May 6, 2024

IPAC for clinical office practice

Dear CPSO,

I am a health sciences librarian located in New Brunswick who has been volunteering with the Canadian Aerosol Transmission Coalition. My spouse is a family physician, and throughout the pandemic I have been deploying evidence, standards, and practices from fields such as engineering and occupational health to reduce infections in his practice. **This reduces healthcare-acquired infections for patients, and occupational acquisition of disease by workers in his shared clinic, including other physicians and healthcare workers as well as their patients.**

Overall, our shared office serves thousands of New Brunswickers. Stopping chains of transmission matters. We have the information, standards, tools, and the resources we need to reasonably ensure that people who come to an office for healthcare do not leave sicker than when they arrived. And we have the same information, standards, tools, and resources to reasonably ensure that workers do not leave work sicker than when they arrived. Employers have a legal duty to provide a safe workplace and to inform workers of hazards that exist in the place of work. This includes the hazard of developing long COVID and becoming disabled due to inhaling SARS-CoV-2-laden aerosols in the workplace. **I learned and deployed all of this while working part-time from home and looking after our multiple young children while my physician spouse dealt with everything that comes with being a physician in 2020 and beyond. If I can do this with very little time, money, and resources, then large professional medical organizations truly have no excuse as to why they don't know and promote everything I know and do, and more.**

We use interventions identified by qualified groups such as the Ontario Society of Professional Engineers (OSPE) and Occupational Health Clinics for Ontario Workers (OHCOW) to implement IPAC solutions to render our office safer for patients and workers.

I read your draft Infection Prevention and Control for Clinical Office Practice document as well as the Advice to the Profession document. Like many others making public comments, I'm shocked that in the second quarter of 2024, **any professional group is drafting guidance that does not include the robust scholarship regarding aerosolized or airborne transmission.** Interestingly, your draft document specifies medical masks and says that spray bottles should not be used due to respiratory irritation, yet your document does not touch on the incredible standards and science published after peer review and rigorous consensus processes.

I will share with you what our office does, and the sources of knowledge I have used to implement these changes. I detailed much of this in a 5-minute video for an event the Canadian Aerosol Transmission Coalition held on March 11, 2024. Here is a link to the video: https://youtu.be/Ikv_Fe8Ulu8

In short: congruent with the OSPE Indoor Air Quality reports that were published on Dec 1, 2022 (available here: https://ospe.on.ca/indoor-air-quality/) our office deploys several interventions to reduce infections.

1. **We require continuous masking.** While medical masks are still provided (I'd rather we provided respirators only), in addition to medical masks we also have free **respirators** available

for all **staff, learners, and patients as well as other visitors or family members.** Babies and young children can't mask, and other patients may experience difficulty masking. The respirators we provide range in size from extra small (Canada Strong Masks Breathteq in size extra small, suitable for children age 4-11) to large. We provide a variety of respirators – some in the more popular ear loop style (CanadaMasq Q100 and Canada Strong) and others in the headstrap N95 variety. We provide colours such as red maple leaves, grey, lavender, black, and white. Our medical and nursing staff wear respirators, and they are available for free and prominently displayed for staff, learners, and patients plus family members. For more information on respirators, please consult CSA-Z94.4, which was revised in 2023; however, the revisions are being finalized for publication this summer. The current version available online is from 2018, but when the updated version is published it will very much merit a read by anyone in your organization involved in IPAC. Here's the CSA link: https://www.csagroup.org/store/product/CAN-CSA-Z94.4-18/

- **a. Justification for continuous masking:**
    - i. There is a significant amount of asymptomatic or pre-symptomatic transmission. Information can be found in the literature; for example:
        1. Gao, Z., Xu, Y., Sun, C., Wang, X., Guo, Y., Qiu, S., & Ma, K. (2021). A systematic review of asymptomatic infections with COVID-19. *Journal of microbiology, immunology, and infection = Wei mian yu gan ran za zhi*, *54*(1), 12–16. https://doi.org/10.1016/j.jmii.2020.05.001
        2. Chen, Z., Wang, B., Mao, S., & Ye, Q. (2021). Assessment of global asymptomatic SARS-CoV-2 infection and management practices from China. *International journal of biological sciences*, *17*(4), 1119–1124. https://doi.org/10.7150/ijbs.59374
        3. Stadler, R. N., Maurer, L., Aguilar-Bultet, L., Franzeck, F., Ruchti, C., Kühl, R., Widmer, A. F., Schindler, R., Bingisser, R., Rentsch, K. M., Pargger, H., Sutter, R., Steiner, L., Meier, C., Kübler, W., Hirsch, H. H., Egli, A., Battegay, M., Bassetti, S., & Tschudin-Sutter, S. (2021). Systematic screening on admission for SARS-CoV-2 to detect asymptomatic infections. *Antimicrobial resistance and infection control*, *10*(1), 44. https://doi.org/10.1186/s13756-021-00912-z
    - ii. People often attend clinical office appointments while they are ill, or while they are vulnerable to acquiring illness. For example, immunocompromised patients, patients recovering from a transplant or a surgery or other health event, patients attending an appointment with a febrile child for a physical exam to determine source of infection and receive treatment.
    - iii. Cochrane Canada, Long COVID Web, and McMaster are working together to develop Canadian Guidelines for Post-Covid Condition, or CAN-PCC Recommendations. The first such recommendations were just published, and mask wearing by asymptomatic adults in community settings is recommended for the prevention of COVID-19 infection, to prevent post COVID-19 condition. https://can-pcc.recmap.org/recommendation/3c665ab5-96a2-4519-8617-3b047e30efeb

2. Ventilation

a. We moved to an office that has mechanical ventilation. When practitioners are deciding on a suitable office location, the air quality of the location and the presence or absence, or ability to add mechanical ventilation should be considered. For medical offices, other ways of increasing "natural" ventilation such as opening doors and windows are often not an acceptable option during a medical exam where privacy – both sight and sound – is required. **For those whose mechanical ventilation is not adequate, or not available at all, ASHRAE 241 can still be used to find other ways to achieve the equivalent clean air required. ASHRAE 241 and OSPE have much more information on exactly how to achieve this.** Ventilation can be monitored through using a CO2 monitor; which I do periodically.
    i. ASHRAE standard 241-2023: Control of Infectious Aerosols. https://www.ashrae.org/technical-resources/bookstore/ashrae-standard-241-control-of-infectious-aerosols A read-only version of the standard is available here: https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards
    ii. OSPE indoor air quality reports – see especially "Core Recommendations for Safer Indoor Air" https://ospe.on.ca/indoor-air-quality/
    iii. OHCOW ventilation tool: https://www.ohcow.on.ca/occupational-illness/covid-19/ventilation-calculation-tool/
    iv. OHCOW ventilation checklist: https://www.ohcow.on.ca/posts/pandemic-ventilation-checklist/
    v. From March 2023, Engineers Canada National Position Statement on ventilation systems and building management in reducing airborne contaminants. https://engineerscanada.ca/sites/default/files/2023-03/NPS%20-%20Ventilation-Systems-and-Building-Management-in-Reducing-Airborne-Contaminants-EN-2023.pdf
    vi. Ontario engineer Joey Fox has an amazing collection of articles and resources on his website, itsairborne.com: https://itsairborne.com/

Reminder that engineers, unlike CMOHs, are actually held to a professional standard regarding harms to the public. Canada's provincial CMOHs have all failed repeatedly to tell people in Canada about airborne transmission and about the risks of long COVID they knew all about. Engineers could not get away with being involved in harms to the public in this way and still retain their professional licenses. For more information on what every CMOH knew since 2020 about long COVID, please see NB's freedom of information request here, showing the regular evidence scans the Office of the Chief Science Officer was sending to various public health people in every province: https://protectnb.ca/rti.html#2848

3. Filtration

a. A simple and straightforward intervention. **Over a period of 2 years we spent about $2,000 total on new HEPA air cleaners**. We started with the waiting room and exam rooms, and as office funds allowed, added the admin area, hallways, the lunch room, conference room. Our fellow clinicians also supplied their own HEPA air cleaners for their exam rooms and admin spaces. These HEPA air cleaners paid for themselves the very first time they stopped a chain of transmission to the physician. When the

physician is sick, no patients can be seen, so no revenue is generated for the office to pay staff wages, rent, other overhead, etc. The annual cost of replacing the HEPA filters in our numerous devices is around $600. It's tremendous ROI. Your draft document talks about environmental and surface cleaning but it doesn't say anything at all about cleaning the air. In 2024 we must acknowledge an absolute bare minimum requirement to clean shared indoor air, especially in medical/healthcare settings. Why?

i. **World Health Organization ARIA: Airborne Risk Indoor Assessment tool & publication**: https://partnersplatform.who.int/tools/aria/
ii. **Even the CDC and HICPAC in the US realize they must get with the times and acknowledge airborne transmission**. From the Safer Healthcare Blog, A CDC Update on the Part One Draft Update to the Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings: https://blogs.cdc.gov/safehealthcare/draft-2024-guideline-to-prevent-transmission-of-pathogens-in-healthcare-settings/
iii. From March of 2022 – the White House – Let's Clear the Air on COVID: https://www.whitehouse.gov/ostp/news-updates/2022/03/23/lets-clear-the-air-on-covid/
iv. From March of 2022 – The White House Clean Air in Buildings Challenge: https://www.whitehouse.gov/cleanindoorair/?utm_source=link
v. From the US. Commit to Care. AIHA ebook Healthier Workplaces and Schools (**reducing the spread of any airborne transmitted infectious diseases in the workplace):** https://commit2care.org/resources-aiha/?utm_source=cs-effect&utm_medium=pressrelease&utm_campaign=care24&utm_term=main AIHA is the American Industrial Hygiene Association.
vi. Statement from Dr. Tam on Nov 12, 2021 on the role of aerosols in transmission: https://www.canada.ca/en/public-health/news/2021/11/statement-from-the-chief-public-health-officer-of-canada-on-november-12-2021.html
vii. Government of Canada recommendations for ventilation and filtration: https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/guide-home-ventilation-covid-19-pandemic.html
viii. CDC recommendation on ventilation in buildings (note the date, 1 day after the end of the declared emergency in the US): https://www.cdc.gov/coronavirus/2019-ncov/community/ventilation.html

If the citations don't convince you: HEPA air filtration is not expensive; pays for itself by stopping chains of transmission and results in fewer worker absences when deployed at an adequate clean air delivery rate (CADR) for the space you expect to clean. With all the things medical offices invest in HEPA air cleaners are a slam dunk that should be standard along with the sharps containers mentioned in your draft. They also prevent harms – to patients and to workers.

4. Information

In our office we provide information in English and in French to staff and patients about what measures we're taking to address infectious aerosols/airborne transmission, as well as information about

respirators and clean air from Health Canada, Dr. Tam, Engineers Canada, and the Long COVID report by the Chief Science Officer.

Why go to this trouble to address the airborne nature of disease transmission? Because it matters. The stakes are high**. In NB, we had to submit a freedom of information request to find out how many people were dying of healthcare-acquired COVID in NB hospitals. Even into 2023, the number was not small. Patients catch COVID while seeking healthcare, and somewhere between 5-10% of those patients who have documented HAI COVID, die within 2 weeks of that documented infection. There is also long COVID to contend with. Our healthcare workforce is already strained. Now throw into the mix a disabling condition that is not rare? It's a recipe for even worse disaster. Please. Please.** I am most a mom who was working part-time from home while looking after very young children. I taught myself all of this, with what limited time and resources I had. If I can do this – I know that you can. Please, heed these words. It's so important. And when you get down to it, really straightforward. **ASHRAE 241 Standard plus CSA Z94.4 standard**. Clean air and respirators, plus information for patients. We can do it!

- **Statistics Canada December 2023 report on Long COVID in Canada**, showing numbers rise with numbers of infections and over 50% of people who ever reported having long COVID did not yet recover: https://www150.statcan.gc.ca/n1/pub/75-006-x/2023001/article/00015-eng.htm
- **Post COVID-condition in Canada: What we know, what we don't know, and a framework for action** (March 2023): https://science.gc.ca/site/science/en/office-chief-science-advisor/initiatives-covid-19/post-covid-19-condition-canada-what-we-know-what-we-dont-know-and-framework-action