



Alliance Lunch 'n' Learn Webinar

# Improving indoor air quality for infection control in community spaces



**Alliance for Healthier Communities**  
Alliance pour des communautés en santé

# Welcome & Introduction



- Housekeeping
- Land Acknowledgement
- Key considerations for organizations as they develop their own strategies for improving indoor air quality.
  - Jeffrey Siegel, Professor of Civil Engineering, University of Toronto
- Na-Me-Res Air Quality Project
  - Morris MacDonald, Finance Manager, Na-Me-Res
- Q&A/Discussion

# Housekeeping

# zoom



- All attendees are automatically muted when joining Zoom
- Please keep your microphones muted during the presentation
- Open up the chat window to chat with other participants or ask questions
- Our Sign Language interpreters' video windows will be spotlighted along with Morris's and Jeffrey's.

# Acknowledgement of Indigenous Territory



The work of the Alliance and our members takes place on traditional territories of the Indigenous nations who have lived on these lands since time immemorial. The land settlers call Ontario is covered by 46 treaties, agreements, and land purchases, as well as unceded territories.

The Alliance is located in Toronto, on lands that are the traditional homes of the Anishinaabe, the Mississaugas of the Credit, the Huron Wendat and the Haudenosaunee. This is Dish with One Spoon treaty territory.

Ontario continues to be home to many Indigenous people who live here alongside settlers, newcomers, and people whose ancestors were enslaved across the Americas and the Caribbean. We are grateful to live and work on this land, and we acknowledge the impact our existence here has on the many Indigenous nations for whom this is home.

Doing this in a meaningful way means making commitments to sharing and upholding responsibilities to all who now live on these lands, the land itself, the water, the animals, and the resources that make our lives possible. It means considering the impacts of our words and actions on those who were and continue to be marginalized by colonialism. In our work, let us be mindful of these commitments.

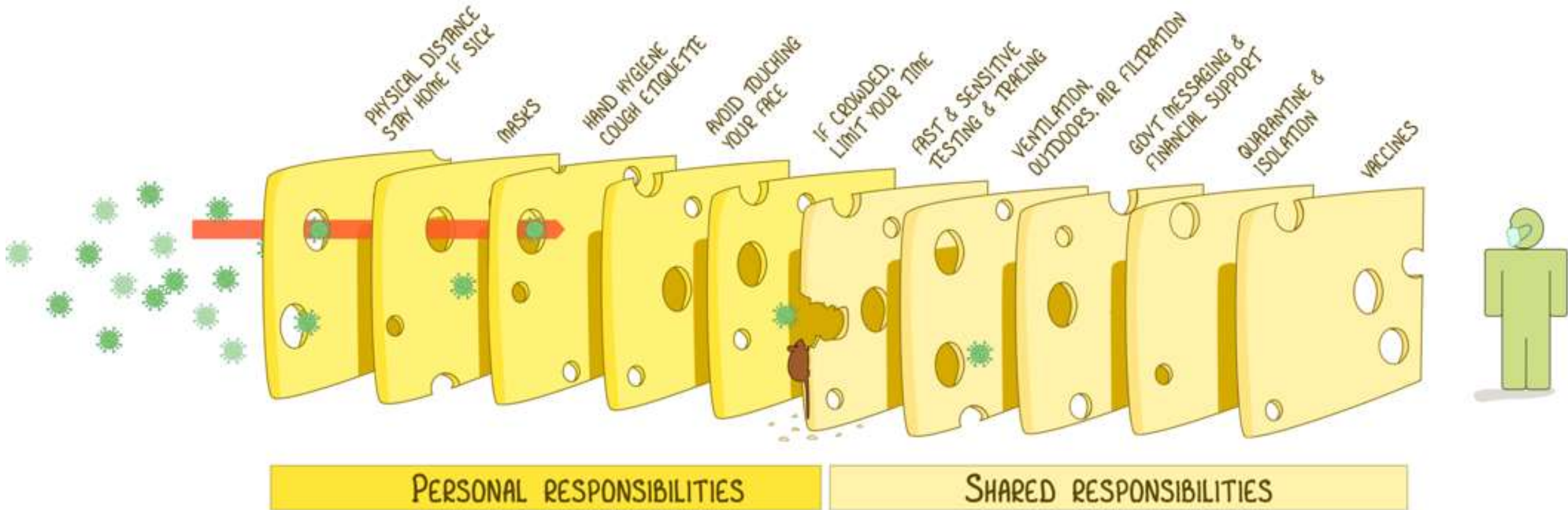
# Reducing transmission of respiratory illness through improved indoor air quality

Jeffrey Siegel, [jeffrey.siegel@utoronto.ca](mailto:jeffrey.siegel@utoronto.ca)



# THE SWISS CHEESE RESPIRATORY VIRUS PANDEMIC DEFENCE

RECOGNISING THAT NO SINGLE INTERVENTION IS PERFECT AT PREVENTING SPREAD



EACH INTERVENTION (LAYER) HAS IMPERFECTIONS (HOLES).  
MULTIPLE LAYERS IMPROVE SUCCESS.

# Our Job

1. Have as many layers of protection as possible
2. Do each layer as well as we can
3. Recognize higher risk situations and manage appropriately
4. Continuously evaluate and provide transparent communication



Things that I wish that everyone would remember:

- a) There are no absolutes
- b) The virus doesn't care
- c) Our goal is risk reduction not perfection

# Mantra: Two of Three

1. Outdoors
2. Masks
3. Physically distant\*

If you can't do two, you need more layers.



# Potential Layers

- **Masks (fit is important, mask is important)**
- **Physical distancing (the further the better, 2 m is only acceptable outdoors or in well-ventilated indoor spaces).**
- Mechanical ventilation with fans/central system- (outdoor air pollution, noise, conditioning, humidity, maintenance)
- Natural ventilation with open windows (all of the above + safety/security, control)
- Portable filtration (sizing - CADR, placement, noise, maintenance)
- Central filtration (installation, air flow, efficiency, maintenance/changing)
- Room flush outs after occupancy (3 room volumes or 2 hours)
- Upper room or in-duct UV systems (cost, sizing, maintenance)

# Overall Summary

- Filtration and ventilation have a role in protection from COVID-19, but
  - They are not magic and don't work by themselves
  - They have to be implemented carefully and thoughtfully
  - They are part of a larger layered strategy

HVAC & building measures should be in our toolkit.  
They take investment, but benefits far exceed costs.  
Single biggest challenge is overcoming decades of inaction.  
Substantial opportunity to address health disparities that  
arise because of indoor air exposures

Further Questions: [jeffrey.siegel@utoronto.ca](mailto:jeffrey.siegel@utoronto.ca)

# Questions?



- Please enter your questions into the chat panel. We'll be moderating them in an attempt to combine and group similar and related questions, and to prioritize those that seem to be common.
- If you'd prefer to ask your question out loud, please send a direct message to Catherine or Oleksandra, and we'll unmute your microphone when we call on you.

# Thank you to our guests and partners



- Dr. Jeffrey Siegel, University of Toronto
- Morris MacDonald, Na-Me-Res
- MAP Centre for Urban Health Solutions
- Toronto Drop-In Network
- Indigenous Primary Health Care Council
- Toronto Sign Language Interpretation Service



TORONTO  
DROP-IN  
NETWORK

