In brief

Public health measures and COVID-19 vaccine rollout

30 September 2021

Summary

- Modelling studies from different countries caution that even with a high vaccine coverage, some level of public health, travel and social measures may still be needed to minimise the risk of localised transmission and deaths.[1-5]
- The World Health Organization updated their interim guidance on considerations for implementing and adjusting public health and social measures in the context of COVID-19 in June 2021. They advise that some countries may consider relaxing some measures for individuals who are either vaccinated or have had a confirmed SARS-CoV-2 infection in the past six months. Depending on transmission level, measures that could be relaxed include waiving quarantine and/or allowing indoor congregation with other vaccinated or recovered people.[6]
- The Canadian Government have guidance on adjusting public health measures in the context of COVID-19 vaccination. They describe a risk-based approach at an individual and community level.[7]
- McMaster University completed a rapid evidence review in March 2021 and found:
    - Triggers for lifting restrictions include case rates and vaccination-related factors (e.g. proportion of the population vaccinated, proportion of high-risk populations vaccinated).
    - The order of lifting restrictions should balance individual, organisational, public-health authority and government measures:
        - Individual measures include wearing masks and hand washing, among those who were fully vaccinated and then all people.
        - Organisational measures include using signage, barriers and occupancy limits.
        - Public-health authority measures include testing strategy and contact tracing.[8]

Background

- Early in the pandemic, the World Health Organization released interim guidance on considerations in adjusting public health and social measures in the context of COVID-19:
    - They suggested using a risk assessment approach.
    - The risk assessment should address the likely impact of adjusting measures, the risk of case resurgence and whether the public health system is able to identify, isolate and care for a possible surge in cases.
    - They have also suggested five situation levels and present considerations and examples for implementing and adjusting public health and social measures at each level. These documents do not consider the impact vaccination has on adjusting such measures.[9, 10]

Evidence

Modelling studies

- One study estimated that for a complete relaxation of public health, travel and social measures, vaccination coverage would have to be 100% for all individuals aged 30 or older to avoid an outbreak that could overload the local healthcare system. Testing and quarantine of at least five days may need to be maintained for inbound travellers, to reduce the risk of local outbreaks.[1]
- A study from Australia estimates that with 82% of the population vaccinated, the required lockdown intensity decreased by 43% to curb transmission.[2]
- A study from Canada shows that 75% of the Ontarian population will need to be vaccinated to avoid an increase in the risk of localised outbreaks with the re-opening and relaxation of public health measures.[3]
- A study from France found that in order to fully relax control measures, a very high vaccine coverage (90% in 65 years or older, 89 to 100% in 18 to 64 year olds, or 60 to 69% in 0 to 64 year olds) might be needed.[4]
- A study from the UK found that vaccination alone may not be sufficient to contain an outbreak if the non-pharmaceutical interventions are removed, even with a high coverage (95% in 80 years and older, 85% in 50 to 79 years and 75% 18 to 49 years).[5]

Review study

- One rapid review study which collated de-escalation strategies for non-pharmaceutical interventions following infectious disease outbreaks, found the most commonly used criteria for de-escalation include:
    - surveillance (i.e. the ability to actively monitor confirmed cases, detect suspect cases by testing and contact tracing)
    - health system capacity (i.e. the ability to treat all patients within normal capacity and with sufficient personal protective equipment)
    - epidemiology (i.e. number or changes in case numbers, full containment or suppressed epidemic).[11]

Grey literature

- The World Health Organization updated their interim guidance on considerations for implementing and adjusting public health and social measures in the context of COVID-19 in June 2021.[6] Key points include:
    - The decision to introduce, adapt or lift public health and social measures should be based primarily on a situational assessment of the intensity of transmission and the capacity of the health system to respond.
    - In settings where robust measures are otherwise in place, allowing the relaxation of some measures for individuals with natural or vaccine-induced immunity may contribute to limiting the economic and social hardship of control measures.
    - Whether or not vaccination has begun, countries should continue to monitor transmission levels and take measures as needed.

  - After taking into consideration ethical and technical considerations and transmission levels, countries may consider relaxing some measures for individuals meeting either of the following criteria:
    - Completion of full vaccination with one of the approved vaccines (and at least two weeks after completion of vaccination)
    - SARS-CoV-2 infection confirmed by RT-PCR within the past six months.
  - Depending on the transmission level, below are some options for relaxation of individual measures:
    - Waiving quarantine following close contact with a confirmed COVID-19 case
    - Waiving testing and/or quarantine requirements for international travel
    - Allowing congregation in indoor private settings with other fully vaccinated or recovered individuals, without wearing masks and without applying physical distancing.

- The Canadian Government have guidance on adjusting public health measures in the context of COVID-19 vaccination, describing a risk-based approach:[7]
  - The risk associated with COVID-19 is based on a variety of factors, such as epidemiology, the type of the setting, the people accessing the setting, as well as vaccine coverage.
  - The risk should be assessed in advance of the development and implementation of programs and operations.
  - As more people in Canada are vaccinated against COVID-19, this interim guidance distinguishes between core and additional public health measures:
    - Core public health measures are at the foundation of good public health practice and include staying at home if ill, practicing hand hygiene and respiratory etiquette.
    - Additional public health measures could be considered when more rigorous COVID-19 infection prevention and control measures are warranted and include physical distancing, wearing masks and avoiding non-essential travel.
  - In the guidance, a table on considerations for adjusting measures is provided at both an individual and community level:
    - The core public health measures covered are staying at home when ill, test, trace, isolate and quarantine, improving indoor ventilation, hand hygiene and disinfecting surfaces.
    - Additional public health measures are avoiding closed and crowded spaces, minimising in-person interactions, physical distancing, wearing a mask, providing accommodation and avoiding non-essential travel.
  - In both settings, these measures have recommendations based on whether individuals are at a low or high risk of getting COVID-19, which includes vaccination status.
- McMaster University completed a rapid evidence review in March 2021 and found:
  - Triggers for lifting restrictions include case rates and vaccination-related factors (e.g. proportion of population vaccinated, proportion of high-risk populations vaccinated).

    - The order of lifting restrictions should balance individual, organisational, public-health authority and government measures:
        - Individual measures include wearing masks, physical distancing and hand washing, among those who were fully vaccinated and then all people.
        - Organisational measures include using signage, barriers and occupancy limits to support physical distancing and disinfecting surfaces.
        - Public-health authority measures include testing strategy, quarantine length, case management and contact tracing.[8]
- An environmental scan by Public Health Ontario outlines what public health measures are altered for vaccinated people by different jurisdictions internationally.[12]
- The Australian Doherty report includes recommendations at 70% and 80% of the population vaccinated, with baseline public health and social measures and partial test, trace, isolate and quarantine. They bundle public health and social measures together under baseline, low, medium and high risk.[13]

To inform this brief, PubMed and Google searches were conducted using terms COVID-19 vaccines, adjusting, public health, travel and social measures, non-pharmaceutical interventions, and modelling studies on 23 September 2021.

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