# **Covid-19: Second Wave**

# **Lines of Inquiry**

- How do we **define a second wave**? Is it a spike in the current wave? Is it a completely new wave driven by a mutated virus? Does the first wave have to be over for a spike to be considered a second wave?
- How will we know if we are experiencing a second wave? Do we have national measures in place?
- How is second wave preparation different from what Canada is already doing?
  - F/P/T (SAC) guidance for phased reopening acknowledges that as some public health measures are lifted, some degree of COVID-19 transmission will be unavoidable. It states that ensuring our public health capacity remains strong to prepare for and respond to any future waves of the pandemic is a key objective.
  - F/P/T guidance states that "decisions to ease and/or reinstate measures should be based on current public health situations as advised by public health officials."
- Are we prepared for higher demand for **seasonal flu shots**? What happens if a COVID-19 vaccine is ready before or during **flu season**? Are we prepared to meet both demands?
- Since influenza and COVID-19 share many common symptoms, how would **concurrent outbreaks of seasonal flu and COVID-19 be managed** in terms of testing and clinical treatment?
- How do we ensure that our contact tracing program can meet demand?
- How can we leverage **AI/ big data** and private corporations that develop pandemic tracking systems to better predict and react?
- If the virus mutates, will we need new testing mechanisms? What happens to vaccine development? Are we prepared to spend more on research in the longer term?
- What is PHAC's role in ensuring that federal departments and PTs are prepared to ensure we have economic securities in place if businesses need to close again?
- According to some experts, Canada may be prone to a **greater second wave** as compared to some other countries that had larger first waves. Are F/P/Ts prepared for this scenario? What measures are in place for **procurement** that exceeds the current necessity?

### **How Countries are Preparing**

#### Australia

Australia's university sector is proposing a "secure corridor" to allow international students from countries deemed "safe" to return to Australia by 2021. Eligibility for source countries would be based on sustained low infection rates, high testing rates and an ability to deal with outbreaks. The Australian Government has extended its ban on cruise ships from entering Australian waters or ports to September 17. The previous ban was due to expire in June.

# Belgium

• Working on a plan to move back into confinement if necessary. Will remain vigilant and dampen the enthusiasm for reopening society too quickly. "We saw what the first serious wave looked like. We have to be prepared for a second one, although we'll try not to let it come to that," said head virologist Erika Vlieghe.

# France and Germany

• France and Germany are jointly **proposing an EU Health Strategy aimed at enhancing the bloc's "strategic health sovereignty."** This will entail new EU-level competencies (including plans for common stocks of protective gear, coordinated purchasing of treatments and vaccines, and shared epidemic prevention plans).

# New Zealand

- NZ recorded its first day of no new cases in early May. Their elimination approach included timely and strict measures. As the measures lift, a system of robust contact tracing, testing and surveillance remains active. Australia and NZ are looking to potentially open borders with one another. In time, a small number of countries in the region will reach an agreement to enable travel with specific control measures in place.
- Lessons learned from NZ for potential second wave include **implementing mandatory quarantine for all visitors early, moratorium on domestic travel. Trust in public officials** is high in NZ and ensured that citizens complied with measures.

# South Korea

• The government says it is **prepared for a second wave of the virus**. "The key is to contain COVID-19, the second round, more efficiently. Focus on containing the virus, not eliminating it.

# United States

- The U.S. is making a big push under **Operation Warp Speed to accelerate the development**, manufacturing, and distribution of **COVID-19 vaccines**, therapeutics, and diagnostics (medical countermeasures). It aims to have substantial quantities of a safe and effective vaccine available for Americans by January 2021. This is a public-private partnership between Health and Human Services (HHS), Defense, private firms; and other federal agencies.
- U.S. pharmacy chains are preparing a big push for flu vaccinations when the season kicks off in October, hoping to curb tens of thousands of serious cases that could coincide with a second wave of coronavirus infections. CVS Health Corp, one of the largest U.S. pharmacies, said it is working to ensure it has vaccine doses available for an anticipated surge in customers seeking shots to protect against seasonal influenza.

## **Literature Review**

- Risk for large second waves of outbreaks is lower if **communities continue to implement cautious**, incremental plans to reopening that include social distancing policies.
- In areas where relaxation of social distancing has moved quickly the risk for resurgence in the subsequent weeks is high.
- **Relaxing the interventions** (resulting in Rt>1) when the epidemic size is small may increase the cumulative case count exponentially as a function of relaxation duration, even if aggressive interventions could subsequently push disease prevalence back to the baseline level.
- Modelling analysis suggests that **premature and sudden lifting of interventions could lead to an earlier secondary peak**, which could be flattened by **relaxing the interventions gradually**. The provisional results of modelling suggest that social distancing and loss of immunity are the two key factors that underwrite a return to endemic equilibrium.
- Given the substantial risk of viral reintroduction, particularly from overseas importation, close monitoring of Rt and case fatality rate is needed to inform strategies against a potential second wave to achieve an optimal balance between health and economic protection.
- A response system based on **enhanced testing and contact tracing** can play a major role in relaxing social distancing interventions in the absence of herd immunity.
- Enforcing strict social distancing followed by a policy based on a **robust level of testing, contact tracing and quarantine of contacts of cases** could keep the disease at a level that does not exceed the capacity of the health care system.
- **Testing strategies that overlook marginalized people**, often living in cramped or unsanitary conditions, could trigger a second wave.