Heat Vulnerability Roundtable: Exploring the Role of Primary Care & Community Pharmacy

This workshop was organized by the *Primary Care Sustainability Working Group, Toronto Academic Health Science Network (TAHSN) Sustainable Health System Community of Practice*.

Working Group members include:

- Kimberly Wintemute - Family Physician, Assistant Professor, Department of Family and Community Medicine
- Samantha Green - Family Physician, Assistant Professor, Department of Family and Community Medicine
- Karen Cameron - Assistant Professor, Teaching Stream, Leslie Dan Faculty of Pharmacy
- Fiona Miller - Professor, Institute of Health Policy, Management and Evaluation, Dalla Lana School of Public Health; Director, Centre for Sustainable Health Systems
- Brittany Maguire - Managing Director, Centre for Sustainable Health Systems
- Aileen Liu - PharmD; Research Assistant, Centre for Sustainable Health Systems

Summary includes:

- Roundtable agenda and attendees list
- Presentations on potential for primary care and community pharmacy to address heat, understanding heat risks and vulnerability, and sharing updates on existing initiatives
- Key takeaways from discussions on shared experiences and the potential roles and needs for primary care and community pharmacy to intervene

June 1, 2023 - Agenda	
12:00-12:15	• Welcome & Opening • Primary Care Sustainability Working Group

12:15-12:35	• Presentations
	  ◦ Health Canada
	  ◦ Toronto & Region Conservation Authority

12:35-1:00	• Q&A • Group discussion of experiences with primary care and community pharmacy in the context of heat and heat-related illness
1:00-1:30	• Breakout rooms exploring the potential roles for primary care and community pharmacy in addressing heat
1:30-2:00	• Group discussion on ideas generated from breakout rooms

Roundtable Attendees	
Physicians	• KitShan Lee - Primary Care Physician & Climate Lead, Michael Garron Hospital • Susan Deering - Primary Care Physician, Sunnybrook Health Sciences Centre • Kevin Liang - Primary Care Physician, Fraser Health Authority
Pharmacists	• Angeline Ng - Vice President, Ontario Pharmacists Association • Tarek Hussein - Community Pharmacist, Weller Pharmacy • Aysha Mussanti - Primary Care Pharmacist, Michael Garron Hospital • Jessica Visentin - Primary Care Pharmacist, Michael Garron Hospital • Vinita Arora - Associate Professor, Leslie Dan Faculty of Pharmacy • Shellyza Sajwani - Hospital Pharmacist & Co-Chair of Canadian Association of Pharmacy for the Environment, The Ottawa Hospital • Cailtin Roy - Hospital Pharmacist & Co-Chair of Canadian Association of Pharmacy for the Environment, Regina General Hospital • Rizwan Ahmed - Regional Director, Southern Health • Kaitlyn Watson - Disaster Pharmacy Consultant & Postdoctoral Research Fellow, Disaster Pharmacy Solutions • Rob Pammett - Research & Development Pharmacist, Northern Health
Climate Change & Innovation Bureau, Health Canada	• Gregory Richardson - Manager, Extreme Heat Program • Melissa Gorman - Senior Science Advisor, Heat Division • Rachel Siblock - Policy Analyst, Heat Division • Subrana Rahman - Health Project Assistant
Toronto & Region Conservation Authority	• Sharon Lam - Intermediate Research Scientist, Ecosystem & Climate Science Development & Engineering Services • Adriana Gomez - Supervisor, Sustainable Communities, Education & Training Division
University of Toronto	• Sean Kidd - Clinical Psychologist, Senior Scientist & Division Chief, Psychology, Centre for Addiction and Mental Health • Jeff Brook - PI & Scientific Director, The Canadian Urban Environmental Health Research Consortium • Micah Hewer - Postdoctoral Researcher, Department of Physical & Environmental Sciences • Annalise Mathers - Research Officer, Leslie Dan Faculty of Pharmacy • Nushrat Jahan - Research Assistant, Centre for Sustainable Health Systems • Jemisha Apajee - Data Analyst, University of Toronto Practice-Based Research Network
Municipal & Provincial Partners	• Loren Vanderlinden - Manager, Healthy Living Team, Toronto Public Health • Louise Aubin - Director, Peel Public Health • Franca Ursitti - Manager, Health Hazard Investigation and Vector Borne Disease, Peel Public Health • Nicolas Sheppard-Jones - Associate Medical Officer of Health, Peel Public Health • Kayla Lucier - Ontario Public Health Emergencies Science Advisory Committee
Intact Centre	• Caroline Metz - Managing Director, Economics & Resiliency
NCCEH	• Lydia Ma - Manager, National Collaborating Centre for Environmental Health (NCCEH)

Presentation Summaries

Presentation	Key Take-aways

Opportunities for Primary Care - Kimberly Wintemute	• Potential opportunities for primary care to intervene to address heat include:
	  ◦ Identifying at-risk clients
	  ◦ Outreach (could collaborate with community ambassadors/workers)
	  ◦ Providing resources (such as air conditioner prescriptions and information on subsidies/rebates for home energy costs)
	  ◦ Disseminating information (push notifications, posters, websites)
	  ◦ Evaluation of interventions

Opportunities for Community Pharmacy - Karen Cameron	• Potential opportunities for community pharmacy to intervene to address heat include:
	  ◦ Leverage accessibility of pharmacy locations (numerous locations, no need for an appointment, and can be used informally for cooling)
	  ◦ Pharmacists can help identify who is at high risk for heat-related illnesses as they know clients well (medications, medical conditions, address, age)
	  ◦ Providing educational information on medications that increase risk of heat-related illness
	  ◦ Identifying heat-related illness symptoms and providing advice/referrals

Protecting Canadians from Extreme Heat - Melissa Gorman	• Extreme heat is a leading weather-related cause of illness and death in Canada, which will only worsen without adaptation and proactive action
	• Heat-health risks are greatest for: older adults, low-income earners, infants and young children, people who work or exercise in the heat, people experiencing homelessness, people with chronic illnesses
	• Health Canada's goal is to reach zero heat-related deaths by 2040 by working on:
	  ◦ Improving Heat Alert and Response Systems in partnership with communities and provinces across Canada
	  ◦ Developing tiered thresholds for heat warnings, updating heat-health messaging, supporting research on vulnerable populations, and developing guidance on indoor heat temperature thresholds
	  ◦ Hosting a Heat Health Community of Practice, connecting public health professionals working on heat and sharing information
	• Health Canada also sees a potential role in addressing heat, including:
	  ◦ Distributing heat-health information and conveying importance of preparedness
	  ◦ Training health professionals to conduct heat-health checks
	  ◦ Researching which drugs increase health risks and are most impacted by heat, storage, and optimal information sharing with health professionals and public.
	  ◦ Sharing best practices in reporting heat-related illnesses/deaths

Heat Vulnerability in Toronto & Region: Case study of the Rexdale SNAP neighbourhood - Sharon Lam & Adriana Gomez	• Average summer temperature and number of days with maximum temperature >30°C in Toronto region are expected to continue to increase in the coming decades
	  ◦ Cities tend to be hotter (heat island effect)
	  ◦ Nature has a cooling effect; greenspaces and areas near water tend to be cooler
	• Sustainable Neighbourhood Action Program (SNAP) partners with municipalities and local communities to co-develop and co-implement Sustainability Action Plans and Resilience Strategies that address all land uses in strategic neighbourhoods.
	• Neighbourhoods are identified based on vulnerabilities, urban renewal needs, and environmental priorities. Rexdale was chosen due to vulnerabilities including: poverty, food insecurity, heat stress, low canopy cover, aging infrastructure, flooding etc.

Presentation Summaries	
Presentation	**Key Take-aways**

Continued
Heat Vulnerability in Toronto & Region: Case study of the Rexdale SNAP neighbourhood - Sharon Lam & Adriana Gomez
	• Four Integrated Action Areas from the SNAP Action Plan for Rexdale include:
	  ◦ Revitalizing and protecting open spaces and green infrastructure
	  ◦ Sharing and reusing resources for affordability, sustainability, and strengthening community mutual aid
	  ◦ Retrofitting housing to be more sustainable and climate-resilient
	  ◦ Transformation of streets and intersections to be safer, more attractive, and animated, as well as increase natural infrastructure
	• TRCA's Neighbourhood Vulnerability Assessment is an indicator-based neighbourhood assessment of:
	  ◦ Exposure: climate impacts and risks
	  ◦ Sensitivity: neighbourhood sensitivities to climate impacts, including perceptions of risks, vulnerable populations, and housing infrastructure
	  ◦ Adaptive capacity: community assets and services to support adaptation, including: AC, transportation access, drinking water, food access, tree canopy, greenspace, communications, and community cohesion
	• Heat analysis to identify hotspots: Surface temperature mapping overlayed schools, childcare centres, senior centres and long-term care facilities, as well as cooling infrastructure
	  ◦ Rexdale also experiences flooding, lack of transit access, and poverty and food security issues, all of which contribute to risk of health-related climate impacts
	• Heat is already impacting this community; some residents have slept on their balconies due to the unbearable heat indoors
	• Recommended resilience strategies for heat in Rexdale, include:
	  ◦ Improving greenspace, urban forest, and shade, as well as local stewardship
	  ◦ Enhancing cooling assets and facilities (splash pads, pools, cooling centres, drinking water access, bus shelter design), as well as maintenance
	  ◦ Increasing and improve climate risk and preparedness information (events, communication materials, volunteer buddy program during extreme events)
	  ◦ Identifying buildings where temperatures get too high and identify cooling solutions to implement; improving community and personal preparedness
	  ◦ Developing places where residents can go for shelter and basic needs in case of an emergency, but also operate on an ongoing basis to improve community resilience
	• Rexdale has limited pharmacy capacity to provide during emergencies (locations, far from resident towers, and have to access via hot roads)
	  ◦ Would it be possible to bring support to where residents live?

Key Discussion Takeaways:

- Importance of being proactive and prepared for heat leading to summer months
- Building communities for increased resilience (ie. leverage pharmacies as hubs for connections, establish neighbour check-ins/heat watch)
- Conducting MedsChecks to review high-risk medications/conditions and patient supports at home
- Limited capacity in healthcare and burnout are still ongoing barriers to new initiatives; need to work together to ensure that efforts are not duplicative
- Need to consider how to make intervention infrastructure sustainable (ie. via existing workforces, such as paramedics or postal workers)

Breakout Discussion		
	Intervention Opportunities	**Key Steps**
Identify vulnerable groups	• Conduct heat checks during extreme heat events	• Train primary care providers in assessing, diagnosing, and treating heat illnesses
	• Prescribe A/C and support access to heat pumps	• Develop a prescription template • Develop letters to send to landlords • Share template with physicians
	• Send pharmaceutical opinions (PO) to suggest alternative medications in high-risk medications	• Develop a PO template suggesting potential alternative medications • Share template with physicians
Education and outreach for the public	• Educate patients on factors that that increase heat vulnerability (ie. medications and medical conditions)	• Train primary care providers to screen patients to identify those who are high risk • Provide patient education and training on identifying high-risk medications • Pharmacists can put pamphlets to put in prescription bags • Update computer systems to flag high-risk drugs and print auxiliary labels
	• Display infographics and pamphlets shared in waiting rooms/pharmacies before and during summer	• Infographics and pamphlets that are evidence based, up to date, and patient friendly
Develop community partnerships to refer vulnerable groups	• Connecting at-risk folks with appropriate supports	• Build or strengthen neighbourhood/ community relationships • Refer people to cooling centres
	• Pharmacy advocating for & stocking heat disaster kits/ice/water	• Acquire funding for supplies • Requires staff to distribute kits

Resources

Heat Strategy Reports and Guides	
Irreversible Extreme Heat: Protecting Canadians and Communities from a Lethal Future	Intact Centre on Climate Adaptation, University of Waterloo (2022)
City of Toronto Heat Relief Strategy	City of Toronto (2023)
Extreme Heat Preparedness Guide	PreparedBC (n.d.)
Heat Vulnerability Map	
HealthyPlan.City	The Canadian Urban Environmental Health Research Consortium (n.d.)
Heat Health Check Tools	
Health Checks During Extreme Heat Events	NCCEH (n.d.)
Extreme Heat and Human Health: For Pharmacists and Pharmacy Technicians	Health Canada (2021)
Evaluations of Health Impacts of Extreme Heat Events in Canada	
Extreme Heat and Human Mortality: A Review of Heat-Related Deaths in B.C. in Summer 2021	British Columbia Coroners Service (2022)
Chronic Diseases Associated With Mortality in British Columbia, Canada During the 2021 Western North America Extreme Heat Event	Lee, Michael et al. (2023)
The Montreal Heat Response Plan: Evaluation of its Implementation towards healthcare professionals and vulnerable populations	Price, Karine et al. (2018)
Cooling Strategies	
Cool Spaces Near You	City of Toronto (2023)
Heating and Cooling With a Heat Pump	Health Canada (2022)
Hybrid Air Source Heat Pump Incentive	TRCA (2022)
Additional resources	
Extreme Heat Resources	NCCEH (2023)
Extreme Heat Events: Related Resources	Health Canada (2022)