

2025

Institute of Health Emergencies & Pandemics

Annual report





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Message from the Director

Over the past year, our Institute continued to grow its research, training, and engagement activities, building on the strong foundation established in previous years. In November, we introduced our new name, the Institute of Health Emergencies & Pandemics (IHEP), to better reflect the broader scope of challenges we are committed to addressing.

This transition recognizes that today's public health threats extend well beyond pandemics. Major infectious disease outbreaks, biological and non-biological hazards, natural disasters, and other rapidly unfolding emergencies require an all-hazards approach that builds readiness, strengthens systems, and supports equitable response and recovery. Our new name reflects this broader mandate and reinforces our commitment to mobilizing interdisciplinary expertise in service of public health.

Since our inception, the Institute has grown into a vibrant interdisciplinary community, engaging more than 200 U of T faculty members across 12 academic divisions and

supporting over 220 graduate students through year-round training. We have invested \$1.1 million in research on health emergencies, advancing work in areas such as health system resilience including the use of information technologies, modelling, safe indoor air, misinformation, equitable policies, mental health, and supply chain vulnerabilities during public health crisis, amongst many others. Our knowledge mobilization activities, public events, symposia, dissemination grants, and webinars, continue to expand our reach and reinforce our role in strengthening public health preparedness across Canada.

A highlight of 2025 was our Interdisciplinary Symposium, "Responding to the Unexpected: Bridging Science, Policy, and Community Actions in Public Health Emergencies", which showcased IHEP's strong partnerships across sectors. We brought together senior leaders, including, Canada's Chief Public Health Officer, Dr. Theresa Tam, alongside experts from the Public Health Agency of Canada, Ontario Ministry of Health, Public Health

Ontario, Toronto Region Board of Trade, Mitacs, and the Johns Hopkins Center for Health Security.

Their participation underscored IHEP's role as a trusted collaborator and connector in the health emergency preparedness landscape. The program also featured lightning thesis presentations from our Graduate Studentship Award recipients, reflecting the depth of emerging talent within the IHEP community.

Our 'Catalyst Seminar Series' further demonstrated the impact of IHEP's research funding. These sessions highlighted how our strategic academic supports have ignited new interdisciplinary collaborations, enabled researchers to gather early findings and expand research scopes. Presenting researchers shared promising insights into emergency readiness, resilience, recovery, translating innovative ideas into system improvements and equitable health policies.

In alignment with our broadened mandate, we also expanded our work on health security this year, leading an interdisciplinary webinar connecting experts from political science, public health, epidemiology, and global health systems. The discussion examined emerging bio-threats and the balance between safety and civil liberties, response, policy and training in Canada, offering important perspectives and networking opportunity for this critical and rapidly evolving area.

Looking ahead, IHEP is continuing to strengthen and expand our collaborative research initiatives. Our 'Research Clusters' are working with academic, public health, and community partners to navigate an increasingly complex landscape of health emergencies and polycrises, using an all-hazards approach. These include: 'health system solutions', 'policy implementation', 'modelling & AI', 'public trust & communication', 'community & equity' and 'health security'. IHEP is committed to knowledge generation, policy innovation, and leadership development at a time when interdisciplinary expertise is more critical than ever.

In summary, 2025 has been a year of strengthening and momentum, fostering collaboration, and supporting future leaders who will shape Canada's public health emergency preparedness. In 2026, we look forward to deepening partnerships and pursuing new opportunities to strengthen resilience and readiness across Canada and beyond. I am grateful to our members, partners and collaborators for their dedication, and I look forward to the important work we will undertake together in the year ahead.



Who we are

Founded in 2020 under the leadership of Dalla Lana School of Public Health Dean Adalsteinn Brown, the Institute of Health Emergencies and Pandemics (IHEP) was established in direct response to the COVID-19 pandemic. Originally launched as the Institute for Pandemics, IHEP was created to address the complex, multidimensional challenges posed by public health emergencies.

IHEP launched as a University of Toronto (U of T) Institutional Strategic Initiative (ISI) in January 2023. Since our launch, we have built a membership of 200 researchers across all three U of T campuses, distributed over \$1.1 million in research grants and studentship awards and held numerous events to promote the research from the Institute.

Vision

We envision a world where every community is prepared to face public health emergencies with strength, equity, and resilience. As a global leader rooted in the University of Toronto's legacy of excellence, we drive innovation and collaboration to ensure that every person regardless of background, can thrive in times of crisis and beyond.

Mission

We advance research, education, and systems transformation to strengthen pandemic and emergency preparedness worldwide. Through transdisciplinary collaboration, evidence-informed strategies, and a deep commitment to equity, we empower future health leaders and improve outcomes across local and global communities.

EDI commitment

IHEP works to create and promote funding competitions that are inclusive and accessible, particularly providing opportunities for members of equity-deserving groups. Competition details and documents are publicly available, and standardized rubrics are used by reviewers to reduce unconscious bias. Over 30% of our grants and awards have been awarded to applicants self-identifying as women, non-binary, or from equity-deserving groups.

Shaping the future



We focus on four strategic priorities to advance pandemic and public health emergency preparedness:

Strategic priorities

1 Ignite research excellence

We connect and empower researchers across the University of Toronto, and academic partners worldwide, to confront the complex challenges of pandemics and public health emergencies.

2 Shape the next generation of health leaders

We design and deliver pioneering training programs that equip emerging professionals with the skills to lead in crisis response, resilience-building, and recovery.

3 Transform public health systems

We mobilize evidence to inform policy, strengthen systems, and engage the public in advancing health equity.

4 Drive global collaboration

We drive international collaboration and innovation to strengthen preparedness and response for health emergencies and security threats worldwide.

Rebrand

Evolving health threats require a broader approach.

In 2025, the Institute for Pandemics became the Institute of Health Emergencies & Pandemics, reflecting an expanded mission to address the full spectrum of health emergencies, pandemics and beyond.

While pandemics remain central to our mission, the Institute now explicitly addresses a wider range of public health emergencies, including infectious disease outbreaks, biological and non-biological hazards, and natural disasters. These events can escalate rapidly, cross borders, and strain health systems, communities, and economies.

→ Read more about the change

<https://pandemics.utoronto.ca/from-pandemics-to-polycrises-the-institutes-expanded-vision/>

“Our new name reflects a broader commitment—not just to pandemics, but to the full spectrum of public health emergencies. We are building the systems, partnerships, and knowledge needed to anticipate threats and act quickly.”
 — Dr. Nelson Lee, Director

How we are advancing impact

Research leadership

Advancing interdisciplinary evidence and innovation.



Engagement

Mobilizing knowledge for policy, practice and public dialogue.



Training

Building capacity for current and future health leaders.



Our expanded research scope

In response to growing global health risks, we expanded our research scope to better integrate systems, communities, and technology. These six research clusters guide our work across preparedness, response, and recovery.

Research clusters

Systems & Governance



Health systems solutions

Building resilient health systems for a safer future.



Policy implementation

Turning evidence into action when it matters most.

People & Trust



Public trust & communication

Strengthening public trust through clear, inclusive communication.



Community & equity

Putting equity at the heart of health emergency preparedness and response.

Data & Security



Modeling & AI

Harnessing data and AI to predict, prepare, and protect.



Health security

Safeguarding health through preparedness and rapid response.

Membership

Leadership and Steering Committee

Our Steering Committee brings together leaders from across the University of Toronto to provide strategic direction, oversight direction, oversight, and expertise that advance the Institute's mission.



Nelson Lee

IHEP Director
Dalla Lana School of Public Health



András Tilcsik

Professor
Rotman School of Management



Adalsteinn Brown

Founding Director and Dean,
Dalla Lana School of Public Health



Geoff Anderson

Professor
Dalla Lana School of Public Health



Tedd Konya

IHEP Associate Director
Dalla Lana School of Public Health



David Fisman

Professor
Dalla Lana School of Public Health



Sara Allin

Associate Professor
Dalla Lana School of Public Health



Fahad Razak

Associate Professor
Temerty Faculty of Medicine



Brian Baigrie

Associate Professor
Faculty of Arts & Science



Mina Tadrous

Professor
Leslie Dan Faculty of Pharmacy



Scott Gray-Owen

Professor
Temerty Faculty of Medicine



Shauna Brail

Associate Professor
University of Toronto Mississauga



Jeff Siegel

Professor
Faculty of Applied Science &
Engineering



Simone Vigod

Professor
Temerty Faculty of Medicine

Our Members at a Glance

Our membership includes 200+ faculty and postdoctoral fellows across all three U of T campuses.



200+ Members

Across 3 U of T Campuses

Our members are based within 12 U of T divisions:



Impact

Highlights of how our work is driving change across policy, practice, and community resilience.

Year in review

This year marked strong growth and momentum for the Institute, strengthening our reach and impact.

+62%
increase in
followers on
LinkedIn

with a current
follower count of
1227

4k+

followers on
Bluesky

1500+

followers on X

1200+

subscribers to the
email list

1,197+

YouTube views

+42% compared to
2024

34

new
publications

Enabled by IHEP
funding and
activities

59

media
appearances

IHEP experts were
featured or quoted
in traditional media,
including online
news, TV, radio, and
print outlets

**Award for
Environmental
Health Leadership**

**2025 ASHRAE Donald
Bahnfleth Environmental
Health Award**

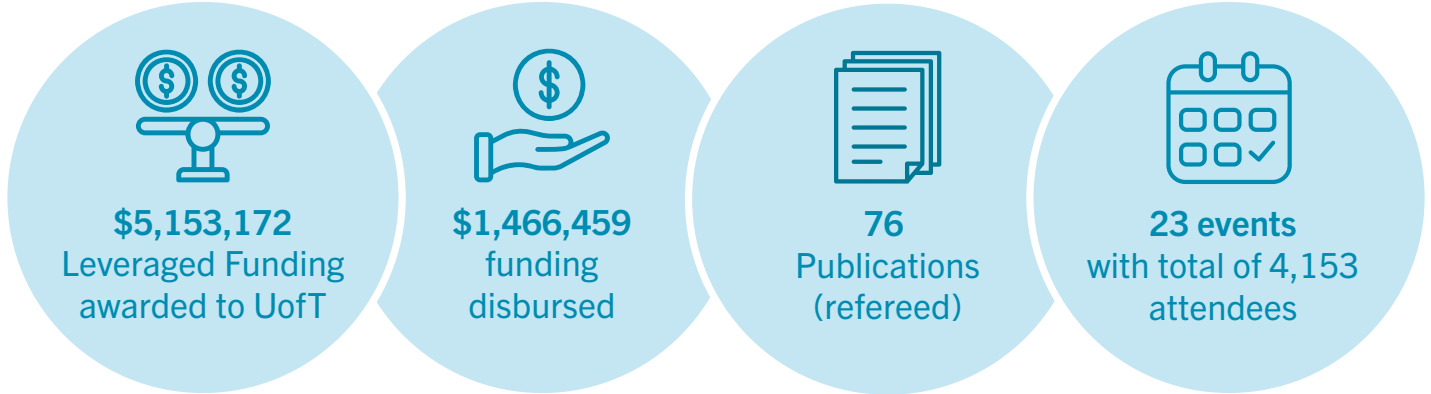
Recognizing Professor
Jeff Siegel's leadership in
air-cleaning and
COVID-19 research,
supported through IHEP
collaborations

\$1,449,077

Tri-agency
funding secured

Impact

Since the Institute’s designation as an Institutional Strategic Initiative in 2023, we have expanded our impact through:



Startup Spotlight: MaaTRx

Supported by a Phase 1 Catalyst Grant, Professor Mina Tadrous (Leslie Dan Faculty of Pharmacy) launched MaaTRx, a U of T–owned startup that helps health systems anticipate and manage drug shortages. Built by researchers and policy experts, the platform uses predictive analytics, clinical prioritization, and collaborative tools to support coordinated, data-driven decisions across the drug supply chain.



→ [Learn more about MaaTRx](#)



Funding Competitions

IfP held two award competitions in 2025; a second round of our Knowledge Mobilization Grants (KMb) and Postdoctoral Fellowships. All competitions were widely promoted across all U of T divisions to maximize interest from the greater academic community. KmB applications were accepted using Microsoft Forms (except when an applicant requested accommodations) with applicants using their U of T credentials to login, ensuring only internal applicants. Postdoctoral Fellowship applications were received at the IHEP email inbox. As in previous years, applicants were also asked to complete a voluntary EDI survey, where the results were used to reflect on EDI practices in the funding programs.

Postdoctoral Fellowship applications were reviewed by IHEP leaders and members with expertise in the applicant’s research area. The IHEP Steering Committee reviewed the applications and reviewers scores and selected the top candidates to offer the award.

Knowledge Mobilization grants were reviewed by the Director and Associate Director based on criteria noted in the competition callout. The awarded projects clearly met the criteria and had the highest likelihood of impact during the 2025 calendar year.

3
Postdoctoral fellows

5
Knowledge mobilization grants

10
new publications by student awardees



Catalyst Grants: Phase 2

In May 2024, we launched the [second phase of our catalyst and research development grant competition](#), again in partnership with [EPIC](#), and awarded [11 projects](#), with funding up to \$50,000.

[Click here to read about the awarded projects on our website.](#)

Early Impacts

Quinn Grundy

- **Research Publication:** [Negotiating the plastic treaty to protect health and the environment \(WHO Bulletin\)](#).
- **Student-led poster presentation:** Critically mapping the evidence on plastics in health product packaging.

Kuan Liu

- **Conference Presentation / Research Output:** Causal Effects of School Closures on Mental Health, Jay Xu, a postdoctoral fellow, presented research at the 2025 Joint Statistical Meetings in Nashville, TN, USA.

Lance McCready

- **Community Engagement:** Recovery and Restoration Pride Month event with Black Gay Men's Network of Ontario (BGMN).



A poster from the 'Recovery and Restoration Pride Month' Event.

Chavon Niles

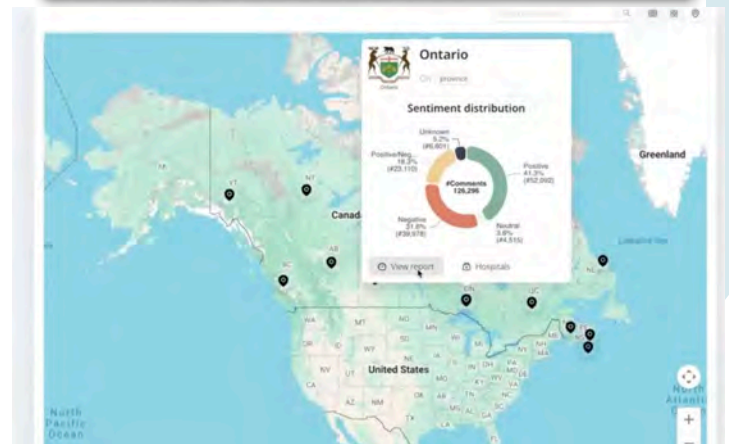
- **Community Engagement** : The team launched Collective Futures, a series of community-engaged roundtables exploring how emergency planning can better reflect the lived realities of those most affected by COVID-19. The first event, held in Toronto in November 2025, brought together 40+ community members, frontline providers, researchers, and policymakers for real-time cross-sector dialogue.
- **Knowledge Mobilization**: Insights from the roundtable were analyzed and have informed a public-facing, accessible digital zine. Early findings have also been shared with frontline practitioners.
- **Upcoming Engagement**: Additional roundtables are planned for Spring 2026 in Hamilton and Durham.



The inaugural *Collective Futures Roundtable*, advancing equity in public health emergency planning.

Zahra Shakeri

- **Research Publications**:
 - FairCareNLP: An AI-Driven Patient Review Analyzer for Healthcare (accepted).
 - From Patient Voices to Policy: Data Analytics Reveals Patterns in Ontario’s Hospital Feedback (accepted).
- **Knowledge Mobilization**: Transforming Patient and Provider Experiences into Actionable Insights for Pandemic Readiness, Resilience, and Recovery with an AI-Enabled Hospital System (IHEP 2025 presentation).



This prototype of the 'Canada Hospital Review Network' shows how real-time patient feedback could inform a future national system to support hospital decision-making.

Grant highlights

The Institute of Health Emergencies & Pandemics is pleased to highlight this year's Knowledge Mobilization projects, which supported researchers in translating evidence into action and engaging communities, practitioners, and policymakers to strengthen preparedness and advance equity.

Queering Pandemic Preparedness

Daniel Grace, Dalla Lana School of Public Health

This knowledge translation event focused on future emergency preparedness for 2S/LGBTQ+ communities, using the Canadian mpox outbreak as a case study. Three CIHR-funded research teams from B.C., Ontario, and Quebec shared findings and engaged in open dialogue with impacted communities and health system partners. The session highlighted collaborative approaches, practical tools, and successful community–public health partnerships to inform future outbreak response.



From Lived Experience to Policy: Mobilizing Knowledge to Co-Create Equitable Long COVID Interventions in Peel Region

Kathi Wilson, University of Toronto Mississauga

This community event brought together over 50 participants to address long COVID inequities in Peel Region and co-produce insights on community needs, potential interventions, and research priorities. The grant also enabled the creation of plain-language summaries, infographics, and community-facing materials; strengthened partnerships across sectors; established evaluation metrics; and supported a [public webpage](#) to share project resources and recordings.

Learning from COVID-19: Patient Narratives as a Foundation for System Resilience and Equity

Zahra Shakeri , Dalla Lana School of Public Health

This grant supported the development of the [HIVE Lab knowledge-mobilization platform](#), creating a transparent, community-engaged space for sharing project findings. It also enabled a hospital data visualization tool now used by Ontario hospital leaders to interpret financial pressures, guide decision-making, and support evidence-based advocacy. This work has informed broader system transparency efforts, including the public launch of the [Ontario Hospital Finance Explorer](#).

Collective Futures Community Roundtable

Chavon Niles, Department of Physical Therapy

This knowledge-mobilization grant supported the Collective Futures Community Roundtable, connecting researchers with Black and racialized immigrants with disabilities to discuss pandemic impacts and needed system change. The Toronto gathering convened over 40 participants across sectors, generating shared priorities for more equitable emergency planning. These insights are being analyzed to produce an accessible community zine and will guide upcoming roundtables in Hamilton and Durham.



➔ **Read more about the roundtable**

<https://pandemics.utoronto.ca/advancing-equity-in-public-health-emergencies-collective-futures-roundtable/>



Training

Graduate Studentship Awardees

Since 2023, IHEP has provided graduate studentship awards to 15 master's and PhD students in five divisions across the university. The \$10,000 awards provided opportunities for the students to work on interdisciplinary projects in pandemic and health emergency preparedness, resiliency, and recovery.

In 2025, our awardees authored or co-authored 10 publications, with most in high-impact journals, e.g., BMJ Global Health and CHEST.

Training program

The IHEP Graduate Studentship program consists of monthly events that allows the awardees and graduate students from across the university to learn about transdisciplinary pandemic research, practice research presentations in a small supportive environment, and hone soft skills through training not provided by their academic programs.

The studentship events are open to graduate students from all divisions within the University of Toronto, with participants for the events coming from the Faculty of Applied Science & Engineering, Dalla Lana School of Public Health, Temerty Faculty of Medicine, Faculty of Arts & Science, Rotman School of Management, Ontario Institute for Studies in Education, and Pharmacy.



Seminar for Graduate Students featuring a lecture by Dr. Fahad Razak on generated data and the use of AI in responding to pandemics and other public health emergencies.

Postdoctoral Fellows

This summer, we welcomed three Postdoctoral Fellows to the Institute. The IHEP Postdoctoral Fellowships support the next generation of researchers through interdisciplinary research training in public health emergencies and pandemic readiness, resilience and/or recovery. Along with conducting research, the fellows will contribute to the development and execution of IfP programming and activities.



Nadha Hassen

Nadha Hassen (PhD, Environmental Studies from York University), co-supervised by Lindsey Smith (Dept. of Geography & Planning) and Kate Mulligan (Dalla Lana School of Public Health).

- **Project Title:** Green social prescribing as a long-term public health solution
- **2025 activity highlight:** Created an [informational document](#), for the resources section of the IHEP website, explaining social prescribing and how it can help health system resiliency during health emergencies.



David Kormos

David Kormos (PhD, Civil & Environmental Engineering from Virginia Polytechnic Institute and State University), co-supervised by Jeffrey Siegel (Dept. of Civil & Mineral Engineering) and Xiaolin Wei (Dalla Lana School of Public Health).

- **Project Title:** Designing and implementing portable air cleaners to reduce the spread of infections in hospitals
- **2025 activity highlight:** Presented a lecture in December to IHEP members titled, "[Airborne Pathways of Antimicrobial Resistance: Exploring Bioaerosols in Environmental and Public Health Surveillance](#)" highlighting the emerging role of airborne AMR in shaping future public health monitoring and emergency preparedness.



Dipto Das

(PhD, Information Science from University of Colorado Boulder), co-supervised by Ishtiaque Ahmed (Dept. of Computer Science) and Lisa Forman (Dalla Lana School of Public Health).

- **Project Title:** Understanding algorithmic bias in online community conversations during pandemics
- **2025 activity highlight:** Spearheading collaboration with Dr. Daniel Barnett of Johns Hopkins University on joint papers and grant application on how transnational information is transmitted.

Knowledge Mobilization

Symposium

The Institute of Health Emergencies & Pandemics held our 2025 Interdisciplinary Symposium on May 13th at Desautels Hall, with more than 230 participants joining in person and online. This year's theme, "Responding to the Unexpected," brought together researchers, policymakers, practitioners, and community partners to discuss strengthening preparedness, response, and recovery across public health systems.

The opening keynote marked the five-year anniversary of COVID-19, reflecting on progress and persistent gaps in Canada's response. Sessions throughout the day explored the ties between public health and economic resilience, the need for real-time surveillance and rapid response infrastructure, and the value of One Health approaches in addressing emerging threats.

The closing keynote, delivered by Dr. Theresa Tam, former Chief Public Health Officer of

Canada, was a highlight of the event. She emphasized that preparedness must be continuous, equitable, and rooted in community trust. Dr. Tam underscored the critical need for genomic surveillance, real-time public health intelligence, and investment in a strong and resilient public health workforce.

The rest of the day consisted of:

- Presentations on governmental roles in public health emergencies, the economic impacts of health crises, strategies for strengthening global and domestic health security, and approaches to improving pandemic preparedness
- Panel discussions featuring IHEP experts and partners across sectors
- 3-minute thesis presentations by IHEP graduate studentship awardees
- A networking reception connecting researchers, practitioners, and community leaders



Dr. Theresa Tam, Chief Public Health Officer of Canada, delivering a keynote on strategies for future pandemics.



A group photograph of speakers from the Institute's 2025 Symposium.



Stephen Lucas, CEO of Mitacs, delivering his talk “Preparing for the Next Health Crisis: Learning from the Walport Report and Beyond.”



Panel discussion featuring Dr. Fahad Razak (Canada Research Chair in Data-Informed Health Care Improvement, St. Michael’s Hospital), Adalsteinn Brown (Dean, Dalla Lana School of Public Health), Helen Angus (Chief Executive Officer, AMS), Dr. Eileen de Villa (Former Medical Officer of Health, City of Toronto), and Stephen Lucas (CEO, Mitacs).

2025 Webinars and Events

March

Annual Vohra Miller Lectures in Critical Public Health Issues – Building public trust in health through culturally-aligned artificial intelligence (March 19, 2025)

June

Chatham-House event: Mitigating the Impact of Tariffs on Canada's Drug Supply: Strategies and Solutions (June 11, 2025)

Visiting Professor Lecture – Daniel Barnett, Johns Hopkins Bloomberg School of Public Health (June 5, 2025)

November

Health Security Unbound: Navigating Power, Surveillance, and Ethics (November 24, 2025)

Advancing Equity in Public Health Emergencies: Collective Futures Roundtable (November 19, 2025)



May

2025 Interdisciplinary Symposium (May 13, 2025)



October

Catalyst Seminar Series

- Long-COVID (October 17, 2025)
- Impacts on individuals with disabilities (November 11, 2025)
- Artificial Intelligence and Data (December 9, 2025)



December

Airborne Pathways of Antimicrobial Resistance: Exploring Bioaerosols in Environmental and Public Health Surveillance (December 3, 2025)

From evidence to action

Translating evidence into timely guidance and community action

Bringing experts together for timely public guidance

In response to an early spike in influenza cases and growing pressure on hospitals, the Institute of Health Emergencies & Pandemics convened experts from hospital care, public health, government, and academia to produce a timely, evidence informed article for the public. Contributors from Unity Health, Toronto Public Health, Public Health Ontario, and the University of Toronto examined vaccine effectiveness, system pressures, and practical steps individuals can take to protect themselves while helping ease strain on the health system.



→ **Read the article**

<https://pandemics.utoronto.ca/early-flu-spike-could-strain-hospitals-heres-how-to-stay-protected/>

Highlighting community driven approaches to health emergencies

We collaborated with Nadha Hassen, IHEP Postdoctoral Fellow, to share research that reframes social disconnection not simply as an individual or social issue, but as a structural challenge that intersects with public health emergencies. The article highlights how community led nature prescribing can strengthen well-being, reduce isolation, and build resilience in the face of future health crises.



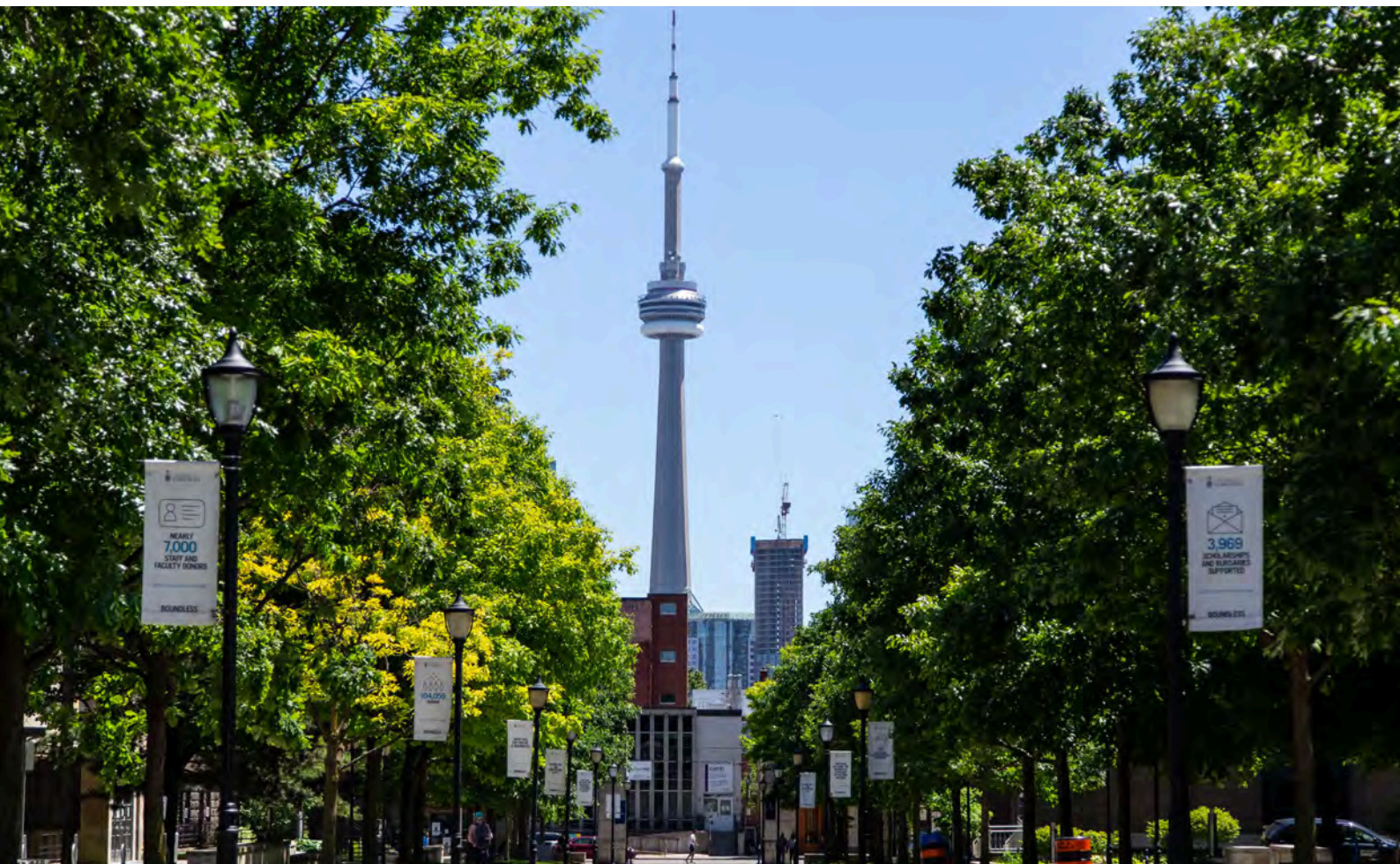
→ **Read the article**

<https://pandemics.utoronto.ca/prescribing-connection-strengthening-communities-for-health-crises/>

Member engagement with key partners and collaborators

IHEP members are continuing our deep engagement with the World Health Organization through their Initiative on Trust and Pandemic Preparedness and pandemic accord development. IHEP is a valuable Canadian member of the Health Information Integrity Alliance, a collection of health authorities, UN agencies and International Organizations, Civil Society Organizations, including fact-checking organizations, academic and research institutions, working together to counter health related misinformation and disinformation. IHEP members **Brian Baigrie (Faculty of Arts and Science)**, **Rob Steiner (Dalla Lana School of Public Health)**, and **Colin Furness (Faculty of Information)** are regular contributors, sharing expertise with global leaders in health communication.

In 2026, IHEP formed a closer connection with Toronto Public Health (TPH) when member Dr. Michelle Murti became the Medical Officer of Health. This engagement has included monthly meetings with the TPH Communications team where members of the IHEP mis/disinformation research team have shared their research findings and answered questions from TPH as they develop a mis/disinformation campaign. Members of the IHEP indoor air team have also met with the TPH medical officers of health to help them respond to concerns about indoor air quality and the spread of infections. IHEP members will collaborate with TPH in 2026 on education and surveillance projects regarding indoor air and the proper use of indoor air cleaners.



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& Pandemics