THE UNIVERSITY OF BRITISH COLUMBIA
Continuing Professional Development
Faculty of Medicine

UBC CPD
The Division of
Continuing Professional Development
Faculty of Medicine
City Square, 200-555 W 12th Ave
Vancouver BC Canada V5Z 3X7
T 604.675.3777
ubccpd.ca

EXPERT Q&A WITH PUBLIC HEALTH, VACCINE, EPIDEMIOLOGY, AND LAB SPECIALISTS

Webinar date: **Sept 14, 2021**
Recording and Presentation Slides: https://ubccpd.ca/2021-09-14-expert-qa-public-health-vaccine-epidemiology-and-lab-specialists

Disclaimer: Information on COVID-19 is changing rapidly and much of the research is preliminary. Assessment and management protocols are suggestions only; they do not take the place of clinical judgement. Please check with your own health authorities and local medical health officers as policies and support for the suggested approaches to patient care may vary between regions.

This summary was prepared by Dr. Birinder Narang and not by the speakers.

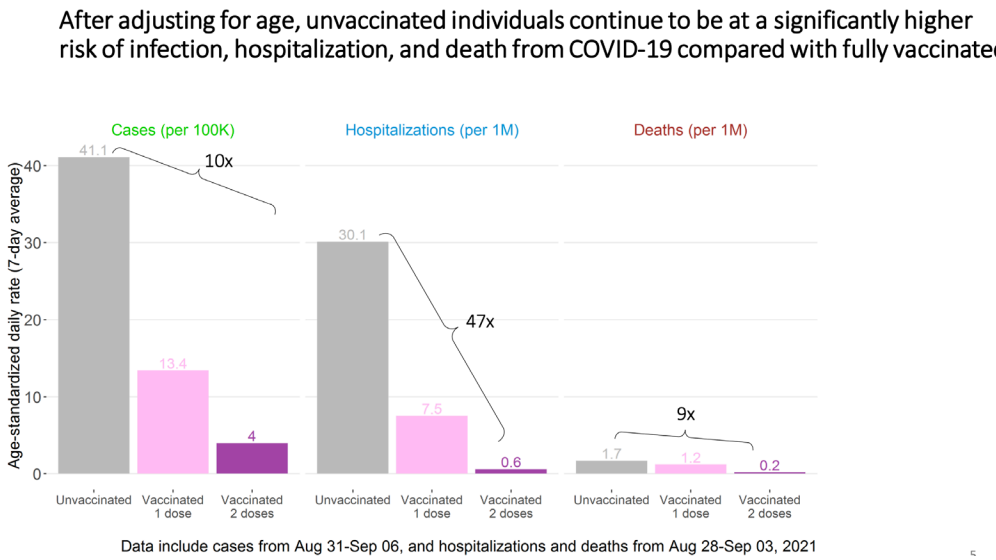
Webinar Summary

Presentation – Drs. Gustafson, Lyshshyn, and Sadarangani

Pandemic Update

- There are still cases of positive diagnoses of COVID-19, the vast majority of which are in unimmunized populations.
    - Some are also in partially or fully vaccinated populations
        - These tend to be mild cases and are much less likely to lead to hospitalization and death
- There has been decoupling of infections from hospitalizations
- Counting cases was our best measure of the pandemic for some time, but now we should be transitioning to a measure of hospitalizations, death, and immunization rates
- Immunization rates
    - Rates are very good for those over 50 years in age and slightly lower in younger populations
    - The most hospitalizations and deaths occur for those over 50

- Geographic information
    - There are pockets in both Interior and Northern Health with lower immunization rates



    - These data represent the Delta Variant as well
- Restarting society
    - Restrictions placed on activities on work, education, and social services do reduce COVID-19 transmission but also have had significant negative consequences
- Worsening mental health as reported by >45% of respondents in the 1st round of the COVID SPEAK Survey, which has now increased to >55% in the 2nd round
    - We are seeing a worsening of mental health outcomes
    - The pandemic has had a worsening of health inequities as well

Update on BC's Restart Plan

- After the 3rd wave, we started BC's restart plan and are currently at Step 3
    - Most activities have been restarted aside from high-risk gatherings and larger events
- We have started to see transmission in the Interior, North, and across the Province
- The Restart Plan is now on hold
- There are new orders to help reduce hospitalization and ICU rates:
    - Face Coverings Order – masks are mandatory in indoor public spaces
    - Vaccinations are mandatory for health care workers in long-term care, acute care, and community and contracted facilities
        - We are seeing risks to vulnerable residents, particularly for unvaccinated individuals

- BC Vaccine Card – to allow us to move ahead with the restart plan, this measure is designed to boost immunization rates to allow us to have society reopen without overwhelming the health care system
    - The goal is to incentivize people to get vaccinated and to get society open so we don't have to keep shutting down

Update on COVID-19 Vaccines in Children

<table>
<tr><th>Age group</th><th>Pfizer/BioNTech</th><th>Moderna</th><th>Oxford/Astra Zeneca</th><th>Janssen</th><th>Novavax</th></tr>
<tr><td>12-17 years</td><td>Approved and in use in Canada</td><td>Approved and in use in Canada</td><td rowspan="2">Recruitment ongoing</td><td>Recruitment ongoing</td><td>Recruitment ongoing</td></tr>
<tr><td>6-11 years</td><td rowspan="2">Recruitment ongoing
USA/Europe
Data 2021 Q4?</td><td rowspan="2">Recruitment ongoing
USA/Canada
Data 2022 Q1?</td><td rowspan="3">Study planned</td><td rowspan="3">No plans stated</td></tr>
<tr><td>6 months – 5 years</td><td rowspan="2">No plans stated</td></tr>
<tr><td><6 months</td><td colspan="4">Some protection expected from immunization in pregnancy</td></tr>
</table>

- The above 5 vaccines have signed agreements with Canada when trials become ready
- Pfizer and Moderna have been approved for 12–17 year-olds in Canada
    - Antibody responses for this age group are at least as good if not better than young adults
    - All are engaged in trials up until 6 months of age
    - Data for the 6-11 year-old age group is expected later this year

Question & Answers

Q: Are there medical exemptions for the BC Vaccine Card?

A: There are no exemptions; the card is only for discretionary activities. The idea is for it to be a temporary measure to boost up vaccination rates so we can open society safely.

Q: What are the demographics for fully vaccinated hospitalized patients?

A: The vaccine doesn't prevent against COVID-19 100%, nor serious disease 100%. Those with risk factors can still get serious disease, predominantly those over 50 in age. We are constantly reviewing vaccine effectiveness; the immunity continues to be very good from both mRNA vaccines and from mixed series.

The absolute number is much smaller for those who have moderate or severe illness in vaccinated populations. The number of people dying is still skewed towards the elderly.

Q: When do you anticipate we will have vaccines approved in Canada for ages 2-11?

A: This will likely come in piecemeal, in an age de-escalation. Current trials are in the 6-11 age group, and the next approval will apply to that age group, then the 2-5 year old and 6 months – 2 year old age groups. Currently Pfizer data is closest for submission and Health Canada has been very quick in reviewing data. The next step will then be the considerations for NACI, provinces, and territories to make recommendations. The earliest this happens could be within the next 1-2 months, but it really depends on the rest of the process.

There is a difference between approval and recommendation. This is an infection that affects everyone but is mainly an illness/disease in older adults, so it is not a given even if a vaccine is approved, and it doesn't mean it will be universally recommended for all children.

We must look at the safety profile and antibody response but also must compare it to the burden of severe disease in a community and ethical concerns.

There could be a high-risk approach or a universal approach, but we have to take into account our own local epidemiology.

Q: Is the data showing any differences in whether or not to get vaccines within a > 2-month interval vs a 3-4 week interval between doses?

A: In Canada we started at 16 weeks, but as more supply became available, we reduced this interval. It is difficult to compare, for example, a 16-week Canadian context with a United States 3-week interval as there are lots of other variables. Immune response data is a bit inconsistent, where longer intervals may have a better antibody response but not as good of a T cell response. We don't know what the correlate of protection is yet.

Vaccine effectiveness data has been showing a trend of longer intervals being better (i.e. for viral vector vaccine), though in BC the vaccine effectiveness is all excellent and does not show waning immunity or insufficient response.

The US had a "raging epidemic" and were trying to distribute vaccine as rapidly as possible. In certain parts of Canada we had something similar, but in other places we had the ability to delay doses to create a stronger immune response. We still don't know how well the amount of antibody correlates to how well you are protected.

Q: How good is "natural immunity", in reference to the Israeli data that has come out?

A: The Israel data did show that in some cases there was a much better immune protection from natural infection. This data is inconsistent; in Brazil, about 60-70% of the population as infected, but they then got severely hammered by a variant. We don't know what the relative contribution of immunity is; we

know if you get infected, your antibody levels are significantly lower than if you get vaccinated. There is good data suggesting if you had a natural infection and got a single dose of vaccine, you are probably very well protected and additional doses add very little protection.

There is a bit of a natural experiment in society. We have high levels of vaccination, but the delta variant is easily transmissible, and vaccines do not have a high probability of resulting in severe disease or adverse outcomes. They probably give different types of immunity. At some point it may be better to have combined immunity from vaccination and infection, but we are still at a stage where it is too risky to have natural infection as has it has the potential to overwhelm hospitals.

We should always be weary of pre-print, non-peer reviewed data, as at least some of the studies are retrospective, observational data that is very messy.

Q: Any comment on Ivermectin?

A: *Thumbs down all around*

Q: When are boosters coming? What will it be looking like in BC?

A: We have additional vaccine doses coming for those who are significantly immunocompromised. It is the recognition that some people is does not amount to as strong of a primary response where 3 doses will be a primary series.

We think the data is not there for boosters yet, and since the rest of the world does not have their primary series, this presents ethical implications.

We live in a dynamic equilibrium with coronaviruses, and we don't tend to have immunity forever against them. If we do boosters, we must question – what is the goal of our vaccination program? There may be boosters required for those at risk for severe outcomes or for those who have waning immunity.

We are trying to prevent severe disease. In BC we don't have data that effectiveness is waning, and we are very lucky to have real-time ongoing surveillance of vaccine effectiveness. It's important to remember that the Delta Variant did not originate here, and until we have global vaccine coverage, this will always be on our doorstep.

Q: Do we know anything yet about certain sub populations who will require a booster (i.e. those who got 2 doses of the AstraZeneca vaccine)?

A: The only group receiving boosters right now is the clinically extremely vulnerable group. They will be offered the mRNA vaccine and predominantly have already received mRNA vaccines.

We don't have any head-to-head data about these vaccines. They are being deployed in different rates, populations, and timings. As for the AstraZeneca vaccine, we are not using it because of the risk of thrombosis, but we have good data suggesting that it is a very effective vaccine against severe disease. There is good immunological data but we don't have great immune correlates.

We are not there yet.

Q: Can you give us an update on school vaccines? When will routine grade 6 and 9 vaccines restart?

A: They are starting. Grades 6-10 are being prioritized this year by Vancouver Coastal Health. On October 1st we will be starting vaccinations including COVID vaccines. That said, it may take a few years to catch children up.

Q: What are your thoughts on when the COVID-19 pandemic will come to an end?

A: COVID is not going away, but it will become an endemic disease as with any other respiratory infection. We are in the transition phase. We need continued immunization of the population and a shift in risk perception.

We have focused solely on COVID-19 for a long time now. It no longer dominates the news as much as it did before but it's still very big in our conversations with schools, universities, and workplaces.

We do need to shift our perception on what our goals are including, reducing both hospital risks and societal disruption. Our perception of the risk of COVID is likely causing as much disruption to society as COVID itself.

To some extent, the return to normal life will depend on how well we can provide calm and confident leadership with clear communication on what carries a risk.

Returning to normal societal functioning is a societal, health and economic priority. We will need support from family physicians to return to important activities in life.

Q: Is there a recommendation for N95 masks in office settings, especially with respect to the Delta variant?

A: No, you do not need an N95 respirator for the Delta variant. The mode of transmission and types of settings of transmission are no different. Delta is just more efficient in being transmitted (most commonly the home). Prevention measures remain the same including vaccination, followed by staying home when you're sick and wearing a surgical mask in a health care setting.

Delta replicates more efficiently in tissue and in the nasopharynx. When you look at viral loads with Delta versus other variants, there are higher viral loads – probably 10x higher than other variants. Vaccinated individuals can have high viral loads. According to data from Singapore, people who are vaccinated will clear their viral load quickly.

If you wear PPE properly, protect your eyes, and refrain from rubbing your eyes, or picking your nose, etc. (there is data that the average person picks their nose 15-25x/hour), you are protected, even in households. We tend to focus on the peripheral aerosols when lots of time transmission is occurring from breaches of protection (i.e. unwashed hands, letting down your guard).

Q: What is the latest information on what we should be doing about cleaning the exam room after a patient leaves?

A: There is new guidance on this from PHO and the Royal College, urging family physicians to continue providing in-person care. There are some infection control guidelines that have been developed for community physician offices regarding wearing a mask during clinical encounters. There is no expectation of enhanced cleaning as was expected earlier in the pandemic now that health care workers and providers are immunized. The risk of transmission through surfaces is very low.

See the below resources for infection control recommendations.

Q: What is the understanding over Long COVID? Is there a different risk based on vaccination?

A: Vaccines do seem to protect against Long COVID; you are less likely to get COVID so in that case you are less likely to get Long COVID. Similarly, if you are less likely to get severe illness, then you are less likely to get Long COVID. There are still some questions about how much of Long COVID symptoms are from COVID versus a critical illness in general. There is a study now that shows that if you do get COVID when vaccinated, you are less likely to get Long COVID.

The challenge of Long COVID is that we know who is infected and a portion of those people will get chronic symptoms. We don't have a good sense of those who got infected but did not get tested, and we do not have good case control study of what proportion of those people developed Long COVID.

The data are difficult to interpret, as it can range from a few percent to up to 15% in other jurisdictions.

Q: For children who have a runny nose, sniffles, etc. but tested negative for COVID, when can they go back to school?

A: They can go back to school whenever they feel better. You can ask them to get tested if they have cough, fever, or dyspnea. You can wait 24 hours and then get tested if it doesn't get better. Guidelines on this haven't been updated yet.

We have seen that for a lot of kids who were feeling mostly better, it seemed as though there was almost a taboo about being in the class. We will need to work with schools and children to create a supportive environment to ensure children are not shunned in the corner.

A negative test does mean you are able to return to school; family physicians can support the patient in returning to school.

Q: What would you recommend about risk reduction for obstetricians, midwifes, and/or parents with newborns to help reduce the spread of COVID 19 in newborns?

A: Get vaccinated ASAP. The most likely people to give COVID to the baby will be their parents. Most transmission occurs through social networks; the majority of people do know where they got it from.

Q: Why has the BCCDC not been considering modeling from UBC and SFU COVID-19 Modeling Group? Their modeling did predict P1 and Delta surges.

A: Those models are considered, often before they are released in the context of our own models at BCCDC as well as randomized control trials and empirical data. All models have both benefits and limits. All of them did predict that when society opened there would be an increase in transmission. However. a criticism of modeling is that they are solely about COVID, and do not model other outcomes. The reason to reopen was in the context of humanization; we knew we had the ability to calibrate and that the restrictions were causing significant harm. COVID-19 during the pandemic was the 6th highest cause of death and 6th highest cause of potential years of life lost. Additionally, overdose was the 4th highest cause of death and 2nd highest cause of potential years of life lost. Overdoses were the highest cause of death for those aged 19-39 and the 2nd highest cause of death in those under 19 and those aged 39-60. We saw a significant increase in mental health presentations and increase in anti-depressant and anxiolytic prescriptions in adult populations.

We absolutely need to consider modeling data, but also must look at all these other measures/outcomes.

This question implies that restrictions reduce morbidity and mortality, but restrictions do come without their own morbidity and mortality, and some people are not aware of that.

Q: When will we free up nursing resources from testing centres and contact tracing?

A: With contact tracing, the majority of people doing contact tracing are not nurses. Largely, nurses have been released back to their regular duties. We are still in the phase right now that we want to make testing available. We may shift testing priorities in the future once there are higher numbers of people vaccinated and we are not as worried about transmission in community.

Additionally, Public Health resources are restarting.

Q: What is it that you are saying to people regarding isolation?

A: Cases will still need to isolate for 10 days from symptom onset. For contacts who are double vaccinated or 3 weeks post first dose, they can self-monitor for symptoms. Cases are notifying contacts if they feel comfortable doing that. Public Health will follow-up for high risk cases.

Q: What is the current recommendation for receiving a 2nd dose of the mRNA vaccine if someone got myocarditis following the first dose?

A: The current recommendation from NACI for adolescents and young adults who get myocarditis after receiving the 1st vaccine dose is to defer the 2nd dose until more data is released. We have seen some cases of people self-labeling as having myocarditis after the 1st vaccine when they had an episode of chest pain, but no actual diagnosis was made, so they have been "de-labelled". Diagnosis of exclusion should not be myocarditis if they have chest pain following vaccination. If it diagnosed as myocarditis or pericarditis then it must be reported to Public Health so that appropriate follow-up can be made.

Q: An email from Doctors of BC said that the vaccine mandate applies to physicians with health authority facility privileges. Does it also apply to those working in private or community practice?

A: Yes, that is correct, but if they do anything in a hospital setting (e.g. teaching), then they must be vaccinated.

Q: Is the vaccine effective against the Mu Variant?

A: So far, every variant that has been discovered is still being responded to by the current vaccines. The vaccines use the entire spike protein and cover a lot of territory on vaccine. The prediction is that Mu will be responsive to current vaccines.

Resources

- **BCCDC – Infection Control:** http://www.bccdc.ca/health-professionals/clinical-resources/covid-19-care/infection-control
- **WHO – Natural Immunity:** https://apps.who.int/iris/bitstream/handle/10665/341241/WHO-2019-nCoV-Sci-Brief-Natural-immunity-2021.1-eng.pdf

Thanks to the speakers on the video:

- **Dr. Reka Gustafson**, Vice President, Public Health and Wellness and Deputy Provincial Health Officer
- **Dr. Mark Lysyshyn**, Deputy Chief Medical Health Officer, Vancouver Coastal Health)
- **Dr. Mel Krajden,** Medical Director of the Public Health Laboratory, BCCDC
- **Dr. Manish Sadarangani**, Director, Vaccine Evaluation Center at BC Children's Research Institute
- **Ms. Nomi Mate**, Public Health Nurse
- **Simon Moore**, Family Physician, UBC CPD Medical Lead