

Emergency Medicine and the Role It Plays in Public Health: Monitoring for measles outbreaks in the emergency room

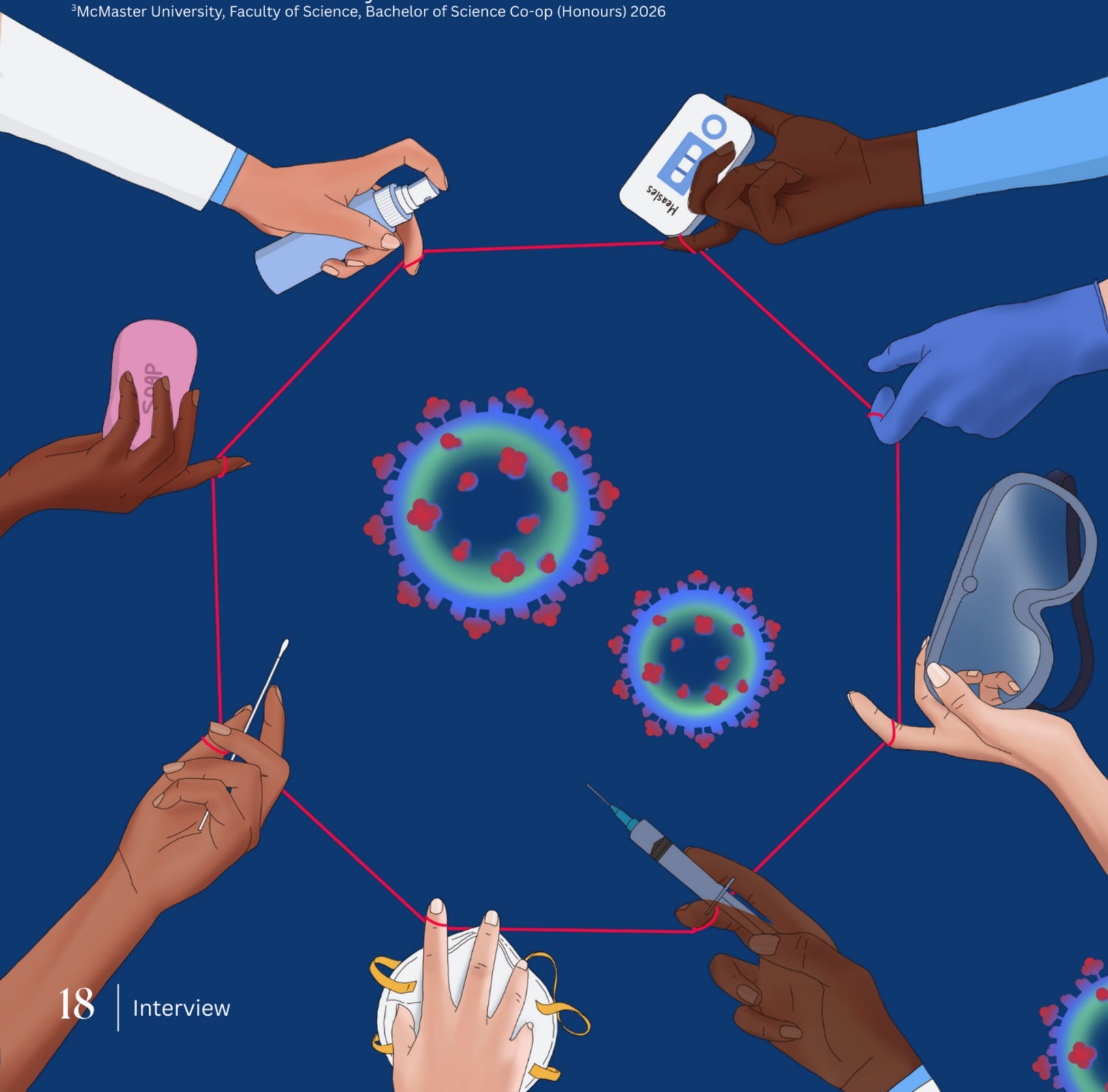
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INTERVIEWEE BIOGRAPHY

Katie Mattina is an Emergency Physician practicing in Hamilton, Ontario. Dr. Mattina completed her undergraduate education at McGill University, medical school at the University of Toronto and her Family Medicine-Emergency Medicine residency at McMaster University

What is the most prominent role the ER plays in the public health system of Canada?

The emergency department is the front door of the hospital - we are open 24/7 and you never know exactly what each shift will bring you. Our role in the emergency department is to provide high quality-patient care for a wide range of both life-threatening and non-life threatening clinical presentations. The most significant role of the emergency department within the public health system was during the COVID-19 pandemic which coincided with the end of my clinical training year. This primarily involved identification of the virus through nasopharyngeal swabs, and treatment of those affected by the virus. Emergency physicians help diagnose, treat, lead resuscitation teams, and provide education to patients about the importance of immunization, isolation, hand hygiene, and wearing a mask to combat viral illnesses. We had many sick patients with difficulty breathing, and our visitor policies were restrictive to limit the spread of the virus. We also had a wave of the "Happy Hypoxics"; people who would have alarmingly low oxygen saturations but still be walking and talking in the department. COVID-19 ushered in an era of non-invasive ventilation such as High Flow Oxygen-heated oxygen therapy initiated by respiratory therapists that helped patients breathe easier.

This can help us avoid intubation and life support for many patients with breathing difficulties. The emergency department is a team-based environment that relies on expertise from our colleagues in nursing, respiratory therapy, physiotherapy, occupational therapy, business clerks, radiologists, medical radiation technologists, consulting services, environmental aids, porters, and many more who are all essential to provide patient care.

Can you take us through the timeline of when an outbreak is first detected in the hospital, and the steps taken to protect others and yourselves?

We often do not know if the patient in front of us is part of an "outbreak" which is why we err on the side of caution and use Personal Protective Equipment to keep our team safe. Hand hygiene, gloves, gowns, masks and even N95 masks are ways that we keep ourselves safe as health care providers. The hospital electronic medical system can also trigger warnings from triage that a patient is screening positive for measles, and prompt us to take precautions so that this patient is not sitting in a busy waiting room. We have isolation rooms available with air filters, signage for patient rooms with specific precautions, and room cleaning protocols to help limit spread and protect other patients. These Infection Prevention and Control (IPAC) recommendations are key in limiting transmission. We receive updates about hospital units on "outbreak" which can limit the flow of patients and visitors in and out of that clinical area.

Based on lessons learned from the COVID-19 pandemic, what measures have the ER taken to manage measles outbreaks?

I believe we are more prepared as a team and as providers to handle outbreaks of respiratory viruses. I am hopeful that the COVID-19 pandemic has taught us the importance of immunization. Unfortunately, there is increased measles activity in Southwestern Ontario with most cases being in unimmunized or underimmunized children. Hamilton Public Health Services had its first lab-confirmed case of measles in 2025. We receive memos from Dr. Brendan Lew, the Associate Medical Officer of Health via email and these are incredibly helpful for providers. As you can imagine, there is a lot of information to process so it's helpful to have an outline of the current situation, vaccination recommendations, IPAC recommendations and how to test. There is mandatory reporting of suspected measles cases to Public Health by phone. From my experience we are well supported by our colleagues in the Infectious Disease Program and we have handy collection kits to make testing easier.

With regards to the resurgence of measles, how do these outbreaks compare to the COVID-19 outbreaks in terms of similarities and differences?

Both Measles and COVID are respiratory viruses that can have serious complications, but measles is far more contagious. Both vaccines are safe and effective. The measles vaccine has been around for decades and two childhood immunizations are almost 100% effective at providing protection. When enough of a population has been immunized against measles we can achieve "herd immunity" and eliminate measles in

Canada as we have done before. Unfortunately the COVID virus continues to mutate and immunity from prior illness and vaccination decreases over time, so it is important to continue with immunizations to prevent serious illness, hospitalization and death.

What can individuals do to support the ER department in managing public health concerns, for example when they are exhibiting measles symptoms?

Prevention is the key. It's important that individuals talk to their healthcare provider to ensure their immunization records are up to date. This is especially important for children and adolescents. This is one of our screening questions that helps determine whether isolation and testing is needed. The Mumps, Measles and rubella vaccine is very safe and effective.

To end things on a positive note, what is your favourite part about being an ER doctor?

I love being part of a team whose #1 goal is to help others. People trust us to take care of them during their most vulnerable moments. We meet people on the worst day of their lives and it is an immense privilege to provide them care.

Edited By: Kumkum Anugopal & Sakina Ali

