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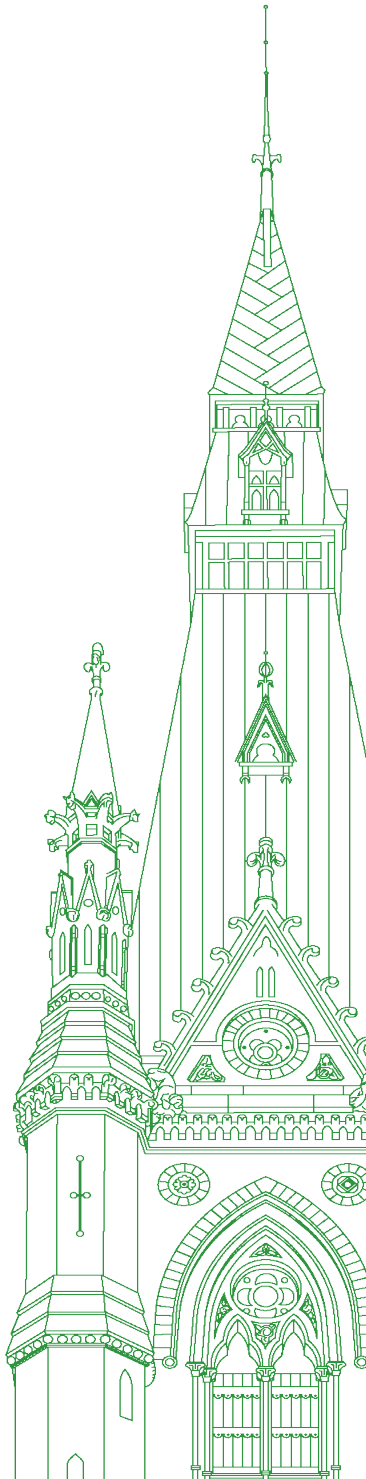

Chair: Mr. Ron McKinnon

Standing Committee on Health

Friday, February 19, 2021

● (1450)

[*English*]

The Chair (Mr. Ron McKinnon (Coquitlam—Port Coquitlam, Lib.)): I call this meeting to order.

Welcome, everyone, to meeting number 19 of the House of Commons Standing Committee on Health.

The committee is meeting today to study the emergency situation facing Canadians in light of the second wave of the COVID-19 pandemic.

I would like to welcome the witnesses.

From the national advisory committee on immunization, we have Dr. Caroline Quach-Thanh, chair and professor, Université de Montréal.

From the Public Health Agency of Canada, we have Stephen Bent, director general; Kimberly Elmslie, senior vice-president; Bersabel Ephrem, director general, Centre for Communicable Disease and Infection Control; Cindy Evans, vice-president, emergency management; Dr. Guillaume Poliquin, acting scientific director general; and Dr. Roman Szumski, senior vice-president, COVID-19 vaccine and therapeutics acquisitions.

I would just summarize that the above witnesses are asked to present on the following: (a) current outbreaks, occurrences and modelling for COVID-19 variant spread in Canada as it relates to projected vaccination rollout timelines; (b) capacity to surveil the emergency prevalence and spread of variants; (c) current federal government assumptions regarding vaccine effectiveness on variants in the context of the federal government's vaccine portfolio and (d) Canada's procurement of variant-related booster shots.

According to the motion that requested this panel, I will ask Dr. Quach-Thanh to speak for up to seven minutes followed by the Public Health Agency of Canada for up to 15 minutes.

Dr. Quach-Thanh, please go ahead for seven minutes.

Dr. Caroline Quach-Thanh (Chair and Professor, Université de Montréal, National Advisory Committee on Immunization): Thank you very much.

[*Translation*]

I would like to begin by thanking the Chair and the members of the Standing Committee on Health for inviting me to testify.

I am a pediatrician, a microbiologist-infectiologist and a clinical researcher at CHU Sainte-Justine, as well as a full professor in the Department of Microbiology, Infectiology and Immunology at the Université de Montréal. I have clinical and research expertise in infection control from hospital to community, which also includes vaccination. I hold a Tier 1 Canada Research Chair in infection prevention and control: hospital to community. However, I am testifying today as Chair of the National Advisory Committee on Immunization, or NACI, so I will limit myself to that committee's mandate.

● (1455)

[*English*]

The National Advisory Committee on Immunization, or NACI, is an external advisory committee to the Public Health Agency of Canada and has existed since l964.

The NACI work and committee attendance for the 15 voting members and the chair is done on a voluntary basis and carefully reviewed for any conflicts of interest.

NACI makes recommendations to the Public Health Agency of Canada on issues relating to immunization for the vast majority on vaccines that have been authorized by Health Canada. In only one instance was NACI asked to make recommendations on a not yet authorized vaccine to support emergency preparedness, the Ebola vaccine.

NACI bases its recommendations on various elements, including the burden of illness; vaccine characteristics such as safety, immunogenicity and efficacy; ethics; equity; feasibility and acceptability as well as economics.

To ensure that NACI has the proper expertise, it expanded its voting membership in recent years to include a social scientist, two health economists and an epidemiologist and consults regularly with the Public Health ethics consultative group.

NACI uses a systematic approach to review the medical literature and vaccine science, which may take longer to perform compared to a narrative review, but ensures reproducibility and quality so that provinces and territories are confident about the knowledge synthesis product they can then use for their local recommendations.

[*Translation*]

Given the growing need for recommendations with respect to vaccination against COVID-19, the NACI has increased the frequency of its meetings, sometimes to one per week. The secretariat supporting the NACI within the Public Health Agency has worked diligently to provide the NACI with the information it needed to make decisions, including scientific literature reviews, ethical analyses and management option tables. This has allowed for a variety of approaches based on provincial values and epidemiology.

Since the beginning of the pandemic, the NACI has issued a number of statements: a statement on research priorities to guide manufacturers' phase III randomized trials, so as to answer key questions that will enable the NACI to make recommendations on the use of vaccines for various populations, including vulnerable individuals; four recommendations on priority groups for vaccination in various circumstances; and two recommendations on the use of vaccines for COVID-19, including one for each of the vaccines approved by Health Canada.

[*English*]

Given the questions on variants asked by HESA and in keeping with the NACI mandate, I cannot comment on the vaccine rollout. However, NACI has variants of concern, VOCs, on its radar, having added many research questions over time in our recommendations on the use of COVID-19 vaccines; the latest version remains to be published. These research questions feed both the Canadian Immunization Research Network's work plan and the newly formed vaccine surveillance reference group, safety and effectiveness working groups, to identify knowledge gaps and leverage existing cohorts or surveillance infrastructure to answer these questions.

The following questions relate to VOCs: What is the role of humoral versus cellular immunity in preventing immune escape of viral variants? How will viral variants impact the efficacy, effectiveness, immunogenicity and safety of a vaccine with respect to death, severe illness, symptomatic disease, asymptomatic disease, infectivity and transmission? What is the effect of using booster vaccines containing heterologous antigens and what is the optimal timing for booster vaccination?

At this point, NACI has requested presentations of vaccine effectiveness data from the U.K. where the B.1.1.7 variant is the most predominant SARS-CoV-2, in a country where both AstraZeneca and Pfizer-BioNTech are used with an extended interval of 12 weeks. Data were presented to NACI confidentially on February 8, 2021, after four weeks of follow-up of individuals vaccinated with the Pfizer vaccine. Public Health England will be presenting an update on their results again next week at the regular NACI meeting.

Based on data from the literature, NACI considers that the available mRNA vaccines remain effective against the VOC that emerged in the U.K. Studies show that following one dose of the Pfizer-BioNTech, participants' sera exhibited a broad range of neutralizing titres against the wild-type virus that were only modestly reduced against the B.1.1.7 variant.

The introduction of the E484K mutation in a B.1.1.7 background led to a more substantial loss of neutralizing activity. Neutralizing antibodies were lower in those 80 years and over in a separate study. However, antibody response, as key as it may be, is not the only type of immunity that is of importance: cellular immunity also plays an important role in protecting the individual.

As there are no known correlates of protection, and as we are likely going to see the emergence of other new variants over time, it is paramount that Canada and the world invest in surveillance and tracking of variants, identifying those of concern; analyze new variants' sensitivity to neutralization by vaccine recipients' sera; study vaccine protection of animals against challenge with new strains, and sequence viruses causing breakthrough infections in vaccinees. This will allow for real-time vaccine effectiveness surveillance alongside VOC's identification and surveillance.

The spread of the VOC that emerged in South Africa, the B.1.351, may be more detrimental. Data from recent randomized clinical trials where VOCs were circulating showed that although these vaccines, the vector-based and Novavax, remained efficacious against the B.1.1.7 variant, they had decreased efficacy against the South African variant.

The phase 3 studies that were conducted for the mRNA vaccines were done at a time when VOCs were not yet prevalent. However, we are aware that some of the leading vaccine manufacturers are already working on new versions of their COVID-19 vaccines adjusted to target B.1.351 or other variants. NACI is monitoring the data and will issue a statement if a booster or a new dose is needed, including consideration of any new vaccine candidates that are authorized by Health Canada.

NACI is also monitoring the use of heterologous vaccine schedules. Preliminary results from an animal study showed that a combination of mRNA and AstraZeneca elicited a stronger cell-mediated immunity. The U.K. started a study whereby AstraZeneca and Pfizer will be administered as a mixed schedule. Recruitment started at the beginning of February, and NACI will be monitoring the results from this study.

For over 50 years, NACI has been providing evidence-informed, expert advice to the Government of Canada on vaccines. Viral variants or different strains of diseases are not a new phenomenon, and we have a long history of adapting vaccine programs to the changing evidence in areas such as influenza, where new vaccines are needed every year, or pneumococcal disease, where different strains have waxed and waned requiring dynamic vaccine technologies and program redesign over the years. NACI is poised to adjust this new vaccine program, if needed, as the evidence evolves.

I thank you for your attention and will be happy to answer questions as they relate to NACI's mandate.

● (1500)

The Chair: Thank you, doctor.

We'll go now to the Public Health Agency of Canada for 15 minutes, please.

Ms. Cindy Evans (Acting Vice-President, Emergency Management, Public Health Agency of Canada): Mr. Chair and honourable members, thank you for this opportunity to speak to you about COVID-19 variants and the actions the Public Health Agency of Canada is taking to protect Canadians during this pandemic.

I would like to start with a bit of background information on variants. All viruses mutate over time. It's only natural that the virus that causes COVID-19 will also mutate. By mutate, I mean change the genetic material in the virus. While all viruses mutate, not all mutations are of concern. A variant of concern is a mutation that has the potential to have an impact on the characteristics of the virus. A variant is of concern when it affects the disease spread, the severity of the disease, the vaccines and treatments or the tests used to detect the virus.

We are working with international partners, including the World Health Organization, to build our knowledge base and better understand the COVID-19 variants and their potential impacts. In recent months, several COVID-19 variants of concern have emerged internationally. As of yesterday, we are aware of three variants of concern in Canada: those first identified in the United Kingdom, South Africa and Brazil.

The situation with variants of concern in Canada continues to evolve rapidly. As of February 16, across provinces, a total of 637 cases associated with variants of concern have been reported publicly. To date, there have not been any variants of concern identified in any of the territories.

The majority of the cases in the provinces have been of the B.1.1.7 variant first identified in the United Kingdom. The majority of cases related to this variant are linked to travel. However, there is evidence of community spread as there have been cases without any direct or indirect link to international travel or to travellers.

Five provinces—British Columbia, Alberta, Ontario, Quebec, and Nova Scotia—have confirmed the B.1.351 variant first identified in South Africa. So far, the P.1 variant first identified in Brazil has been confirmed only in Ontario.

Between mid-January and mid-February 2021, there have been 21 outbreaks of COVID-19 in Canada associated with a variant of concern. These have occurred in a variety of settings, including long-term care facilities, workplaces, health care settings, child care centres, schools, residential apartments and social gatherings.

Ontario has reported the majority of these outbreaks, with a total of 13. Quebec has reported four; Alberta, two; and, Manitoba and Newfoundland and Labrador, one each. The variants of concern continue to spread in Canada, and it's likely they will become more widespread over time.

We are continuing to track emerging variants both in Canada and internationally. As our understanding of these variants increases, we will update our guidance on case and contact management and community-based measures. Evidence from other countries shows that COVID-19 activity can be brought under control even when variants of concern are widespread.

Strict public health measures, along with strong border controls and strict adherence to personal protective practices, can slow the spread and impact of variants of concern. Slowing the spread will buy us the time we need to get Canadians vaccinated.

Vaccine manufacturers are investigating the impacts of the known variants of concern on their vaccines. There are reports that certain types of vaccines may be less effective against the variants of concern first identified in South Africa and in Brazil. However, given the limited data on the new variants of concern, more research is needed to confirm these early findings.

As new variants are identified, it's more important than ever that we continue to follow recommended public health measures.

Since the beginning of the pandemic, public education and communications have played a critical role in the Government of Canada's response to COVID-19. We work closely with the provinces and territories, public health partners, multicultural and indigenous organizations and other stakeholders to make sure that information is accessible to all Canadians and that up-to-date information and public health guidance are available through a wide variety of channels.

I would now like to turn to my colleague Dr. Guillaume Poliquin. He will talk to you about sequencing, surveillance and vaccines.

● (1505)

[*Translation*]

Dr. Guillaume Poliquin (Acting Scientific Director General, National Microbiology Laboratory, Public Health Agency of Canada): Thank you.

As my colleague mentioned, I will be talking to you about sequencing, surveillance and vaccines.

Canada has a federal, provincial and territorial approach to surveillance. This involves front-line healthcare settings and laboratories across the country. Our approach has effectively equipped us to detect respiratory diseases, including COVID-19.

We have worked with the provinces and territories and other stakeholders to accelerate diagnostic testing capacity in order to detect cases of COVID-19 and its variants more quickly.

The National Microbiology Laboratory monitors Canadian cases of COVID-19 with the provinces and territories through ongoing analysis of genomic databases in Canada.

Since the beginning of the COVID-19 pandemic in Canada, the Public Health Agency of Canada, Health Canada and the Canadian Institutes of Health Research have been working with Genome Canada, and provincial and territorial partners, on sequencing.

Sequencing is used to determine the RNA of the virus in order to help identify different variants. This data is an essential tool to track how the virus is both changing and spreading. This method can help us quickly detect potentially emerging variants of concern.

In April 2020, the Government of Canada committed $40 million to support the creation of the Canadian COVID-19 Genomics Network, or CanCOGeN. This investment will enable sequencing efforts across the country that will help us understand the genetic variations of the virus as it evolves.

These early investments have helped put Canada in a leadership position so that we can rapidly detect and respond to the variants of concern that have emerged and are spreading around the world. The National Microbiology Laboratory and the Canadian COVID-19 Genomics Network have worked with federal, provincial and academic scientists, epidemiologists and infectious diseases clinicians to establish priorities for sequencing.

These activities target the identification of existing variants of concern through the regular sampling of positive cases. These include, but are not limited to, suspected cases of reinfection and vaccine failure. Sequencing is also targeting high-risk scenarios that may signal the presence of potential new variants of concern. Canada sequences more than 5% of the positive caseload in the country, a rate on par with most top surveillance programs in other countries. Our objectives are to increase our sequencing to 10% and to decrease turnaround times.

The National Microbiology Laboratory is working with provincial partners to ramp up screening positive cases of known variants of concern. Screening capacity is increasing in many provinces.

At the same time, the Public Health Agency of Canada is tracking daily counts of variants of concern across Canada. It has also worked with provincial and territorial partners to reach agreements to track cases that have been identified as variants of concern. This agreement includes sharing epidemiological information so that we can do a comparative analysis of concern cases versus cases where the variants are not of concern. This analysis will allow us to detect characteristics that might enhance our understanding of how public health measures need to be adapted to a variant of concern.

To further support our efforts, the government is investing $53 million in an integrated Variants of Concern Strategy. The investment will increase our capacity to find and track variants of concern in Canada. It will also help to rapidly scale up surveillance, sequencing and research efforts to inform the public health response.

This national strategy brings together public health and genomic sequencing, along with epidemiology, immunology, virology and mathematical modelling. Through this partnership, we are leveraging existing expertise and laboratories to drive public health investigations and take public health action rapidly.

● (1510)

To implement the strategy, the Public Health Agency of Canada's National Microbiology Laboratory is providing $20 million. CanCOGeN is providing $8 million to increase genomic sequencing and real-time data-sharing capacity. The Canada Institutes of Health Research are providing up to $25 million to scale up Canadian research to increase our understanding of emerging variants. This will help provide decision-makers with rapid guidance for drug therapy, vaccine effectiveness and other public health strategies.

The Public Health Agency of Canada is responsible for supporting and acting on the recommendations of the COVID-19 Vaccine Task Force. Based on the expert recommendations of the task force, clinical information, and authorizations by Health Canada, the Agency has worked with Public Services and Procurement Canada and other federal departments to develop an evidence-informed vaccination strategy. This strategy focuses on securing a diverse portfolio of leading COVID-19 vaccine candidates.

The portfolio of candidates serves to provide every person in Canada with access to safe and effective vaccines as soon as they are available.

Canada was an early investor in COVID-19 vaccine technology, and has advance purchase agreements with seven leading vaccine manufacturers. To date, the Pfizer and Moderna vaccines have been authorized by Health Canada. Three others, AstraZeneca, Janssen and Novavax, have submissions with Health Canada for regulatory authorization. Others are progressing well through clinical trials. Canada's approach to its vaccine strategy was designed to take into account the uncertainties and many risks inherent in global vaccine supply chains. It also considered the evolving nature of the virus and its impacts on vaccines.

The current global emergence of variants of concern has reinforced the value of having a diversified portfolio of vaccines. Canada is monitoring evidence of the impact that variants of concern have on the effectiveness of the vaccines in our portfolio.

The Public Health Agency of Canada strongly supports evidence-based decision-making and continues to work closely with its partners to monitor the evidence on all fronts. And we continue to adjust our efforts when necessary.

The agency is working with the provinces and territories, international partners, the scientific community and health systems to collect evidence on the variants. This will help us determine how they are impacting on Canada's immunization efforts, as well as those of other countries.

At the same time, the agency is working with its federal partners to engage vaccine developers on on how their vaccines will protect against variants, including the potential need for booster doses.

In our current portfolio, we have secured enough vaccines for everyone in Canada to have access to an authorized vaccine by September. We are confident in our vaccine portfolio but we recognize that it is not static. As we learn more, we will adjust the strategy to ensure that it continues to be effective.

We are actively exploring all options that can help us strengthen our vaccine portfolio and support our immediate and longer-term needs. This includes making sure that all Canadians have access to boosters, if they are required.

To say this last year has been a difficult one is an understatement. But we have come a long way. We have seen the positive effect of the public health measures we have been practicing. They are effective and they help to prevent the spread of COVID-19, including its variants of concern.

Now is not the time to give up. We've come too far for that. Until we are all vaccinated, it is more important than ever that we maintain the practices that have brought us this far.

Thank you for your attention.

● (1515)

[*English*]

The Chair: Before we keep going, I wish to emphasize that everyone has the right to participate fully in these proceedings in the official language of his or her choice. If at any time there is any interruption or problem with the translation services, I urge affected members to advise the chair or the clerk without delay. We will do our best to correct the situation.

Also, I wish to remind all members that they should mute their microphones when they're not speaking. My personal apologies to the translator, I seem to be the worst offender here, so I shall try to do better.

With that, we will start our rounds of questioning. If we play our cards right, I expect we can do probably three rounds of questions.

I also would like to note that it is my understanding, Dr. Quach-Thanh, that you have to leave at four o'clock Eastern. Is that correct?

Dr. Caroline Quach-Thanh: That is correct. I have another meeting for my group. I'm sorry.

The Chair: Thank you.

That being the case, I would recommend to the members that for any questions they might have for Dr. Quach-Than they make sure they're done in the first couple of rounds.

That said, we will start with the Conservatives.

Go ahead, Ms. Rempel-Garner. You have six minutes.

Hon. Michelle Rempel Garner (Calgary Nose Hill, CPC): Thank you, Chair.

Mr. Szumski, I'm concerned about our ability to get booster doses of vaccines that are targeted towards the variants. Do the contracts that we've currently signed with vaccine manufacturers, specifically Pfizer and Moderna, include booster doses, or do we have to negotiate separate contracts for those?

Dr. Roman Szumski (Senior Vice President, COVID-19 Vaccine Acquisitions Branch, Public Health Agency of Canada): Mr. Chair, the current contracts that are in place do not reference the need for boosters. Those would be new conversations that we would enter into with the suppliers.

Hon. Michelle Rempel Garner: Have you started to enter into negotiations with suppliers or with any supplier for booster doses?

Dr. Roman Szumski: We are engaged directly with the suppliers and keeping current with their tracking of vaccine performance and plans for boosters or updates to their vaccines. They currently do not have boosters that are available for distribution. It's going to be a while yet before that's in play, but the discussions with them are on a rolling basis.

Hon. Michelle Rempel Garner: Does the vaccine acquisition branch have any concern about any of the contracts that have currently been signed with regard to efficacy against the U.K. or South African variants?

Dr. Roman Szumski: Mr. Chair, the vaccines we have, the two that are authorized, are the Moderna and the Pfizer, which have very strong efficacy against the Wuhan strain, the original strain. If they have an alteration in their efficacy as a result of variants and they lose some of their efficacy by 10% or 20%, or even a bit more, they still will be very useful tools and vaccines that you would want to deploy widely in your population.

Hon. Michelle Rempel Garner: Is there a threshold of efficacy that you would no longer employ an original vaccine against?

Dr. Roman Szumski: Mr. Chair, I would have to refer to experts to understand what that threshold is, and that would be a question of deployment. If the vaccines reach a state where the experts are advising that they shouldn't be deployed, then clearly they will follow that. The people who make the decisions to deploy the vaccine will make those alterations.

Hon. Michelle Rempel Garner: Thank you.

Ms. Ephrem, today your department announced new pandemic projections. The modelling shows that while the original COVID-19 epidemic is slowing, the trajectory changes considerably when new variants are factored in. In the modelling that was released today, the forward-looking projections, how many vaccinated persons did that assume?

● (1520)

Ms. Bersabel Ephrem (Director General, Centre for Communicable Disease and Infection Control, Public Health Agency of Canada): I would suggest that this question be answered by Ms. Elmslie, who will be better positioned to answer.

Ms. Kimberly Elmslie (Senior Vice President, Immunization Branch, Public Health Agency of Canada): We'll have to get back to you with the exact numbers on that. I don't have them in my notes at this point in time, but it's easy for us to bring that back to you very quickly.

Hon. Michelle Rempel Garner: Do you think it's problematic that these numbers were released to the Canadian public without the ability to answer that question?

Ms. Kimberly Elmslie: I just don't have it in front of me at this moment in time. I'm not sure if Dr. Poliquin—

Hon. Michelle Rempel Garner: Can you please table that with the committee this week?

Ms. Kimberly Elmslie: Yes, definitely.

Hon. Michelle Rempel Garner: Thank you.

Can you also tell us how the amount of deployment of rapid testing affected your modelling?

Ms. Kimberly Elmslie: I will refer that to Dr. Poliquin on the testing question, please.

Dr. Guillaume Poliquin: Mr. Chair, the modelling that was presented today is looking at projections for the number of cases that could be expected, based on a number of different conditions.

Hon. Michelle Rempel Garner: Could you please table with committee the conditions you had made assumptions on with regard to your modelling today?

Dr. Guillaume Poliquin: Yes.

Hon. Michelle Rempel Garner: By next week?

Dr. Guillaume Poliquin: Yes.

Hon. Michelle Rempel Garner: Thank you.

If Canada at the federal level had a vigorous rollout plan for the deployment of rapid tests, would that change the modelling you presented today?

Dr. Guillaume Poliquin: We will return to you with the number of inputs that go into these models to be remitted.

Hon. Michelle Rempel Garner: Do you think it's concerning you can't answer that question at this hearing today?

Dr. Guillaume Poliquin: Mr. Chair, the models that are presented are a number of complex modelling exercises that involve a number of different inputs. It is difficult to—

Hon. Michelle Rempel Garner: What are those inputs?

Dr. Guillaume Poliquin: They include reproductive numbers and they include a number of trends, as well as the interplay of the rollout of vaccination and expected and diffuse transmission patterns, therefore it is difficult to tease apart individual assumptions at the moment.

Hon. Michelle Rempel Garner: Why is Canada's modelling for the spread of the variants so different from that of other countries? Why do we show such a greater trend, as opposed to models that have been recently released in, let's say, the EU or the U.S.?

Dr. Guillaume Poliquin: Mr. Chair, the models that are presented involve a number of different scenarios, including working for variants of concern in a range of potential increased transmissibility. The model that was presented today involved a 50% increase in transmissibility over the wild-type strain.

Hon. Michelle Rempel Garner: Did it assume the deployment of rapid tests?

Dr. Guillaume Poliquin: The interplay of testing with the number of cases is a different action.

Hon. Michelle Rempel Garner: So that wasn't included in today's modelling?

Dr. Guillaume Poliquin: We will return to you with the full set of assumptions modelled today.

Hon. Michelle Rempel Garner: Did the inclusion of unapproved vaccine candidates factor into your modelling today?

Dr. Guillaume Poliquin: Of unapproved vaccines?

Hon. Michelle Rempel Garner: Yes, like AstraZeneca or J&J, or were you just assuming we were proceeding with the existing schedules of Pfizer and Moderna?

Dr. Guillaume Poliquin: The interplay of the vaccines involves a number of different assumptions, and we will return to you with those.

Hon. Michelle Rempel Garner: By next week?

Dr. Guillaume Poliquin: Yes.

Hon. Michelle Rempel Garner: Thank you.

The Chair: We go now to Dr. Powlowski.

Dr. Powlowski, please go ahead for six minutes.

Mr. Marcus Powlowski (Thunder Bay—Rainy River, Lib.): We're here to talk about the variants, and certainly the one think that's spreading the most in Canada is the British variant, which, in my understanding, may be more infectious but the vaccines still work on it. It seems to me the biggest question concerning vaccination right now is how far we can go between the first shot and the second booster shot.

I know Moderna has done studies that show after one dose it has a 92% efficacy. I think you will probably be familiar with the data coming out of Quebec that showed that 80% of elderly people were covered after three weeks, and I think that 80% of health care workers were covered after two weeks. I know in Quebec the strategy has been to prolong the period between the first and second shot. Certainly if you can go three months, that will double our ability to get people vaccinated quickly. Let me throw in there that I think Israel had some concerns with one shot being effective in the elderly.

I know there may be some competing data out there, but I wonder if the Public Health Agency of Canada or NACI will be making recommendations about the interval between first and second dose, and at the moment what are those recommendations?

Thank you.

● (1525)

Dr. Caroline Quach-Thanh: I can take this one, if you don't mind, Mr. Chair.

You have seen that NACI had recommended, given the data on hand at the time of publication, that we ask that the two doses be given preferably within a 42-day window period. That was based on the fact that in the two phase three trials, the Pfizer and the Moderna trials, participants got their second dose between 21 or 28 days, up to 42 days, and that was an average estimate. We have now seen the data from both the U.K. and Quebec and we are aware that Quebec is using a three-month interval.

We are going to make a new recommendation, so we are currently working on that. But the main idea is to try to balance the advantage of spreading out an 80% vaccine effectiveness to more people, allowing then a population health impact that is usually greater. But I think the question that remains unanswered is the duration of that 80% protection. So we have asked the U.K. to come back next week to give us an extended view on their now six weeks of follow-up. Quebec will also come back to present updated vaccine effectiveness data.

As we move forward and we see we have some leeway, we are going to be able to allow for a longer interval. We do not want to have a falling vaccine effectiveness to the point where we could be at risk of seeing variants become a problem. That balance is not an easy one to tackle without data.

Mr. Marcus Powlowski: This is a second question on vaccines to cover the variants. My understanding is that Moderna and Johnson & Johnson are already working on tweaking their vaccines. It seems fairly easy with both of those technologies. There are minor changes on the spike protein and you change the vaccine a bit.

Are you going to require that the vaccine producers with these new tweaks go through the usual process of phase one, phase two and phase three trials, or can that be expedited given that so far it seems like the vaccines are safe as they are?

Dr. Caroline Quach-Thanh: From a NACI standpoint, we will follow what Health Canada allows. We hope it will not require phase one and phase two. The discussion is already ongoing, but I don't see anybody from Health Canada here, so I don't know if Kim wants to answer that one.

Ms. Kimberly Elmslie: I would say only that that is a question for the regulatory authority at Health Canada and one, of course, that we can take back and ensure you receive an answer to.

Mr. Marcus Powlowski: Let me ask a bit about prioritization. I want to give a shout-out in support of the police. I know that NACI has made recommendations about priorities.

I know, having spoken to the police in Thunder Bay, that they're in a bit of a difficult position. They are certainly at high risk. They are the ones who really can't keep their hands off people. They're at risk of having their masks removed. I'm not sure, but I think there have been cases within the police force here and a lot of people having to be off work. We have a limited number of police already. This is a big problem.

I know that the ambulance drivers are being immunized. I know at least some staff in emerg, where I used to work, are being immunized, but the police aren't. What is the plan in terms of prioritizing them?

Dr. Caroline Quach-Thanh: Mr. Chair, the difficulty here is that prioritization is a provincial and territorial aspect and decision. NACI has put frontline essential workers, including the police, as a stage two priority. They are there, at the same level as ambulance workers and the others. As long as the province you're in puts them on the list, it will happen. They have been prioritized.

The Chair: Thank you.

● (1530)

[*Translation*]

Mr. Thériault, you have the floor for six minutes.

Mr. Luc Thériault (Montcalm, BQ): Thank you, Mr. Chair.

I will take advantage of your presence, Dr. Quach-Thanh, to ask you some questions.

First, I would like to thank you for being with us again. You have come to see us a few times. I hope that we will be able to get a copy of your speech as well as all of the speeches that were given today. As yours was very technical, I'd like to try to put it all in a little simpler terms. People have concerns. Mr. Powlowski spoke earlier about the issue of a single dose and the interval between two doses. People are concerned about whether they should get booster shots.

The data presented yesterday by the Institut national de santé publique du Québec, or INSPQ, was quite intriguing. It was good news. Basically, the INSPQ told us that the first dose of the vaccine is 85% effective and that the second dose would only increase effectiveness by 10%. In addition, the second dose could increase the duration of protection, but it's unclear how long that duration would be. However, it is also possible that a single dose could lead to revaccination.

Given the fact that as many people as possible would need to be vaccinated to achieve herd immunity, what do you think of this news? Do you feel the second dose is necessary? Isn't it just a prerogative of a company that wants to promote its brand and make doubly sure that it's going to work? This information is a total game-changer.

Dr. Caroline Quach-Thanh: Thank you for the question.

I have read the data from the INSPQ, and it is very intriguing indeed. It's also very good to have 85% effectiveness in a very elderly and very sick population living in long-term care centres, or CHSLDs.

According to the immunological data, the second dose makes the antibodies become more mature and therefore much stronger and more active. It is as if a key fits even better in a lock, allowing for longer-term protection.

Using a single dose is risky right now since we don't have any data on a single-dose program. We may eventually get some.

For example, we have some data on the single-dose program with the Johnson & Johnson vaccine, but, given the little we know about it, that vaccine is slightly less effective against the South African variant. So the manufacturer is now conducting studies on adding a second dose to see if it will make any difference.

It's not so much the added 10% effectiveness that prompts us to give a second dose. It's really about longer-term protection. We wouldn't want to have to go through the vaccination process over and over again. We want people to be protected against the viruses that are circulating.

In addition, the study published by the INSPQ was conducted in Quebec at a time when we had no variants of concern. Effectiveness of 85% was only established for the field virus. We will need to continue to monitor. As Dr. De Serres said, when we see the effectiveness starting to drop, it will probably be time to give the second dose. For now, Quebec is planning a three-month interval between the two doses. So the initial deliveries will mean many more people can get vaccinated.

Mr. Luc Thériault: Yes, we can vaccinate people only provided that we have enough vaccines.

Do you know approximately when herd immunity could be achieved, in terms of time, not as a percentage? Do you know any scenarios to show that we could achieve it in October or September? If that were the case, what arrangements could be made be to ensure permanent immunity?

At the moment, it's not complicated, everyone has to be vaccinated. However, once we have done that, when do we have to revaccinate people so that we can continue to live with this virus?

● (1535)

Dr. Caroline Quach-Thanh: That's an excellent question, and my crystal ball is as good as yours.

Depending on the rate of vaccine deliveries, I have a feeling that we'll get there around the fall. We hope that about 85% of our population will be vaccinated by then.

Afterwards, it will be necessary to see the duration of the vaccine's protection. We have to be very honest, the phase III studies don't allow us to know the duration of protection of these vaccines. The studies showed that the duration of protection was 14 weeks. So there is protection for about three months after the second dose.

It's the ongoing monitoring that's going on that will allow us to tell how long we're protected. This doesn't necessarily mean that it'll be necessary to have a continuous reminder. It will depend on the variants and duration of protection.

According to our crystal balls, which are as good or as bad as others, we may need to be vaccinated every year, a bit like the flu, because there may be changes in the virus.

Mr. Luc Thériault: I understand that my time is up. I'll try to come back to it.

The Chair: Thank you.

[*English*]

We go now to Mr. Davies.

Mr. Davies, please go ahead for six minutes.

Mr. Don Davies (Vancouver Kingsway, NDP): Thank you.

Dr. Quach-Thanh, does the emergence of highly transmissible variants of concern increase the level of vaccine coverage required to reach population immunity in Canada?

Dr. Caroline Quach-Thanh: It does. Herd immunity is based on the reproductive number, which was approximately three to four with the original virus. It's 50% more, at four to six, with those new variants. Therefore, you would need close to 85% of your population either immunized or protected through natural disease to be able to reach herd immunity.

Mr. Don Davies: Thank you.

That jives with research coming out of the University of East Anglia. They found that initially 69% of the population would need to be vaccinated with the Pfizer vaccine or 93% with the AstraZeneca to bring the R number below 1. But when they took into account that B.1.1.7 variant, they found that vaccinating the entire population with the AstraZeneca vaccine would only reduce the R value to 1.325. Meanwhile, the Pfizer vaccine would require 82% of the population to be vaccinated to control the spread of the new variant.

To the Public Health Agency of Canada, have you conducted similar modelling for Canada?

Dr. Caroline Quach-Thanh: NACI is not doing such modelling at this point in time. We're currently looking more at the deployment of vaccine and what category of people should be vaccinated to achieve the largest public health gains.

We can absolutely submit that question to the PHAC modellers.

Mr. Don Davies: Thank you. I'd appreciate that.

Do you expect that the U.K. variant, the South Africa variant or the Brazil variant will become the dominant strain of the SARS-CoV-2 virus in Canada? If so, when would you anticipate that this would occur?

Dr. Caroline Quach-Thanh: We sure hope not, but it's possible that it will come to life. I think at this point in time, we have the sense that the U.K. variant is the one that is the most prominent in most of our provinces. We're trying through various public health measures to limit the spread of that variant. Maybe we'll be better than other countries, because at least we know it's there, but otherwise, because it is just more transmissible, it eventually will take over.

We haven't seen much of the South African variant yet, at least not in Quebec. I think maybe Dr. Poliquin can answer more about that in terms of what is spreading. It is a concern, absolutely.

Mr. Don Davies: Thank you.

In terms of the volume, we know that cases of the B.1.1.7 variant have now been found in all 10 provinces. As of two days ago, Canadian health units had identified 673 cases of the B.1.1.7, B.1.351 and P.1 variants across Canada. Experts are claiming that the real total is likely in the thousands, since testing for the variants differs across Canada, and of course not everyone will get tested.

In your view, how close are we to having an accurate understanding of the prevalence of these variants in Canada?

Dr. Caroline Quach-Thanh: The NACI perspective has nothing to do with it, so I can only speak from the Quebec perspective, where every single positive case is being checked for variants.

As for the rest of Canada, I will refer to Guillaume.

● (1540)

Dr. Guillaume Poliquin: Through the existing infrastructure, as of December, Canada was able to sequence about 5% of positives. Efforts are under way to reach about 10% of all positives in Canada. That is a separate initiative to the rollout of screening assays to be able to rapidly look for variants of concern with a recognized genetic sequence. Efforts are under way through the Canadian Public Health Laboratory Network, with support from the National Microbiology Lab, to be able to screen all positives for—

Mr. Don Davies: Can you give us some context, Dr. Poliquin? I mean, 5% to 10% doesn't sound like much to me. Can you tell me this in layperson's terms? How accurate are we in identifying the prevalence of variants?

Dr. Guillaume Poliquin: There are two different thrusts to answer the question. One is the sequencing approach and one is the screen for variants, which uses different technology. Efforts are under way to be able to screen all positives for the presence of known variants with known genetic sequence.

When it comes to our overall sequencing capacity, we are on par with the leader countries in the space, including the United Kingdom, and are ahead of many other jurisdictions, including European countries.

Mr. Don Davies: Okay.

Two days ago, on February 17, the Public Health Agency of Canada confirmed it is monitoring reports of two variants of the SARS-CoV-2 virus, first thought to have originated in the U.K. and California, combining to make one heavily mutated hybrid. Could you outline the potential risks posed by such a recombinant virus?

Dr. Guillaume Poliquin: We are still monitoring that particular variant and learning more about its biology. It is not clear at this time whether this represents a true recombination event or further variants of an existing variant of concern. We are closely monitoring the science to understand its potential impact.

Mr. Don Davies: Thank you.

The Chair: That ends round one. We start round two with Mr. Barlow, I believe.

Mr. Barlow, please go ahead for five minutes.

Mr. John Barlow (Foothills, CPC): Thank you very much, Mr. Chair.

I'm going to start with Dr. Quach-Thanh. In your presentation, you said that the vaccines we currently have approved are effective against the variants that we are aware of. However, on the NACI website, it says that there is no evidence that two doses of the approved vaccines have any effectiveness on the variants.

Can you clarify that? Are the vaccines that we have approved currently effective against the variants, yes or no?

Dr. Caroline Quach-Thanh: What I've said is that the Pfizer and Moderna vaccines, based on the studies that have been emerging after the statement, seem to be efficacious against the B.1.1.7. We don't have much data about the South African strain variant yet. Against the U.K. variant, it seems to be fine. Against the South African variant, it seems it still remains to be looked at.

Mr. John Barlow: Thank you for answering that, but that is different from the statement, and even reading the language in the statement.... That's not what's said there, so I would encourage you to clarify that. I'm glad you did on that question.

Dr. Poliquin, you stated during your presentation that you are now putting together a team of representatives from PHAC, virologists and epidemiologists, to look at a strategy to address the variants. I would think every expert would have known that the COVID-19 virus was going to mutate and that dealing with variants was going to be a problem, which is one of the reasons we're here.

I'm a little shocked that we're a year into this and that this has only happened now. Why is this team only being put together now to deal with variants when this is something that I think should have been addressed much earlier?

Dr. Guillaume Poliquin: On the issue of getting ready for variants, Canada began its work to be ready for the detection and the characterization of variants in April 2020 through the investment of $40 million into the CanCOGeN initiative. Through that work, we were able to study the early rise of variants of concern, including the emergence in the summer of the D.614G variant, and provide characterization.

What we're doing now is building on that foundation of success and further expanding our ability to sequence, to study and to understand the spread of these variants through a combined, robust surveillance program, including laboratory and epidemiology resources, matched to a strong research arm, and that is able to swiftly work on a common research agenda to deliver information in as close to real time as possible to decision-makers to inform further policy.

● (1545)

Mr. John Barlow: Thank you very much.

Maybe to Dr. Poliquin again, I was really concerned with some of the questions that my colleague was asking at the beginning...none of these assumptions, the impact of rapid tests or new vaccines, have had on this modelling that was done....

Do you think it's irresponsible to release these models to the Canadian public without including those assumptions as part of the process, at least to MPs and the media? Do you not think this is irresponsible?

Dr. Guillaume Poliquin: Mr. Chair, the models that are presented represent an ongoing refinement of our understanding of SARS-CoV-2 as the science continues to evolve and as we learn more about a number of parameters, including transmission, reproduction number and vaccine efficacy. These models are updated and are presented.

The assumptions are available and are made available to researchers and to those who are interested, recognizing—

Mr. John Barlow: I'm sorry, Mr. Poliquin. I only have a certain amount of time. I appreciate that, but Canadians are stressed. Businesses are closing, people are losing their jobs, and to have this information available only to researchers, I think, is irresponsible. This information should be available to every Canadian, and it should have been released with the modelling as background to where you're getting this information, to the media and MPs here at this meeting, which you knew was going to be happening.

Maybe Dr. Quach, you can answer this for me, please, or maybe Dr. Poliquin can. Another major concern with Canadians that I know all of us are getting is the mandatory quarantine at hotels when returning home. Is there any data that backs up the fact that quarantining in these hotels rather than at home is reducing the spread of the variant in any way?

Dr. Caroline Quach-Thanh: I'll defer that to someone else because this is really out of NACI's mandate. I'm sorry.

Dr. Guillaume Poliquin: What we are continuing to do with respect to understanding the spread of variants is to continue to update our suite of public health—

Mr. John Barlow: As of right now, you don't have any data that proves that staying quarantined in a hotel reduces the spread of the virus?

The Chair: Thank you, Mr. Barlow. We'll let the witness answer and then we'll carry on.

Go ahead.

Dr. Guillaume Poliquin: At this time, we are continuing to update and monitor the impact of a suite of public health measures, including our border policy, on the impact on the spread of variants and the introduction of variants of concern into Canada.

Mr. John Barlow: So you don't know. Thanks.

The Chair: Thank you.

We'll go now to Mr. Fisher.

Please, go ahead for five minutes.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you very much, Mr. Chair.

As usual, thank you to all of the witnesses who are here today. I'm sorry we're a little bit late.

My first question would be to PHAC. We're seeing vaccine deliveries ramp up very quickly here. They are quadrupling this week and they're going to continue to rise substantially in the weeks to come. We know that the provinces and the territories have the delivery of health care and they're responsible for getting the vaccines in the arms of Canadians.

I'm quite fascinated by just how complex this procedure must be. Could you could speak to the coordinating of our vaccine rollout with the provinces and territories and just exactly what something like that looks like. As we ramp up, we're going to have to have mass vaccination sites set up. Is this something that your organization plays a role in at PHAC?

● (1550)

Ms. Kimberly Elmslie: From the perspective of undertaking an immunization campaign this large and complex, I know that everybody in this room knows that this is unprecedented for us. What isn't unprecedented is the fact that we work really hard with provinces and territories and with public health officials across the country every day on preparedness and on execution.

When it comes to this operation, we have set up a national operations centre that is running the logistics for distribution and is on top of vaccine deliveries 24-7. We have a committee of federal, provincial and territorial officials, and those people are on-the-ground program immunization deliverers who are talking twice a week, if not more, about the things that they are seeing on the ground so that we can, at the federal level, support immunization program delivery.

How do we do that? We do that by, for instance, ensuring that those programs have the types of syringes that they need to immunize Canadians. When Pfizer went to a six-dose vial from a five-dose vial, we provided, at the federal level, the syringes that provinces and territories required to be able to get that sixth dose. We are also working with them every step of the way to look at issues of effectiveness and safety.

That's another important part of the rollout of an immunization campaign. It's not just getting the needle into people's arms, it's also doing surveillance after they've been vaccinated to see what the effect of vaccination is. That involves us using, for instance, vaccine registries that are in provinces and territories and that we have provided additional support to so that we're getting good data, and provinces and territories themselves are able to monitor what's going on in their jurisdictions.

From all of those various pieces of, I'll call them, infrastructure and machinery...both are things that have been in place for a very long time. As Dr. Quach stated, every year we roll out 12 to 15 million influenza shots across the country. Provinces and territories deliver those in clinics, in doctors' offices and in pharmacies, so we're obviously very well prepared for this kind of venture, which is more complex.

We've beefed up everything so that we are able to be much more consistent in our execution and we've practised. We've had proof-of-concept demonstrations with our colleagues at round tables doing tabletop exercises and doing the kinds of things that one would do in terms of challenging each other on the what-ifs. What if this happens? How are we going to handle it? All of these things are part of the preparedness that we undertake with all jurisdictions on a regular basis.

Mr. Darren Fisher: Moving over to the NACI folks, as you know, we have the team Canada approach here in Canada. Is this something that your group plays a part in as well in working out logistics and how we're going to ramp up?

Do you have a role? Do your guidelines speak to that as well?

Dr. Caroline Quach-Thanh: Not at all. We are not part of the rollout. It's the Canadian immunization committee with the provinces and territories.

Mr. Darren Fisher: Okay. There's no NACI component to when you have to ramp up when numbers of vaccines quadruple or increase massively over the next few weeks.

Dr. Caroline Quach-Thanh: No.

Mr. Darren Fisher: Thank you.

The Chair: We'll go now to Ms. Rempel Garner for five minutes, please.

Hon. Michelle Rempel Garner: Thank you, Mr. Chair.

Is anyone on the meeting today who provided advice to the federal government stating that implementing the quarantine hotel requirement would be more efficacious in preventing the spread of variants as opposed to implementing a border testing model, such as what's in effect at the Calgary airport right now? Anyone? Is there any branch of PHAC that provided the advice?

Ms. Kimberly Elmslie: We will get back with that for sure. None of us on the call today have been directly implicated in that, so I think it best for us to ensure we go back to our quarantine group and ensure that you get that information.

● (1555)

Hon. Michelle Rempel Garner: You are all the heads of the main departments in PHAC. What data was used to determine that quarantine hotels were a better option for stopping the spread of variants than the Calgary border pilot program, which employs rapid on-arrival testing?

Anyone? Is there any data? Can any of you provide—

Ms. Kimberly Elmslie: We'll come back to you with those data.

Hon. Michelle Rempel Garner: When?

Ms. Kimberly Elmslie: By next week.

Hon. Michelle Rempel Garner: Okay.

Similarly, why would you, in a meeting this morning, say that continued lockdowns are necessary when we have rapid testing, therapeutics and vaccines available to us to stop the spread of variants? What data was used to make that pronouncement this morning at the press conference with Dr. Tam and Dr. Njoo?

Dr. Guillaume Poliquin: I can take that question, Mr. Chair.

It is important to remember that a full suite of measures is required for the control of the pandemic, and the addition of variants further reinforces the need for a broad-based approach—

Hon. Michelle Rempel Garner: Thank you, Dr. Poliquin.

Why is it, if we need a full suite of measures, that therapeutics, rapid testing and vaccines weren't mentioned in the press conference this morning—only lockdowns?

Dr. Guillaume Poliquin: If we look to international comparators in terms of the how the outbreak responds in a number of different contexts, we see that vaccines, public health measures and testing are all inherently necessary to the control of the outbreak, and that with the introduction of the uncertainty posed by the variant concern, it is important for us to continue to maintain those.

Hon. Michelle Rempel Garner: How many people need to be vaccinated in Canada to stop the spread of the U.K. and South African variants per the modelling that was released this morning? Anybody...?

Did anyone come prepared for that question to a meeting about variant spread and vaccine efficacy? Nobody? You'll get back to us?

Dr. Caroline Quach-Thanh: I can try to take this answer. I'm not part of PHAC, and I'm not part of the modelling exercise. I don't have any insider knowledge of the model. I think that what we're trying to understand at this point in time is the actual efficacy of the vaccines and effectiveness of the vaccines we have against the variants—

Hon. Michelle Rempel Garner: Okay, so we don't know. This morning a bunch of modelling came out and the pronouncement from PHAC was for more lockdowns. What I'm hearing here in this meeting is that you guys don't know. You're asking businesses to close and more lockdowns to be employed, but you don't know how many people need to be vaccinated or what assumptions you've used. Would that be a correct characterization of how you came prepared for this meeting today?

Dr. Caroline Quach-Thanh: Well, I'm not answering that question. I'm just telling you...you asked me—

Hon. Michelle Rempel Garner: Anyone from PHAC...?

Dr. Guillaume Poliquin: Mr. Chair, in relation to what has been presented, these models require our forecasting based on a number of different assumptions. As we learn more—

Hon. Michelle Rempel Garner: But you don't have—

The Chair: Ms. Rempel Garner, would you please let the witnesses answer?

Dr. Guillaume Poliquin: In terms of what goes into the models, for example, there would be an assumption of the reproductive number, so 50% increases the reproductive number.

Hon. Michelle Rempel Garner: The reproductive number could be stopped by things like rapid tests and vaccines. Is that correct?

Dr. Guillaume Poliquin: The reproduction number is an inherent aspect of the virus.

Hon. Michelle Rempel Garner: Right. I mean, if we had tools to prevent the spread or the reproductive number, like rapid tests and vaccines that, in theory, would change that. Is that correct?

Dr. Guillaume Poliquin: That has a significant interplay with, for instance, vaccine efficacy. Vaccine efficacy as we have—

Hon. Michelle Rempel Garner: So we don't know about vaccine efficacy?

The Chair: Thank you, Ms. Rempel Garner.

Hon. Michelle Rempel Garner: Thank you.

The Chair: We will go now to Mr. Kelloway for five minutes.

Go ahead, please.

Mr. Mike Kelloway (Cape Breton—Canso, Lib.): I want to thank the witnesses for being here today and for their testimony.

I'll be splitting my time with MP Tony Van Bynen as well.

I have a couple of questions. The first is for anyone in PHAC. Will there be an immunization registry to monitor vaccine coverage among Canadians? What's being worked on?

● (1600)

Ms. Kimberly Elmslie: There are already immunization registries that are used across the country in every jurisdiction, including one that is now being developed in Nunavut with support from the Public Health Agency of Canada. Those are electronic databases that capture information on immunization on a per-individual basis. They are used for clinical management of people who have been immunized. They are also used for surveillance purposes.

What we do at the national level is draw from the data in those registries, working with each province and territory to assemble that data into our estimates of vaccination coverage across the country, as well as using them to monitor for vaccination safety and follow-up. We do not have one national registry, but the collection of registries is administered according to a standard approach that provinces and territories agree to. In that way we can be confident in the data that we are gathering from those registries and using it to inform our programs at the national level.

What's important is that we look for trends and unusual happenings in the population with regard to immunization and then we take action on those with manufacturers, with our regulatory colleagues, and with provinces and territories as we move forward to ensure the integrity of the overall immunization system in our country.

The Chair: I'm sorry, Mr. Kelloway, for interrupting you.

I just want to note that Dr. Quach-Thanh has to leave at four o'clock.

I thank her for her appearance today, for making time for us and for waiting given all of the delays.

Mr. Kelloway, please go ahead.

Mr. Mike Kelloway: Thank you, Mr. Chair. I am sharing my time with MP Tony Van Bynen, so if it's okay with you, I will let Mr. Van Bynen go ahead and ask some questions as well.

Mr. Tony Van Bynen (Newmarket—Aurora, Lib.): Thank you, Mr. Chair.

First of all, I want to thank everyone who is participating in this dialogue. It's great for us to get the benefit of scientific insights on this complex issue, so that we have the benefit of facts as opposed to opinions to help inform the Parliament.

We've heard a lot about rapid testing. I'd like to confirm how many rapid tests have been deployed. I've also heard that rapid testing will stop or prevent the spread of variants.

First, how many do we have? How many have been deployed? How many are being used, and how does rapid testing stop the spread of these variants?

That question is for whoever has the information available.

Dr. Guillaume Poliquin: With respect to the precise number, a daily report is provided, and we can provide the precise state of play to you by remit after the meeting today, with the latest figures.

With respect to the impact of rapid antigen testing on variants, there is not a direct connection between the two. The use of testing in general, through rapid antigen testing or alternative testing methodologies, allows us to detect cases of SARS-CoV-2 in the Canadian population. From there stems public health action to establish isolation and contact tracing of those individuals.

If and when a particular individual is found to have a variant of concern, that can be further reported, but it cannot be done directly by the rapid antigen test. The rapid antigen test, and all tests, are there to detect cases and interrupt the transmission chain.

● (1605)

Mr. Tony Van Bynen: That is a component of the projections we talked about earlier.

My understanding is that over 22.6 million rapid tests have been deployed as of yesterday, for the record.

There has been growing concern about the COVID-19 variants of concern in York Region, which is where my riding is located. My understanding is that we've invested $53 million to address these variants of concern in an integrated strategy.

Can you tell me more about this strategy and how the Government of Canada is working with the provinces and territories to target these variants?

Dr. Guillaume Poliquin: The investment of $53 million represents a multipronged approach to the response to variants of concern, including establishing a robust mechanism to detect rapidly and further characterize variants of concern.

This represents a partnership of the National Microbiology Laboratory and PHAC, along with the Canadian Public Health Laboratory Network and CanCOGeN, the Canadian COVID-19 Genomics Network. It brings together all that information with CIHR to enable us to understand the spread, identify cases and understand the potential impact of these variants.

The Chair: Thank you.

We go now to Monsieur Thériault.

[*Translation*]

Mr. Thériault, you have two and a half minutes.

Mr. Luc Thériault: It's unfortunate that Dr. Quach-Thanh had to leave the meeting, but I fully understand why.

Dr. Poliquin, you mentioned earlier that you were not only monitoring the efficacy of the Pfizer, BioNTech and Moderna vaccines, but also those of the other candidates for variants. Is that correct?

Dr. Guillaume Poliquin: That's correct.

Mr. Luc Thériault: You're already conducting such trials with vaccines from AstraZeneca, Johnson & Johnson and Novavax. Why does it take so long to get vaccines approved and on the market? If you're conducting these trials, it's because they are relevant.

Dr. Guillaume Poliquin: The integrated strategy allows us to characterize variants in our microbiology laboratories and better understand the potential effects of a vaccine on variants. These observations must be added to data from clinical trial to better understand the potential effects.

It would be best to ask Health Canada representatives the question about the approval process.

Mr. Luc Thériault: Okay, I'll ask Health Canada representatives.

Now I'd like to talk about vaccination. Variants are a threat, and no one knows if it'll be possible to detect them adequately. There are probably many more than can be detected currently.

Do you think the pace of the vaccination program is acceptable?

Dr. Guillaume Poliquin: We're working to improve our ability to detect variants and the speed of their characterization. The relationship between our ability to detect variants and the impact on the pace of the vaccination program is a somewhat more complex issue. We continue to closely monitor the evolution of variants and their incidence here in Canada.

Mr. Luc Thériault: Is it still appropriate to use two vaccines for immunization? This question arose because of a lack of vaccine, but how can we now put it aside? Do you have any evidence on the appropriateness of vaccinating with vaccines from two different manufacturers?

● (1610)

Dr. Guillaume Poliquin: I'd let Dr. Quach-Thanh answer that question, but she left the meeting, unfortunately. Perhaps Ms. Elmslie could answer it.

[*English*]

Ms. Kimberly Elmslie: I see the chair is showing a red sign.

The Chair: If you wish to answer Mr. Thériault quickly I would appreciate it, and then we'll move on to Mr. Davies.

Ms. Kimberly Elmslie: As Dr. Quach said earlier, research is under way now to look at the impact of interchangeability of vaccines and at the durability of the effect of immunization. They are becoming available very quickly. As you said, NACI will be looking at more data from the U.K. next week, and so we and the world are gathering and assessing information on dose schedule on a real-time basis so we can be equipped to make those kinds of recommendations.

NACI has the breadth of expertise, which is why we rely on them as external experts to look at those data and give us their advice on dose interval, on the efficacy of one dose versus two and on the durability issues that continue to be really important from a scientific perspective.

[*Translation*]

The Chair: Thank you, Ms. Elmslie.

Thank you, Mr. Thériault.

[*English*]

We'll go now to Mr. Davies for two and a half minutes.

Mr. Don Davies: Thank you.

A recent lab study suggested that the South African variant may reduce protective antibodies elicited by the Pfizer vaccine by two-thirds.

Moderna just published a correspondence in the New England Journal of Medicine with data that showed a sixfold drop in antibody levels versus the South African variant.

Is there any anticipation that this reduction in protective antibodies will render the Pfizer and Moderna vaccines ineffective against the B.1.351 variant?

Dr. Guillaume Poliquin: With respect to the protection afforded by these vaccines, it's important to put the effect of neutralization antibodies into the broader context. With respect to the degree of neutralization that's elicited, it is one of the proxy measures for efficacy, but a particular threshold has not yet been determined on a global level of what is considered to be truly protective.

At this point, we note that the reduction in neutralization titers is notable, but it remains high and therefore we will need to continue to monitor the impact of this through ongoing clinical evaluation.

Mr. Don Davies: AstraZeneca has said it expects to have a new version of its COVID-19 vaccine ready for use for mid or late 2021 to respond to concerns about emerging variants that may be more transmissible or resistant to existing vaccines.

Will Canada have access to this updated vaccine under the terms of our existing bilateral supply agreement with AstraZeneca?

Dr. Roman Szumski: Mr. Chair, that would not be covered under the current agreements and would be covered by new negotiations.

Mr. Don Davies: Thank you.

We know that about 130 countries have not received a single dose of vaccine to date. Do we have any concern that that lack of vaccination will make the emergence of vaccine-resistant variants more likely?

Dr. Guillaume Poliquin: The interplay of vaccines and the emergence of variants is a complex question that we are monitoring. We will note that the emergence of variants of concern began before vaccine rollout programs occurred with the first notable one being in August 2020 with D614G. Therefore, as we continue to move forward, we must be ready and continue to invest in our ability to rapidly detect and understand the variants of concern, which is why we are investing $53 million in the integrated variants of concern strategy.

Mr. Don Davies: I'm not sure that I have a—

● (1615)

The Chair: Thank you, Mr. Davies. You've had three minutes already.

We'll start round three now. We'll start with Mr. Brassard for five minutes, please.

Mr. John Brassard (Barrie—Innisfil, CPC): Mr. Chair, I'm going to be splitting my time with Mr. Maguire.

I have quick questions here. For months now, Canadians have been hearing about two doses, so I want an answer to this question. On the one-dose decision, did that come from PHAC or NACI, or was that a political direction?

Ms. Kimberly Elmslie: If I may, Mr. Chair, there has not been a one-dose decision in the sense that NACI has provided its advice on the dose schedule for Pfizer and Moderna, and its current advice says that the dose interval should be no more than 42 days.

As Dr. Quach said, NACI is now receiving evidence and research findings from Quebec, from the U.K. and other countries—

Mr. John Brassard: We've actually heard, Ms. Elmslie, that one dose could work. In fact, Dr. Njoo said it could work as well. Where's this direction coming from? Is PHAC giving this direction?

Ms. Kimberly Elmslie: In the context of one dose could work, that's different from saying it would work.

We do have preliminary evidence to say that there is high efficacy following one dose, but we need more data to understand the durability of that effectiveness and whether or not it wanes. So that's why the discussion around the dose interval remains very alive in the scientific community, and that's why NACI will be looking at that again next week at their meeting.

Mr. John Brassard: Okay. How does one dose affect the variant, then, in the data that you've received so far? Have you received any data at all?

Ms. Kimberly Elmslie: I'm just trying to think about whether we've received data on the effect of the variant from the one dose. I'd have to check on that and get back to you. I don't want to misspeak.

Mr. John Brassard: You're not misspeaking. This is evidence that's been provided publicly. There have been lots of discussions about one dose being effective in this case. Either PHAC is pushing this narrative, or it's coming from somebody else. I'm surprised actually that you don't know where it's coming from.

I'm going to pass this over to Mr. Maguire right now.

Thank you.

Mr. Larry Maguire (Brandon—Souris, CPC): Yes, I'm just wondering. We need to know more, I guess, about the one dose, as 82% of the deaths have been coming out of long-term care homes. Will people in those homes be getting a booster in this area this fall before the first dose of vaccines has even been delivered to the general public?

Will someone answer that?

Ms. Kimberly Elmslie: I would say that these remain open questions. As public health professionals, we are looking carefully at the science and trying to understand what the impact of variants will be. We need more data from countries that are doing research in this area. Those data are starting to come to us, and we're analyzing those carefully. That's the way, of course, that we consistently provide our advice, based on those data. At this point we're waiting for more data on the—

Mr. Larry Maguire: Is that data on seniors alone or is it on all age groups? I believe the briefing was talking about all age groups.

How soon would Johnson & Johnson and AstraZeneca be okayed here in Canada?

Ms. Kimberly Elmslie: The latter question is a regulatory question, which belongs to our colleagues at Health Canada.

As for the former question, on age groups, it depends on the population being studied, but we do have data from older age groups.

Mr. Larry Maguire: You don't have any from younger groups, from middle-aged people?

Ms. Kimberly Elmslie: It crosses the spectrum of ages, and that's what we'll see and what NACI will see next week as it receives further follow-up data on these populations.

Mr. Larry Maguire: Pardon me, because of time, can someone answer the other part of the question, on Johnson & Johnson or AstraZeneca?

● (1620)

Ms. Kimberly Elmslie: Was that a question on timing?

Mr. Larry Maguire: Yes. It came up that they weren't going to be even authorized in the United States until mid-March. Is that true? If that's the case, where are we at in Canada with them? That's only three weeks away.

Ms. Kimberly Elmslie: Yes, and so that is a question for the regulatory authority at Health Canada.

Mr. Larry Maguire: Is there anyone who can tackle that?

The Chair: Thank you, Mr. Maguire.

If anyone wishes to answer, please do so. I see no one, so we will move on.

We go now to Dr. Powlowski.

Dr. Powlowski, please go ahead for five minutes.

Mr. Marcus Powlowski: I have a question about mixing and matching vaccines.

The head of NACI brought this up, but certainly there is an interest in perhaps combining vaccines; doing so might improve their coverage. I think she said that in animal models they tried AstraZeneca followed by one of the messenger RNAs and that doing so improved its efficiency. I think she did mention studies being done in England.

Would you know whether such studies are being contemplated in Canada, and would such studies get any financial support from the government? I doubt it's in the vaccine company's interest to try mixing and matching, but it would certainly be in the public interest if we could combine them.

Ms. Kimberly Elmslie: I don't know if Dr. Poliquin would like to comment on that, but as you said, these studies are going on in the U.K. and are looking at combinations of Pfizer and AstraZeneca as a two-dose interchangeable approach to vaccination. From that perspective, we are awaiting the results of the U.K. study.

Dr. Guillaume Poliquin: Just to build on that, the vaccine science is certainly an area of ongoing focus and interest in terms of evaluations within animal models, but more tellingly, some of these studies will need to occur in human clinical trials. As we continue to learn more about vaccine variants and the interplay they represent, additional studies will be contemplated.

Mr. Marcus Powlowski: If you look at the existing phase three trials, I think those were done at the expense of the vaccine producers.

As I said, it doesn't seem as though mixing and matching is necessarily in the financial interests of the vaccine companies. Who will provide the financing for those clinical trials to see whether this adds efficacy to the vaccines?

Dr. Guillaume Poliquin: There's a range of funding mechanisms to tackle these types of studies, including pre-clinical studies that can be done within laboratories as well as human clinical trials that could be funded through a number of different mechanisms, including the Canadian Institutes of Health Research. Specific funding questions would be dependent on the study design.

Mr. Marcus Powlowski: I'm not sure how much PHAC will take this issue on, but I think that certainly there have been some recent studies that have suggested that Bamlanivimab is effective when used early. As I recall the numbers from The New England Journal of Medicine study, it decreased visits to the emergency room and hospitalizations from 4.5% to 1.5%, I believe, if given early, and in high-risk people, from 14% to 4.5%.

Yet in talking to clinicians, they're certainly having trouble accessing these forms of medication. It would certainly seem like potentially a second front on the fight against COVID if people who were at high risk once they got the disease.... There actually have been studies showing in terms of people in chronic care homes—I think you're probably familiar with this—that when it's given prophylactically to people who are negative for COVID so far, it reduces their risk of getting the disease. It would seem that this would have some usefulness in institutions or places where there's a high risk of contracting the disease and where the people themselves are at high risk if they get sick, and/or treating people who are at a high risk as soon as they get sick.

Have there been any efforts by the Public Health Agency of Canada to assist the provinces, which obviously have the primary responsibility, and to get them these forms of treatment earlier? Or do you still think this is too speculative?

● (1625)

Ms. Bersabel Ephrem: Mr. Chair, I can start, and I will give it to Mr. Szumski to finalize it.

The Government of Canada has been able to procure about 17,000 doses of Bamlanivimab, and they have been distributed across the jurisdictions for their use, according to their clinical guidance. There have also been additional efforts to bring together Eli Lilly and the provinces and territories to get more evidence to be able to see where and how it could be used.

That's what we have done at this point. I don't know if there is anything else to add.

The Chair: Thank you, Dr. Powlowski.

We will go back to the Conservatives now.

Ms. Rempel Garner, please go ahead.

Hon. Michelle Rempel Garner: Thank you.

When Dr. Njoo was talking about a potential one-dose directive, he said, “Everyone can look at the evidence...obviously based on local and the provincial context...[and]...make their own respective decisions.”

When the modelling was released today on the potential spread of the variants, did it factor into provinces choosing to use one dose of either the Pfizer or Moderna vaccines and efficacy rates against the variants?

Dr. Guillaume Poliquin: Just to be clear, the modelling that was released today was looking at epidemic curves and the potential interplay of the addition of variants to that. They were not specifically looking at the impact of different vaccine rollouts.

Hon. Michelle Rempel Garner: Okay, so vaccine rollouts weren't considered in the modelling released today?

Dr. Guillaume Poliquin: Different approaches to the vaccine rollout were not considered in the models today. It's specifically looking at one dose versus two doses.

Hon. Michelle Rempel Garner: Would PHAC be issuing to the provinces...? When they're saying that provinces would be able to make their own decisions, is PHAC going to be providing data and a recommendation to the provinces in regard to one dose versus two in the context of the efficacy against the variants?

Ms. Kimberly Elmslie: That is always part of the work we do with provinces and territories. What we will do is that we will bring the analysis that we receive through NACI. We will bring the analysis that we do ourselves—

Hon. Michelle Rempel Garner: Thank you.

Has that analysis been completed yet?

Ms. Kimberly Elmslie: That analysis will be completed as we get more data and as NACI receives more data next week from Public Health England and from other sources, so it's premature to—

Hon. Michelle Rempel Garner: So saying that provinces would be able to make this decision was premature...?

Ms. Kimberly Elmslie: No. I'm saying it's premature to bring forward the data, because we are awaiting it from another jurisdiction.

Hon. Michelle Rempel Garner: Okay. There's no data yet is what you're saying.

Ms. Kimberly Elmslie: There are data from some trials. We're waiting for NACI to consider it and synthesize it as they do for us as part of their mandate.

Hon. Michelle Rempel Garner: I'm going back to a different line of questions. Which part of PHAC provided the advice to the government to undertake the quarantine hotel measure as opposed to expanding the Calgary airport border pilot program across the country as a better way to control the variants?

Ms. Cindy Evans: Mr. Chair, maybe I could just speak in general to the implementation of our border measures.

In terms of trying to bring the pandemic under control, we're wanting to have public health measures that address preventing community spread as well as the importation of cases. Canada continues—

Hon. Michelle Rempel Garner: I'm looking specifically to comparative models. What data shows that the model being used at the Calgary airport is less effective than the quarantine hotel method?

Anybody? Is there any data on that at all?

Was that a political decision or a decision made from PHAC? Did PHAC advise the government, or did the government advise PHAC on the quarantine hotels?

Did PHAC tell the government that we should be doing quarantine hotels, and if so, what was the data used?

● (1630)

Ms. Kimberly Elmslie: Mr. Chair, I think that I may have indicated earlier that what we would like to do is bring that data back to the committee and we would undertake to do that.

Hon. Michelle Rempel Garner: I'm just asking because we have the DG levels of most of PHAC here. Did PHAC advise the government to undertake the quarantine hotel measures, or did the government tell PHAC to make it so?

Ms. Cindy Evans: When we're looking at the prevention of the importation of COVID-19 cases, that would include the concerns we would have with respect to the influence of the variants and the increases in the variants—

Hon. Michelle Rempel Garner: So, quarantine hotels are more effective than the Calgary border pilot.

The Chair: Ms. Rempel Garner, I would remind you that appropriate courtesy and fairness should be displayed when questioning witnesses. I—

Hon. Michelle Rempel Garner: I also know when word salad is being given to me.

The Chair: Ms. Rempel Garner, I have the floor.

I request that you show respect and courtesy to the witnesses and let them answer your question.

Thank you.

Hon. Michelle Rempel Garner: I'm also trying to show respect to the Canadian public.

I am asking if PHAC advised the government on the quarantine hotel measures based on data that it was more effective than the Calgary border pilot measure, or if the government advised them to come up with a rationale for this directive.

Ms. Cindy Evans: What we can again reiterate is there is a need for a multi-layered approach with our public health measures. There is not one single measure that is going to work on its own. There's the combination of effective quarantine, for having the implementation of testing, and we've introduced pre-arrival testing as well as a requirement for testing on arrival, and it is the combination of measures that is going to help us bring the pandemic under control.

Thank you, Mr. Chair.

The Chair: Thank you, Ms. Rempel Garner.

We go now to Ms. Sidhu.

Ms. Sidhu, please go ahead. You have five minutes.

Ms. Sonia Sidhu (Brampton South, Lib.): Thank you, Mr. Chair.

Thank you to all the witnesses for being here today.

My first question is for the Public Health Agency.

The National Advisory Committee on Immunization has released updated new guidance for Canadians on COVID-19 vaccine efforts. Can you give a better sense of the work that goes into developing and releasing this guidance?

Ms. Kimberly Elmslie: I'd be happy to do that.

As Dr. Quach indicated, the National Advisory Committee on Immunization is a long-standing committee that has been providing advice to the Government of Canada, to the Public Health Agency, on the optimal use of vaccines in the population over many years. They do their work by looking at the science and evidence that is available and they are experts in their fields of immunology, pediatrics, infectious disease, behavioural science and economics. They consult with the public health consultative ethics group and their job is to, with all of that combined data and expertise, look at benefits to the Canadian public of particular approaches to vaccination.

We rely on that expertise, and we rely on the independence of the committee, to bring forward the guidance that provinces and territories take into account as they make their own decisions on how they will implement their vaccination programs.

The committee publishes statements, as you will have seen, on the COVID situation and they update those statements as more evidence comes to bear. They use systematic methods for the analysis of their data so it's always done according to international standards. They are one among a number of international committees called NITAGs, national immunization technical advisory groups, that work together and work independently as well to provide both global as well as domestic advice on optimal use of vaccines.

Their advice has stood the test of time in this country. We see the success of vaccination programs and we see the success of efforts to prevent vaccine-preventable diseases. We also see from NACI where more research is needed and where there are gaps in our efforts to ensure that our population is well protected from vaccine-preventable diseases.

Thank you.

Ms. Sonia Sidhu: Thank you, Ms. Elmslie.

I noticed that racialized seniors have now been included on the guidance list as a priority for vaccination. Many seniors expressed concerns about being at risk. Would you be able to comment on what kind of data is being used to take this decision?

● (1635)

Ms. Kimberly Elmslie: Yes. NACI uses epidemiologic data. They look very carefully at the impact on population groups with respect to both the transmission of viruses, in this case SARS-CoV-2, and the impact on illness, particularly severe illness, hospitalization and death.

When they do their analysis of a population subgroup, they see that certain groups including racialized communities and seniors are disproportionately affected by COVID-19: more illness, more severe illness, more death. That feeds very strongly into the priorities they set. They are very concerned, as we are at the Public Health Agency, about equity in the rollout of vaccines across the country, so they put a special emphasis on using an equity framework to run their recommendations through to ensure they are not leaving communities or particular groups behind, especially those who are vulnerable. As we all know, when we are ensuring that vulnerable populations are protected from infectious diseases like COVID-19, we are protecting everyone; we are protecting communities.

Thank you.

Ms. Sonia Sidhu: Thank you.

Dr. Szumski or Dr. Poliquin, on February 9, Health Canada approved extracting six doses from Pfizer's COVID-19 vaccine vials versus the previously approved five. Can you give us an understanding of how six doses instead of five will affect the spread at which we will get vaccine? Do you think it will impact the speed at which we will get the vaccines?

Dr. Roman Szumski: It doesn't have a material impact on the speed of delivery, but it does allow more efficient use of the available vaccine supply globally.

The Chair: Thank you.

We will go now to M. Thériault.

[*Translation*]

Mr. Thériault, you have the floor for two and a half minutes.

Mr. Luc Thériault: Dr. Szumski, in your response to Ms. Sidhu's question, you said that this doesn't affect the speed of vaccination, but it does affect its efficacy.

How does increasing the number of doses from five to six improve the vaccine's efficacy?

[*English*]

● (1640)

Dr. Roman Szumski: Mr. Chair, I have to clarify. It improves the global supply, ultimately.

By "efficiency" I was not referring to the performance of the vaccine. That has no change whatsoever with moving from five to six. What does change is that the amount of vaccine that can be provided from a given production lot becomes increased. Ultimately, the amount of supply available to all becomes enhanced. The amount of supply that's available to Canada remains what we have contracted—

[*Translation*]

Mr. Luc Thériault: You said, however, that having more doses available didn't increase the speed of vaccination. In my opinion, it would allow us to speed it up.

Having said that, how is it more effective if the people who need to administer the vaccine can't extract the doses?

The decision was made on February 9. In early February, Rick Hillier had said that the sixth dose couldn't be extracted 80% of the time and that, for some deliveries, it couldn't be extracted at all. In Quebec, it was one out of five times.

Aside from the fact that it's in our interest to have more vaccines and doses, how is it more effective or faster if there are practical difficulties in extracting all the doses? Why did you support this decision and change the parameters of a contract?

I understand that the contracts are the responsibility of Public Services and Procurement Canada. However, when it comes to public health and vaccine efficacy, real issues still exist. Are you compiling all of these issues at the Public Health Agency?

I would ask you to send your responses in writing to the committee, if the chair decides there isn't enough time.

[*English*]

Dr. Roman Szumski: Just quickly, Mr. Chair, if I may, the specific syringes that improve your chances of succeeding with the six doses are being distributed with the doses as they go out currently. Also, the extensive training that has been made available to the health professionals across the country will be instrumental in helping them achieve that goal.

[*Translation*]

The Chair: Thank you, Mr. Thériault.

[*English*]

We will go now to Mr. Davies.

Mr. Davies, you have two and a half minutes, please.

Mr. Don Davies: Thank you, Mr. Chair.

Are there any discussions currently going on at the Public Health Agency of Canada on considering imposing restrictions on travel within Canada in order to prevent transmission of variants of concern between regions?

Ms. Cindy Evans: The jurisdiction for the federal government and for the Public Health Agency of Canada with respect to the Quarantine Act is only as it applies to our federal borders. From that perspective, any restrictions on interprovincial travel would be in the purview of the provinces and territories.

Mr. Don Davies: Has the Public Health Agency of Canada revised its public guidance on infection control and prevention in response to the emergence of variants of concern?

Mr. Stephen Bent (Director General, Centre for Immunization and Respiratory Infectious Diseases, Public Health Agency of Canada): In the context of our overall guidance for public health measures, we continue to work with the provinces and territories to review our guidance in the context of variants. This includes instances where we should revise based on new evidence or research that's available. We're in the process now of continuing to review the issue of variants and to make changes to our guidance.

Mr. Don Davies: If I may be more pointed, though, have you revised your public guidance in response? I take it the answer to that would be that you have not yet, but you may be in the process of doing so. Would that be accurate?

Mr. Stephen Bent: Yes. I would say that in some instances we have made modifications over the course of the past several months, but we are in the process now with the provinces and territories of reviewing our guidance.

Mr. Don Davies: Okay.

Now, just to get to a really basic question, does the severity of disease caused by emerging variants of concern differ from the disease caused by previously dominant strains of SARS-CoV-2 virus?

Dr. Guillaume Poliquin: The issue of severity is one of the markers that would elevate a variant to a variant of concern. The determination of increase in severity is work that has been under way for the three variants of concerns most reported to date. Preliminary results from the U.K. suggest that there may be an increase of severity among older individuals affected by the variant first identified in the U.K., not children. But these are fairly complex epidemiological studies that have to take multiple factors into account, including the strain on health systems, so the precision of the estimates will be lagging as the science evolves.

● (1645)

Mr. Don Davies: I will squeeze in a final question. What impact, if any, has the emergence of new variants of concern had on Canada's vaccination strategy?

The Chair: The witnesses may answer quickly, please.

Ms. Kimberly Elmslie: I would say, Mr. Chair, that the emergence of variants of concern has certainly added an important dimension to all of the work that we're doing under our vaccination strategy as we look at the effect on transmission and as we look at the effect on severity of disease.

It does not change the plans, of course, that we have for rollout of vaccines; that continues to happen, and that needs to happen as it has been set out, but as we look at the effectiveness of vaccines, for certain, variants of concern matter as we assess vaccine effectiveness.

The Chair: Thank you.

Committee, we've just completed round three. We are almost at the two-hour mark. I wonder if it is the wish of the committee to continue to a fourth round. I'll ask people to raise their hands if they want a fourth round.

I see a number of hands going up.

Thank you to the witnesses. We will continue for at least one more round.

We will start the fourth round again with the Conservatives. I don't have who is on the list for the Conservatives.

Ms. Rempel Garner, would you advise us, please?

Hon. Michelle Rempel Garner: Sure, I guess I'll just go for it, Chair.

I guess today I'm fairly concerned about the data that is being used to inform decisions that are costing trillions of dollars to the Canadian economy, lives and mental health. I find it extremely shocking, and I understand that people are trying to do their best, but I find it shocking that people at these levels within the bureaucracy came to this meeting without being able to provide basic information on modelling that was released as early as this morning.

I'm just wondering if perhaps somebody in PHAC from one of these departments can explain to me how some decisions are being made.

Let's start with travel measures. How did the quarantine hotel decision come to be? How did this come into place? Was it PHAC advising the minister? Where did that discussion start?

Ms. Cindy Evans: When we look at the border measures, important conversations that we have occur at our special advisory committee where we have discussions with our chief public health officer as well as with the chief medical officers of health for all the provinces. An important aspect of that conversation has been the concerns with respect to importation of cases in Canada. Similarly—

Hon. Michelle Rempel Garner: What data—

Ms. Cindy Evans: Mr. Chair, if I may finish my answer, similarly, we look to other jurisdictions that are experiencing issues with the variants to see what measures they may have employed with success, and the U.K. certainly figured in the look that we had at other models.

● (1650)

Hon. Michelle Rempel Garner: So what data was used to inform that specific decision? Did the U.K. provide evidence that measures they had put in place stopped the spread of the variants?

Ms. Cindy Evans: Mr. Chair, I will start off and then I may turn to a colleague with respect to what we're seeing in terms of the rates of positivity of imported cases.

Certainly we would look at the travellers coming in and the rates of positivity that we're seeing from those travellers, including where we may have associations with variants of concern, and that will impact the public health measures that we put in place and also what we learn and know about the timeline of—

Hon. Michelle Rempel Garner: I have limited time, and this isn't quite where I wanted to go.

I'm just wondering what data showed that quarantining in a quarantine hotel would have a better public health outcome than quarantining at somebody's house.

Ms. Cindy Evans: As I mentioned, one of the important things is taking a multi-layered approach in our public health measures and having effective quarantine measures, particularly at the front end where the infectious period is developing, which is an important aspect of that—

Hon. Michelle Rempel Garner: Perfect. What data was used to inform that comment or that talking point, and specifically that quarantining at a hotel was better than quarantining at somebody's house?

Ms. Cindy Evans: As I've said, one of the key pieces of evidence for the Public Health Agency was with respect to our understanding of the rates of the variants that were happening, how we are aware of the rates of positivity of travellers who are coming into Canada, our conversations with our chief medical officers of health with respect to adherence to quarantine measures, and how we could put more robust measures in place to assist in reducing community spread, as a result, from linkage to travel.

Thank you.

Hon. Michelle Rempel Garner: Could you table with committee next week the data you used that showed quarantining at hotels would be more effective than quarantining at somebody's house?

Does that data exist?

The Chair: Ms. Rempel Garner, I don't believe that was the witness's testimony.

Hon. Michelle Rempel Garner: To the witness, through you, Mr. Chair, could they please table with committee the data they used that showed that quarantining at a hotel was more effective than quarantining at somebody's house?

The Chair: Once again, I don't think the witness asserted that.

Hon. Michelle Rempel Garner: But I'm asking that question. Can anybody at PHAC table data that shows that quarantining at a hotel is better, from a public health perspective, than quarantining at somebody's house?

Ms. Cindy Evans: I'm certainly happy to take that question back to the department and look for—

Hon. Michelle Rempel Garner: Can you table that with committee, through you, Chair?

Ms. Cindy Evans: For clarity, Mr. Chair, and just to bring forward the rationale in support of this—

Hon. Michelle Rempel Garner: How about this? Could you table with committee the data on adherence to quarantine for the last year?

Does that data exist?

Ms. Cindy Evans: Mr. Chair, we'd be happy to take that question back to the department and bring forward information that's available with respect to adherence to quarantine measures.

Thank you.

Hon. Michelle Rempel Garner: Was that data used in informing the decision to make people quarantine at a quarantine hotel, which I note in the main estimates is going to cost a quarter of a billion dollars? So what data was used to inform that decision?

A quarter of a billion dollars. What data was used?

Anyone? It's just a quarter of a billion dollars. What's that between friends?

Anyone? Any data? No?

The Chair: Thank you, Ms. Rempel Garner.

Hon. Michelle Rempel Garner: Thank you, Chair.

The Chair: We go now to Mr. Van Bynen.

Mr. Van Bynen, please go ahead for five minutes.

Mr. Tony Van Bynen: Thank you, Mr. Chair.

On October 23, 2020, the federal government announced funding to a biopharmaceutical company, Medicago, based in the city of Quebec for a vaccine manufacturing facility in that city. The federal government has also recently announced the signing of a memorandum of understanding with Novavax to pursue options to produce its COVID-19 vaccine at the National Research Council of Canada's Biologics Manufacturing Centre, once both the vaccine candidate and the facility have received the required Health Canada approvals. It was reported on February 14, 2021, that the federal government would meet soon with provincial governments to discuss collaboration on building up domestic biomanufacturing capacity.

To whoever is appropriate, in your opinion how much will these initiatives contribute to Canada's vaccine supply and how long will it take to establish?

● (1655)

Dr. Roman Szumski: If I could take that, Mr. Chair, the initiatives that are being described are led out of the industry portfolio. They would be best positioned to answer those types of questions.

Mr. Tony Van Bynen: Okay.

To your knowledge, would there be any private sector options to produce the COVID-19 vaccines domestically that the federal government could have pursued earlier? And if so, what were those options?

Dr. Roman Szumski: Medicago is a private company.

Mr. Tony Van Bynen: Oh, it is. Okay. Thank you.

Can you describe Canada's past and present pharmaceutical and bioproduction landscape? What should we be doing to make ourselves more self-sustainable as we go forward?

Dr. Roman Szumski: Mr. Chair, again, the biomanufacturing strategy that Canada is pursuing is led by the industry portfolio.

Mr. Tony Van Bynen: Then let's go to the vaccine effectiveness.

Please explain the concept of herd immunity and what portion of Canadians is needed to establish herd immunity. I know that's a complex question but we hear the term so often. Could you please explain the intent and the impact of that?

Ms. Kimberly Elmslie: Herd immunity, as you mentioned, is a concept that we hear about a lot. Some areas of science will put percentages around it, saying we need to reach a certain level of immunization in the population to achieve herd immunity. Others will talk about it in terms of time frame.

From a public health perspective, we in the field are cautious when it comes to pronouncing on a particular percentage of the population required to achieve herd immunity, which is essentially a place where the virus can no longer efficiently transmit because people are protected; either they have been protected through vaccine-induced immunity or through natural infection and they are now immune. When the virus has nowhere to go, it can't continue to transmit and you have achieved herd immunity.

That protects people who are unable to be vaccinated because, for example, they may have contraindications to a vaccine and therefore not be able to receive it. Allergies may prevent them from receiving it. When you reach that place where the virus has no efficient way to transmit between people, then essentially you've reached herd immunity. You see drops in the level of disease in the population and, of course, in transmission.

We are monitoring all those indicators at the Public Health Agency. We're looking at vaccine effectiveness, what kinds of transmission rates are being seen within subgroups of the population, the reproduction factor, all of them. As you said, it's complex but at the same time, the concept is a pretty simple one. We will be looking at those indicators as vaccine rollout continues and public health measures continue to be implemented to see the spread of the virus decrease.

Thank you.

Mr. Tony Van Bynen: Thank you.

How much time do I have, Mr. Chair?

The Chair: Effectively none. Thank you, Mr. Van Bynen.

We now go back to the Conservatives. Ms. Rempel Garner, is it you again?

Hon. Michelle Rempel Garner: Mr. Barlow.

The Chair: Mr. Barlow, please go ahead for five minutes.

Mr. John Barlow: Thank you very much, Mr. Chair.

This may be for somebody from PHAC. What percentage of Canadians have to be vaccinated before we no longer have lockdowns, and travel and quarantine restrictions are lifted?

Dr. Guillaume Poliquin: Mr. Chair, I'll answer, and Ms. Elmslie may have additional comments.

The necessary level of protection is a dynamic question as we continue to learn more about the effect of variants of concern on long-term efficacy of the vaccine. We also need to understand the duration of immunity in the population, as well as the effect on transmission. It is a complex number that is potentially going to change over time as the state of the science evolves.

● (1700)

Mr. John Barlow: I hope the representatives from PHAC here today understand how devastating these lockdowns are to Canadians, not only for businesses but for Canadians' financial and mental health, which is being profoundly impacted. The concern we're hearing, just from today, is no data is being provided to warrant these lockdowns.

Why isn't this information available so I can tell my constituents the reason they're being asked to lockdown further is because of A, B and C?

Dr. Guillaume Poliquin: Mr. Chair, on the issue of the changes in the outbreak dynamics and the impact of public health measures, as has been mentioned previously, modelling was released today that shows a number of different scenarios, including the maintenance of current public health measures and the acceleration—

Mr. John Barlow: Mr. Poliquin, I'm sorry. I hate to interrupt, but maybe I can put it this way. When will you know? Can you put a timeline on when you'll have the data sufficient to understand how many Canadians would need to be vaccinated before we have what would be acceptable herd immunity and would no longer have reasons for lockdown? When would you have that data available?

Dr. Guillaume Poliquin: Mr. Chair, that is a question that is a moving point as we learn more about the interplay of this virus. We continue to learn more on a daily basis about transmission dynamics, and now we have the additional layer of complexity introduced by variants of concern, which have different properties and different impacts on transmission. These are live questions that continue to be updated and explored as we learn more.

Mr. John Barlow: Okay. Thank you.

What I'm hearing is that you have the data available.... Actually, I haven't heard that today, but PHAC and the Government of Canada—the Liberal government—apparently have the data to enforce border lockdowns and travel restrictions and to quarantine people in hotels. You have that data, but you don't have the data available such that we can tell Canadians when life can go back to normal and Canadian businesses can reopen and Canadians can go back to work. We don't have that data. Is that what you're saying?

Dr. Guillaume Poliquin: Mr. Chair, on this issue, data is not a fixed concept. We continue to learn more and to learn about this and add to our understanding of the transmission dynamics. The modelling that was released today demonstrates a number of different scenarios, including one where variants of concern with a 50% transmissibility increase are in play in Canada, and we see from that data that public health measures are a necessary component of achieving outbreak controls here in Canada.

Mr. John Barlow: All right. I appreciate that, but this is having a very real impact on Canadians, and they need some answers.

I have a last question that I want to try to get out, Mr. Chair, if I have some time here. We've heard today I think some very different perspectives. If we have the most robust access to vaccines in the world, which we keep hearing—even though we don't actually have vaccines in hand, we keep hearing that we have access to them—then why are we now rationing those vaccines?

We've heard today that we may be extending the time between the first and second dose and even that maybe we won't need that second dose at all. Why is there such a change from the information we've heard over the last few weeks to what we're hearing today? Why is there that massive change? If we have all these vaccines, why are we rationing and then maybe instead of having two doses having only one?

Ms. Kimberly Elmslie: This is a matter of the evolution of the science. It's really as simple as that. We're learning more about the effectiveness of vaccines. We're learning more about the efficacy of one dose or two doses. This is all quite expected in the context of watching the population in its response to vaccines and watching vaccines as they interact with our population. To be quite clear, it is us as a globe learning through the science how to use vaccines most effectively. That's what this conversation is about.

When Moderna and Pfizer were authorized for use in Canada, they were authorized according to the clinical trial data that the companies brought to the regulator. Once the vaccine is in use in a population, as with all vaccines, you then look at effectiveness in the real world, and you start to understand whether or not the way the vaccine is being delivered in the population can be revised, and whether or not those adaptations that you might make are having significant public health benefits. If they are, then you can modify your use. If you see that things are moving in the wrong direction, again, you modify your use. It is squarely the evolution of science.

● (1705)

The Chair: Thank you.

We go now to Mr. Fisher.

Go ahead for five minutes, please.

Mr. Darren Fisher: Thank you very much, Mr. Chair.

Ms. Elmslie, I want to thank you for hitting the nail on the head there. It's the evolution of science. That explains so much. From day one, this has been a rapidly evolving situation. I know that all of the people who are taking care of Canadians and watching over the health and safety of Canadians are constantly monitoring new data every day as it arrives.

I think we all agree, on this committee, that we have to do everything we can to protect Canadians from COVID, especially with these new variants. One new case of COVID is too many. I want to thank all the witnesses today for the work that you do, every day, because I suspect that you live this. You live this, and you have for probably a year.

You didn't get a chance to answer all the questions that were asked of you. Members are very tight with time. We have a lot of constraints on the time here and you didn't get a chance to answer all the questions you were asked. You specifically mentioned the importance of a multi-layered approach to controlling and preventing COVID-19.

Since I'm on with you, Ms. Elmslie, I wonder if you could elaborate on this multi-layered approach on how we need to take every step to make sure we ensure the safety of Canadians.

Ms. Kimberly Elmslie: This is something that I feel passionate about. I think we all, as public health professionals, feel passionate about this. When you're dealing with an epidemic or a pandemic, when you're dealing with a public health crisis, you need to use all the levers you have in order to interrupt transmission and to save lives. From that perspective, when we talk about a multi-layered approach, we talk about vaccines as part of our tool kit and we talk about public health measures. We've learned over time how effective those public health measures are, whether they be for the wild strain of the vaccine or for variants. We know, very clearly, that masking, physical distancing and washing hands—all of those public health measures—work. That's why they've become so important to our multi-layered response.

We also, of course, rely on Canadians and know that Canadians are sacrificing and doing so much to ensure that we are controlling the spread of this virus in all of its forms.

Public health is a team sport. We know that and we need to work in collaboration with the whole of society as we tackle this very complicated problem. We don't have all the answers and we don't pretend to. Nobody does. But what we're doing every day is getting more data, doing analysis and trying things out. Sometimes you take a risk and you try something out and then you collect data as you go to see whether or not your best-informed public health interventions are working. We're in that space right now. We've been in it since the beginning of this pandemic. We'll continue to be in it as we now roll out vaccines at the same time as we reinforce public health measures and work with Canadians in communities to ensure that they maintain confidence in the vaccines that are being provided and that they will access over the next short while, as the number of vaccines delivered to our country increases.

I'll stop there. I probably have been a little bit too impassioned. I feel very strongly that we use our levers, we adjust our levers, we use evidence and we apply evidence very effectively in Canada in order to deal with this devastating pandemic.

● (1710)

Mr. Darren Fisher: I, for one, thank you very much and thank all the folks who do the work very similar to the work you do.

I also want to take a chance—if I could, Mr. Chair, I know my time is just about out—to thank the public health officials in the provinces and territories for working as a team, looking out for the health and safety of Canadians for a year now. It's absolutely incredible. Here in Nova Scotia we've had some pretty significant success as we've fought COVID. Of course, we've had to take some pretty serious public health moves. We've had buy-in from the community and Canadians have bought in, essentially, to a lot of the suggestions from their amazing public health officials across this country. I want to salute them all with my last 10 seconds.

Thank you so much, Mr. Chair.

The Chair: Thank you, Mr. Fisher.

[*Translation*]

Mr. Thériault, you have two and a half minutes.

Mr. Luc Thériault: Thank you, Mr. Chair.

I'd like to tell the witnesses that the answers they can give us in writing in the next few days will be just as important as the answers they can give us today. It's important that they understand our concerns.

Of all the people who are with us today, no one could have imagined on February 19, 2020, the narrative of the crisis we are experiencing. Nor could anyone have claimed to know that there would be so many questions about vaccine efficacy, since the possibility of creating a vaccine in such a short time wasn't even considered. So there are negative aspects and positive aspects. I'm going to talk about one of the negative aspects.

At one of the committee meetings, I had asked Dr. Tam whether, in hindsight, she felt that she should have recommended more quickly that the border—one of the longest in the world—be closed. She ultimately said yes. It's always important to be modest and humble when dealing with a crisis like this, unless you have the science to back it up. The Public Health Agency of Canada has a responsibility for border management as part of pandemic management, as well as a responsibility for consultation and advisory services.

This week, the land border was open. Quebec was concerned about the upcoming spring break and had asked for a tightening of the rules. For us in Quebec, the spring break was the determining factor in the spread of the virus.

Ms. Evans, have you documented the border crossing issues that have occurred this week, particularly at the Lacolle land border office? Have you corrected them?

[*English*]

Ms. Cindy Evans: There are now requirements for pre-departure testing for arrivals in Canada through our land borders. That came into force on February 15, specifically to the point the member has raised.

[*Translation*]

Mr. Luc Thériault: I hear there's fraud.

The Chair: Thank you, Mr. Thériault.

Mr. Luc Thériault: I see you don't seem to be aware of the problems that have occurred this week, Ms. Evans. We'll be able to share them with you.

Thank you.

[*English*]

The Chair: Thank you, Monsieur Thériault.

We will go now to Mr. Davies.

Mr. Davies, go ahead for two and a half minutes, please.

Mr. Don Davies: Thank you.

Several provinces have recently eased COVID-19 control measures or are contemplating doing that despite the spread of variants of concern across Canada.

Does PHAC have a position on that? Is that a wise course of action for provinces, to be easing controls, when we're seeing the emergence and spread of variants of concern?

Dr. Guillaume Poliquin: Thank you, Mr. Chair.

That was a complex question. I will maybe speak to the modelling that was presented, and Mr. Bent may have some additional commentary.

We displayed modelling that shows that the introduction of variants is one factor that affects the epidemic curve. We see that different levels of maintenance or relaxation of public health measures do also have a potential impact on outbreak trajectory to control.

With that, I would like to turn to Mr. Bent in terms of the view moving forward.

● (1715)

Mr. Stephen Bent: Thank you.

Perhaps to build on the earlier comments of my colleague Ms. Elmslie, I will say that it's very much about a tool kit of measures. At the provincial and territorial level, they take a regional approach based on the incidence of COVID and the challenges that are being faced in specific communities.

In the context of going forward, I imagine that will continue as an approach, as we watch the surveillance related to rates of COVID-19, hospitalizations and other important surveillance measures that help inform decision-making at the provincial and territorial and local public health levels in terms of how to manage COVID-19.

Mr. Don Davies: Okay.

We know that one of the attributes of these variants of concern is greater transmissibility. Frankly, they're more infectious viruses. I'm wondering about the relationship between transmissibility and PPE advice. Does PHAC have any comments to make on how the variants may impact our PPE? We know that we had a great deal of problems with PPE in this country early on in this. I'm wondering if there is any guidance that Canadians need or should have about masking or any other precautions they can take in terms of PPE measures.

Mr. Stephen Bent: Beginning broadly, we know that the measures we have in place work. The research and evidence that we will build and continue to draw on will help inform how we provide advice to Canadians on how to adapt the measures we have in place.

In terms of masking, we continue to review our advice to Canadians. We recently did so. We continue to monitor work that is happening in other countries and in the research community. In the context of masking, we continue to advise that a non-medical mask with multiple layers, including a filter layer, remains a very good and useful approach to reduce the spread of COVID-19.

As I mentioned, we continue to monitor activities that are happening in other jurisdictions. Based on the evidence available to us today, our advice remains that in the context of variants of concern, the current masking advice remains appropriate.

Mr. Don Davies: Thank you.

The Chair: That brings us to the end of round four. It also brings us very much past the two hours we had proposed for this meeting.

I'm wondering if it is the will of the committee to adjourn at this time.

Mr. Tony Van Bynen: I so move, Mr. Chair.

The Chair: It seems to be the will of the committee. Thank you, all.

To our witnesses, thank for being with us today and for biding with us through all of the delays earlier on. Thank you for your testimony.

Thank you, all. I'll see you next week.

The meeting is adjourned.