fully. These symptoms may or may not have represented a seroconversion illness.

The baseline test for HCV on the day of the needle-stick injury was negative (antibody sample to control [S/C] ratio 0.40). The follow up test taken 93 days following the injury was positive for HCV IgG by enzyme immunoassay (EIA) (Murex 4) and by mEIA (Abbott 3). Subsequently, baseline and follow-up samples were tested in parallel, and seroconversion to HCV was confirmed. HCV RNA test was negative on the baseline sample. Liver tests (alanine aminotransferase [ALT], aspartate aminotransferase [AST], γ-glutamyl transferase [GGT], alkaline phosphatase [ALP]) performed 18 months prior to the injury were all within normal reference ranges. Liver tests were not performed at the same time as the follow-up HCV tests but were performed when reviewed by a hepatologist 4 weeks later. These were elevated, with an ALT level of 573 U/L (reference range 5–40 U/L).

The patient disclosed a history of smoking heroin for about 6 months, ending 4 years prior to this needle-stick injury. He had never injected drugs. He had a series of routine tests for blood-borne virus infections including HCV in late 2001, at the start of a new sexual relationship, and these had been negative.

Case 2

A 64-year-old woman trod on a used syringe and 27-G needle while walking through a public car park in an inner city neighborhood with a high prevalence of injecting drug use. The needle penetrated the canvas sole of her shoe and drew blood. She was concerned about the possibility of blood-borne virus infection and presented to her local doctor the following day. This incident was documented but no blood tests were obtained. The patient was asked to return 3 months later for serological investigations, which revealed HCV antibodies and viraemia (Table 1). One year beforehand, she had tested negative for HCV antibody during an admission to hospital for elective knee replacement surgery; however, the association of the needle-stick injury with HCV transmission is not definite due to the absence of baseline HCV serology at the time of the injury. Liver tests had been normal on two prior occasions but after seroconversion, they became persistently abnormal in a pattern typical of chronic viral hepatitis. The most recent investigations revealed continuing chronic HCV viraemia. HIV and HBV antibody tests remained persistently negative.

The patient lived alone and had not been sexually active for more than 10 years. She stated she had never injected drugs and there were no track marks or any clinical events to suggest a history of injecting drug use. She had received one blood transfusion in 1970 after gynecologic surgery. Contact tracing by the hospital public health unit did not reveal any source of transmission or any other cases of unexplained viral hepatitis associated with the orthopedic admission.

Physical examination revealed no signs of acute or chronic liver disease. The patient was not considered suitable for antiviral therapy involving ribavirin due to postoperative cardiac failure and controlled type 2 diabetes mellitus.

Methods

The effects of specimen processing and storage conditions on detection of HCV RNA have been assessed in our laboratories to provide information about the likelihood of discarded needles containing infectious HCV. Whole blood from two HCV-infected patients was collected into EDTA tubes and divided into 1 mL aliquots. Each aliquot was split into two groups, one stored at room temperature (22°C) and one stored in a monitored refrigerator at +4°C.

At the start (time zero), duplicate aliquots were centrifuged at 2500 g for 10 min, and supernatant plasma collected. Duplicate aliquots for each of the different storage conditions were centrifuged after 6, 12 and 24 h from collection and the supernatant was

Table 1 Test results for patient 2

Timeline	ALT (U/L)	HCV antibody	HCV PCR
15 months prior	22	ND	ND
8 months prior	13	ND	ND
7 months prior	ND	Negative	ND
Needle-stick injury			
3 months after	108	Indeterminate Abbott (1.8; cutoff = 1.0) + ve Murex (0.42; cutoff = 0.71) – ve	ND
3.5 months after	87	Indeterminate Abbott (3.0; cutoff = 1.0) + ve Murex (0.19; cutoff = 0.69) – ve	ND
4 months after	112	Indeterminate Abbott (8.1; cutoff = 1.0) + ve Murex (0.56; cutoff = 0.66) – ve	Positive
5 months after	119	Positive Abbott Confirmatory test positive (VIDRL)	Positive Genotype 1 (VIDRL)
7 months after	111	ND	ND
12 months after	65	Positive	Positive

ALT, alanine aminotransferase; HCV, hepatitis C virus; ND, test not done; – ve, negative; +ve, positive.

Journal compilation © 2007 Journal of Gastroenterology and Hepatology Foundation and Blackwell Publishing Asia Pty Ltd

14401746, 2007, 11, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/j.1440-1746.2006.04568.x by University Of Waterloo, Wiley Online Library on [10/12/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

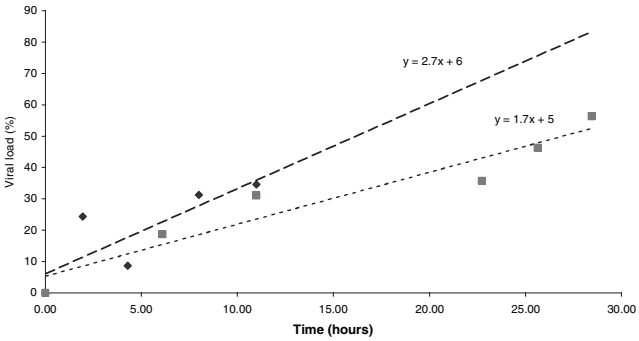


Figure 1 Percentage reduction of viral load when stored at (◆, bold dashes) room temperature and (■, thin dashes) 4°C before separation.

removed, and stored at −80°C before the viral load of the samples was determined using the HCV Roche monitor assay (Roche Diagnostics, Sydney, NSW, Australia). Thus, we attempted to duplicate the situation where blood is present in needles and syringes, and subsequently separate the supernatant from the cellular fraction of blood at certain times after collection.

The reduction of HCV RNA titer was determined as a percentage of loss when compared to the reference viral load determined at time zero. The rate of change was plotted as loss of percentage of viral load (x) at any time (y) and the equations for a linear fit were calculated, allowing determination of a slope for rate of change in viral load with time.

Results

We demonstrated a 70% reduction in viral load when samples were stored at room temperature for 24 h, and a 40% reduction in viral load when samples were stored at 4°C for 24 h (Fig. 1). Based on the assumption of constant viral load loss, a simple linear model would predict loss of percentage of viral load (y) at any time (x, in hours) in samples stored at room temperature defined by $y = 2.7x + 6$.

Discussion

These two cases are amongst the first well-documented evidence that HCV can be transmitted by accidental needle-stick injury in the public setting. In both cases, HCV seroconversion was demonstrated along with an independently documented risk exposure. In light of this report, all needle-stick injuries should be promptly investigated by serology and HCV-PCR as soon as possible after the injury with follow-up testing 1–3 months later. In this way, cases amenable to early antiviral therapy will be detected as soon as possible, leading to the highest possible rates of viral clearance.

Hepatitis C virus transmission following needle-stick injury is a recognized threat to healthcare workers.[5,6] The risk has been documented at 0.3% in a large multicentre study[7] and is related to the presence and concentration of virus, the inoculum volume, the nature of injury to the skin, and ambient environmental factors.[5] All tested source cases were HCV RNA positive. HIV positivity was associated with transmission risk.[7] The level of HCV RNA in blood generally declines hours after removal from the host,[5] suggesting that infectivity of a needle is dependent on the time between the needle being discarded and the subsequent injury. Variability in previously reported rates of RNA decline *ex vivo* may result from variations with respect to moisture, temperature and initial viral load. Our *in vitro* data, in which these factors were controlled, suggest that viral load, as measured by RNA levels, declines relatively slowly, at 1.7–2.7% per hour according to ambient temperature, consistent with continuing infectivity.

Needle-stick injuries from discarded injecting equipment in public places are considered to pose a very low risk. We were only able to find a single documented case of HCV infection following accidental needle-stick injury in the non-healthcare setting.[8] One other case of HCV infection has been reported in a policeman intentionally wounded by a needle used by a long-term injecting drug user.[9] There is much community anxiety regarding blood-borne virus infection following community needle-stick injury.[10] HCV antibodies can be detected in 10–15% of needles returned to needle syringe programs.[11] It is likely many needle-stick injuries remains unreported and of those that do present for medical assessment, many are lost to follow-up.[10] A study of children who sustained community acquired needle-stick injury suggested that loss to follow-up (14 out of 50) may have been associated with over-reassurance of the parents regarding the low risk of seroconversion.[10]

This report raises significant workplace health and safety issues, in particular hazardous handling of wastes. Several staff had previously found used injecting equipment in public areas of the park where patient 1 worked. At the time of the injury there were no facilities in the park for safe disposal of injecting equipment. In an audit of 296 hospitality, accommodation and cleaning service industries, 145 workplaces (49%) reported finding discarded sharps (in particular, used needles and syringes).[12] Implementation of safe work practices where relevant may prevent blood-borne virus transmission.

Early treatment of acute HCV infection with interferon-α is highly effective in prevention of chronic HCV infection.[5,13] Following baseline investigations, further testing for seroconversion enables early referral for consideration of treatment options. However, the effectiveness of early treatment has to be balanced against the chance of spontaneous viral clearance and the reduced effectiveness of delayed treatment. Treatment of those who remain HCV RNA positive after 12 weeks has been successfully adopted.[14]

The National Institute of Health (NIH)[6] has recently revised its recommendations regarding follow-up of needle-stick injuries in the healthcare setting. Given the ability of PCR to detect HCV RNA 2 weeks after transmission,[15] the NIH recommends exposed healthcare workers should be checked at 2 and 8 weeks after injury. A similar approach to needle-stick injuries in the non-healthcare setting may facilitate the earliest possible diagnosis for risk management purposes, but to identify persisting infection that requires antiviral treatment, testing at 12 weeks may be more appropriate.

Although the risk of acquiring blood-borne virus infection from accidental needle-stick injury in the non-healthcare setting would appear to be low, this report confirms the need for baseline assessment and follow-up after such injuries. It is also important to gather data concerning the prevalence of this mode of HCV transmission and maintain strategies to minimize it. Neither patient received optimal management in the initial stages, indicating a

Journal compilation © 2007 Journal of Gastroenterology and Hepatology Foundation and Blackwell Publishing Asia Pty Ltd

14401746, 2007, 11, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/j.1440-1746.2006.04568.x by University Of Waterloo, Wiley Online Library on [10/12/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

need for education of primary healthcare workers including appropriate referral procedures.

Acknowledgment

Funding from a project grant from National Health and Medical Research Council (PH, WR, JK) is acknowledged.

References

1 Gessoni G, Barin P, Valverde S *et al.* Biological qualification of blood units: considerations about the effects of sample's handling and storage on stability of nucleic acids. *Transfus. Apheresis Sci.* 2004; **30**: 197–203.
2 Jose M, Curtu S, Gajardo R, Jorquera JI. The effect of storage at different temperatures on the stability of hepatitis C virus RNA in plasma samples. *Biologicals* 2003; **31**: 1–8.
3 Krajden M, Minor JM, Zhao J, Rifkin O, Comanor L. Assessment of hepatitis C virus RNA stability in serum by the Quantiplex branched DNA assay. *J. Clin. Virol.* 1999; **14**: 137–43.
4 Fong TL, Charboneau F, Valinluck B *et al.* The stability of serum hepatitis C viral RNA in various handling and storage conditions. *Arch. Pathol. Lab. Med.* 1993; **117**: 150–1.
5 Sulkowski MS, Ray SC, Thomas DL. Needlestick transmission of HCV. *JAMA* 2002; **287**: 2406–13.
6 National Institutes of Health. *Consensus Development Conference Statement Management of HCV: 2002.* Bethesda: National Institutes of Health, 2002. Accessed 3 Jun 2005. Available from: http://consensus.nih.gov/cons/116/Hepc091202.pdf.
7 De Carli G, Puro V, Ippolito G. Risk of hepatitis C virus transmission following percutaneous exposure in healthcare workers. *Infection* 2003; **31** (Suppl. 2): 22–7.
8 Libois A, Fumero E, Castro P *et al.* Transmission of hepatitis C virus by discarded-needle injury. *Clin. Infect. Dis.* 2005; **41**: 129–30.
9 Berger CM, Leentvaar-Kuijpers A, Van Doornum GJ, Coutinho RA. Accidental exposure to blood and the risk of transmission of virus infections for various occupational groups in Amsterdam, 1986–1996. *Ned. Tijdschr. Geneeskd.* 1998; **142**: 2312–14.
10 Russell FM, Nash MC. A prospective study of children with community-acquired needlestick injuries in Melbourne. *J. Paediatr. Child Health* 2002; **38**: 322–3.
11 Heimer R, Khoshnood K, Jariwala-Freeman B, Duncan B, Harima Y. Hepatitis in used syringes: the limits of sensitivity of techniques to detect hepatitis B virus (HBV) DNA, hepatitis C virus (HCV) RNA, and antibodies to HBV core and HCV antigens. *J. Infect. Dis.* 1996; **173**: 997–1000.
12 Department of Industrial Relations Queensland Government. *Skin Penetrating Injury Target Audit Program Summary Report.* Brisbane: Australian Government Printers, 2002.
13 Jaeckel E, Cornberg M, Wedemeyer H *et al.* Treatment of acute hepatitis C with interferon alfa-2b. *N. Engl. J. Med.* 2001; **345**: 1452–7.
14 Santantonio T, Fasano M, Sinisi E *et al.* Efficacy of a 24-week course of PEG-interferon alpha-2b monotherapy in patients with acute hepatitis C after failure of spontaneous clearance. *J. Hepatol.* 2005; **42**: 329–33.
15 Wang TY, Kuo HT, Chen LC, Chen YT, Lin CN, Lee MM. Use of polymerase chain reaction for early detection and management of HCV virus infection after needlestick injury. *Ann. Clin. Lab. Sci.* 2002; **32**: 137–41.

Journal compilation © 2007 Journal of Gastroenterology and Hepatology Foundation and Blackwell Publishing Asia Pty Ltd

14401746, 2007, 11, Downloaded from https://onlinelibrary.wiley.com/doi/10.1111/j.1440-1746.2006.04568.x by University Of Waterloo, Wiley Online Library on [10/12/2025]. See the Terms and Conditions (https://onlinelibrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

Court of Appeal File No.: COA-26-CV-0897 and COA-26-CV-0836

THE ATTORNEY GENERAL OF ONTARIO AND THE REGIONAL MUNICIPALITY OF WATERLOO

Appellants

PERSONS UNKNOWN AND TO BE ASCERTAINED

Respondents

COURT OF APPEAL FOR ONTARIO

Proceedings commenced at Toronto

EXHIBIT BOOK (VOL. 11 OF 15)

THE ATTORNEY GENERAL OF ONTARIO
Civil Law Division / Constitutional Law Branch
720 Bay Street, 4th Floor
Toronto, ON M7A 2S9

S. Zachary Green (LSUC # 48066K)
Tel.: 416 992.2327
Email: zachary.green@ontario.ca

Andrea Bolieiro (LSO # 60034I)
Tel: 437 551.6263
Email: andrea.bolieiro@ontario.ca

Sara Badawi (LSO # 87480W)
Tel: 647 825.2156
Email: sara.badawi@ontario.ca

Of Counsel for the Appellant, The Attorney General of Ontario