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# Standing Committee on Health

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Chair: Mr. Sean Casey





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• (1555)

[English]

**The Chair (Mr. Sean Casey (Charlottetown, Lib.)):** I call this meeting to order.

Welcome to meeting number 26 of the House of the Commons Standing Committee on Health.

We are meeting for two hours today with witnesses for our study on the emergency situation facing Canadians in light of the COVID-19 pandemic. Today's meeting's themes are long COVID and COVID therapeutics.

Today's meeting is taking place in a hybrid format, pursuant to the House order of November 25, 2021.

Per the directive of the Board of Internal Economy on March 10, 2022, all those attending the meeting in person must wear a mask, except for members who are at their place during the proceedings.

I have a couple of comments for the benefit of witnesses. Interpretation is available. You have the choice at the bottom of your screen of floor, English or French. When you're not speaking, please ensure that your mike is muted. Please don't take screenshots or pictures of your screen. All of the proceedings will be made available on the House of Commons website.

We are now ready to proceed with opening remarks.

I understand that one of our witnesses is not yet with us, but is working through some technical difficulties and will join shortly. That is Dr. Eric Arts, a professor at the department of microbiology and immunology at the University of Western Ontario. We have back with us today, Dr. Emilia Liana Falcone, director, post-COVID-19 research clinic, Montreal Clinical Research Institute, and attending physician, infectious diseases, Centre Hospitalier de l'Université de Montréal. Also with us is Dr. Kelly O'Brien, associate professor, department of physical therapy, University of Toronto, and co-director of the rehabilitation science research network for COVID at the U of T. Representing the COVID Long-Haulers Support Group Canada, we have Susie Goulding, the founder.

Thank you all for being here today. The length of your opening statement should be five minutes or less.

We're going to start with Dr. Falcone.

Welcome back. You have the floor.

[Translation]

**Dr. Emilia Liana Falcone (Director, Post-COVID-19 Research Clinic, Montreal Clinical Research Institute, Attending Physician, Infectious Diseases, Centre hospitalier de l'Université de Montréal, As an Individual):** Thank you, Mr. Chair.

I would like to start by thanking the members of the Standing Committee on Health for giving me the opportunity to appear before them today and share my thoughts with them.

My name is Emilia Liana Falcone, and I am an infectious disease physician at the Centre Hospitalier de l'Université de Montréal, or CHUM. I also work at the Montreal Clinical Research Institute, or IRCM, where I am the director of the microbiome research unit and the founder of the Post-COVID-19 Research Clinic. We do a comprehensive evaluation of long-term COVID-19 patients and work with colleagues from other institutions to improve the management of these patients.

The COVID-19 pandemic has weakened our health care system. More than 3.9 million Canadians have contracted COVID-19. As we estimate that between 10% and 30% of Canadians could have long-term effects, more than 1 million Canadians could potentially experience long COVID-19, and probably 200,000 to 300,000 of them will be sick for months or years, often unable to return to work. The burden on our health care system will be major, and the socio-economic impact will be significant. It is in this context that I would like to share with you the challenges and major issues we are currently facing.

The first challenge is diagnosing long COVID-19, which is complex. It is a heterogeneous disease with many associated symptoms. These symptoms can fluctuate or even occur after recovery. In addition, many symptoms, such as fatigue and shortness of breath, are the same as those of other illnesses. We therefore need to find biomarkers that would facilitate the diagnosis of long COVID-19.

The second challenge is to better understand the causes of long COVID-19 from a mechanistic perspective. This will allow us to have more accurate diagnostic tests, to better understand the course of the disease and, above all, to develop new and better targeted therapies.

At the same time, we need to study the impact of new variants and vaccination on the incidence of long COVID-19. We know that individuals can be reinfected and have post-vaccination infections. In our experience, even if an individual did not develop COVID-19 after a first infection, this doesn't mean that they aren't at risk of long-term sequelae after re-infection.

We also need to better understand the role of antiviral drugs, not only to treat acute COVID-19, but also to prevent or even treat long COVID-19, especially considering that there may be virus particles hiding in some tissues.

[English]

The pandemic has taught us that we need to be agile in our ability to adapt to evolving clinical situations as new information emerges. An effective way to do this is through the systematic integration of a research infrastructure into clinical care pathways.

As I have mentioned in my previous participation in a meeting of this committee, my eight-year experience at the National Institutes of Health in the United States led me to suspect early on in the pandemic that there would be long-term sequelae from COVID. This is why I created the IRCM Post-COVID Research Clinic thanks to the support from our governments. My objective was to integrate our clinical evaluation with a research platform and biobank that would lead to a better understanding of long COVID in an effort to identify diagnostic biomarkers and develop novel therapeutic strategies.

Our research clinic model could be extended to specialized centres across Canada. This model would be even more effective if it were integrated into a network that would use standardized protocols and have an established infrastructure for real-time data sharing and integration. With this coordinated and rapid approach, we would further distinguish ourselves as a country, not only in the context of long COVID but also in the management of other complex and chronic diseases, and in preparedness for the next pandemic.

[Translation]

Finally, such an infrastructure that systematically integrates research with clinical evaluation would foster national and international collaborations between governments, industry and academic institutions.

There are several other thoughts I'd like to share with you, and I'd be happy to continue the conversation during the question period.

Thank you for your attention.

**The Chair:** Thank you, Dr. Falcone.

• (1600)

[English]

Next we're going to hear from Dr. Arts, professor in the department of microbiology and immunology at the University of Western Ontario.

Thank you for being with us, Dr. Arts. You have the floor for the next five minutes.

**Dr. Eric Arts (Professor, Department of Microbiology and Immunology, University of Western Ontario, As an Individual):**

Thanks for having me here today. I'll just give a brief introduction of myself.

I'm a Canada research chair in viral pathogenesis and control. I just moved back to Canada—it seems like I just moved back eight years ago—after being at Case Western Reserve University in Cleveland, Ohio, for 20 years. I'm a virologist. I hold a number of patents and I have an expertise in viral pathogenesis, diagnostics and drug and vaccine development. Also, during the pandemic, we opened a new facility, a level-three facility. It's called the Imaging Pathogens for Knowledge Translation centre. It is a level-three facility that was opened just a few months before the pandemic in January. We had one of the most modern facilities that was open. Lesson to be learned: never be a virologist and open a new biosafety level-three facility just before a pandemic if you want a real life. Maybe it's the same in government.

Just to give you background on that, the ImPaKT facility has been working with about 30 different companies during the pandemic, several multinational companies, and we do global testing for antivirals, interventions, therapeutics, materials and vaccines. To date, about 30,000 retail outlets, government offices, schools, etc., house products to prevent transmission for which we tested as service contracts for companies.

We also provide waste-water analysis for about one fifth of the Ontario population through MECP in Ontario. Then we have contracts with Health Canada. We provide the detection of the sort of the frequency of the variants of concern across all ports of entry in Canada. That's through a contract with Health Canada. We report twice a week to the Public Health Agency of Canada and Public Health Ontario.

I just want to shift in the remaining few minutes to talk about the shift in the pandemic.

One of the things we realized early on is that this will eventually end, but the consequences of this pandemic will become much more severe, as the last speaker indicated. After the 1918 pandemic of flu and the 1957 and 1964 pandemics of flu, within a few years of those pandemics we saw a major rise in the increase of cognitive impairment and neurological decline and neurodegenerative diseases.

There's just been a study out by Harvard and the University of Pennsylvania that talked about people post ventilation in regard to COVID. Approximately 40% of those patients who survived the ventilation and COVID are now experiencing cognitive impairments.

In addition to this, the disease itself, the severity of the initial COVID disease, doesn't seem to be linked to the development of potential cognitive impairments in future, which then could be linked to these neurodegenerative diseases like ALS, Alzheimer's, or early onset dementia and Parkinson's.

The one thing that's an interesting observation, though, is that unlike those diseases that I just described, we don't know the triggers of those diseases and we can't identify when they occur. One benefit—if you will, which is an unfortunate benefit—is now that we have over three million people in Canada for whom we've defined when they got COVID, we can start working towards implementing potential therapeutics that are already available to us. The models that can be set up is through various animal testing models that are well-defined for cognitive decline. We can determine which therapeutics can prevent that in animal models post a COVID infection in those animal models, and then rapidly parlay that to off-label therapeutic trials of these immunomodulatory drugs, anti-inflammatory drugs and even antivirals, which we never could do before because we didn't know what the triggers were for those diseases that can manifest themselves sometimes 10 years, for even 15 years, in the future.

- (1605)

However, in all predictions, if we even have a low percentage of the population that goes down what we would call a “long, long-term COVID role” in neurodegenerative diseases, we are looking at a second wave of this epidemic that will inevitably be much more costly for the health care system.

The one good point is that we have a level of expertise in Canada that's really not replicated anywhere in the world. There have been good investments already in brain scans in a number of different facilities and research institutes across Canada. At Western, in particular, we have leading experts in cognitive impairment who were originally Canadians and were recruited back to Canada from Cambridge just a few years ago. They've set up testing platforms. We've brought in the expertise in therapeutics and antivirals to get engaged with that. There are many places around Canada that can also contribute to this, and be the leaders in the world in trying to combat this particularly devastating long-term consequence of neurodegenerative diseases, which we will likely see.

Thank you.

**The Chair:** Thank you very much, Dr. Arts.

Next, we have Dr. Kelly O'Brien, associate professor, department of physical therapy at the University of Toronto and the co-director of the rehabilitation science research network for COVID at U of T.

Dr. O'Brien, welcome to the committee. You have the floor, for the next five minutes.

**Dr. Kelly O'Brien (Associate Professor, Department of Physical Therapy, and Co-Director, Rehabilitation Science Research Network for COVID, University of Toronto, As an Individual):** Thank you very much for the invitation and the opportunity to speak at the meeting of the House of Commons Standing Committee on Health today.

My name is Kelly O'Brien. I'm a physiotherapist and associate professor in the department of physical therapy at the University of Toronto. I am a co-director of this newly established rehabilitation science research network for COVID with the Temerty Faculty of Medicine at the U of T and co-director with Long COVID Physio, wan international patient-led association of physiotherapists living with long COVID and their allies.

As a Canada research chair in episodic disability and rehabilitation, my research has primarily been grounded within the foundational context of HIV. My colleagues and I are now applying these lessons learned from the context of HIV to the context of long COVID.

We know that a growing number of individuals are living with persistent signs and symptoms following infection with COVID-19. Defined by the World Health Organization, post-COVID condition, or long COVID, occurs in individuals with a history of probable or confirmed SARS-CoV-2, infection usually three months from the onset of COVID-19, with symptoms that last for at least two months.

An estimated 144 million individuals are living with long COVID globally. A recent systematic review involving 50 studies, of which 41 were included in a meta-analysis, concluded a pooled global prevalence of long COVID at 43%. This expands to non-hospitalized as well as hospitalized patients living with COVID.

The long-term trajectory of long COVID remains unknown. Therefore, conceptualizing the context of disability in long COVID is essential for better understanding the health-related challenges experienced by this community. There is an opportunity to apply the lessons learned in other chronic and episodic conditions such as HIV to understand and conceptualize disability experienced among this community.

Lesson one is to anticipate multi-dimensional disability and recognize its potentially episodic nature. Long COVID has a mass disabling effect, and the episodic disability framework was derived from the perspectives of adults living with HIV to characterize the multi-dimensional and episodic nature of health-related challenges.

This framework includes six dimensions of disability, all of which may apply to the context of long COVID. For example, there are physical health challenges such as fatigue, post-exertional symptom exacerbation, malaise or shortness of breath seen among individuals living with long COVID. As was mentioned earlier, there are cognitive health challenges, such as difficulty thinking or concentrating, resulting in mental and emotional health challenges in some cases, such as anxiety and depression. There are difficulties carrying out day-to-day activities, such as showering or meal preparation. This all accumulates in having an impact on one's challenges to social inclusion, such as engaging in meaningful life roles like employment. This framework also acknowledges the disability dimensions that can be triggered by factors such as physical activity or exercise, prolonged cognitive activities, such as engaging in intense or online meetings or other health conditions.

Currently I have the opportunity to collaborate with a group of individuals in a CIHR-funded study to adapt this framework as a way to conceptualize the relapsing and remitting nature of some of the health-related challenges seen among people living with long COVID. Given the importance of terminology in providing clarity and understanding among community and health providers, we recommend the use of the term “episodic disability” to characterize these experiences.

Lesson number two is that uncertainty and worry about the future is a key feature of disability experienced among people living with long COVID. This is a disability, and there is uncertainty of when an episode might arise, the severity and duration of that episode and the impact it might have on one's health, finances and emotional health.

We're now dealing with the new uncertainty of what occurs in the case of a reinfection among someone living with long COVID. There is diagnostic uncertainty, where it can be difficult for an individual who did not have a positive PCR antigen test to access employment or income benefits or rehabilitation services. There's financial uncertainty about if, such as if, when and how individuals may be able to return to the workforce. Uncertainty is also [*Inaudible—Editor*] with health and rehabilitation providers in terms of how to safely approach, assess and treat individuals with long COVID. Lastly, there is uncertainty among employers and human resource professionals as to how best to accommodate and facilitate return to work.

• (1610)

Lesson three is that there are similarities among those living with HIV and long COVID relating to health inequities, stigma, and discrimination. We know that long COVID disproportionately affects females, individuals in their prime career-building years, those working in social care and education, and those with other existing activity limitations, conditions, or disabilities, which will have an impact and further compound the complexities of long COVID.

Lesson four is that the role and access to rehabilitation is critical to help prevent, address and mitigate disability, and to enhance health outcomes for individuals living with long COVID. Rehabilitation, such as physiotherapy and occupational therapy, can have a role in being goal-oriented, person-centred, and focused on function and tailored to an individual's goals and abilities.

Lesson five is the importance of ensuring there is a patient and community engaged rehabilitation response. In combination with this, there is the need to have greater meaningful involvement of people living with long COVID, who are people living with and affected by the pandemic. Building on existing research and clinical networks in rehabilitation can provide foundations for long COVID. Taking a strength-in-numbers approach and partnering with other chronic and episodic conditions, such as myalgic encephalomyelitis or chronic fatigue syndrome, will help to inform future rehabilitation approaches and policy.

In summary, a safe, effective, and coordinated response to rehabilitation is critical in the context of long COVID. While evidence continues to emerge, rehabilitation professionals are positioned to help address episodic disability. Opportunities exist to build on some of the successful disability and rehabilitation models from other chronic and episodic illnesses that may apply to the context of long COVID.

Thank you very much for your attention.

**The Chair:** Thank you, Dr. O'Brien.

Next, we're pleased to welcome Susie Goulding, founder of COVID Long-Haulers Support Group Canada.

Welcome to the committee, Ms. Goulding. You have the floor.

**Ms. Susie Goulding (Founder, COVID Long-Haulers Support Group Canada):** Thank you for the opportunity to address this committee.

Long COVID needs to be acknowledged. It is a mass disabling event on a scale that has not been seen by most Canadians living today. All Canadians, public health care systems and policy-makers need to be aware of the complex issues of long COVID, how it negatively affects the health and livelihood of Canadians, and the impact it has on the workforce and the economy.

Canadian long-haulers urgently need funding for research, treatment and lost income for the many who are too disabled to work.

Long COVID, as mentioned, is a debilitating episodic illness with symptoms such as cognitive dysfunction like a brain injury, crippling fatigue and post-exertional symptom exacerbation. From toes to testicles to the temporal lobes, nothing is spared. People are unable to stand, walk or even sit up in bed due to POTS-like symptoms and dysautonomia. They are bed-bound, housebound and need mobility aids to move. Basic tasks like showering and getting dressed can cause heart rates to soar for hours.

Few qualify for financial supports. Savings are burned through quickly and people are left in desperate situations. Health care coverage is desperately needed among long-haulers, as many Canadians don't qualify for long-term disability insurance. Because of a lack of PCR testing and not having a positive result, people are denied claims. EI benefits cover only 15 weeks of illness when long COVID is a minimum of 12 weeks just to get a diagnosis.

The impact of financial hardship is extreme. Small businesses close. Jobs are lost. Relationships end. The stress of these great losses makes symptoms worse. It's a vicious cycle. Some long-haulers face eviction and homelessness. They talk of suicide.

We're fired from our jobs for underperforming or not showing up when we are sick. We want to get better. We want to contribute. We want to earn a living. We want to be healthy. We are trying, but we need your help.

Too many long-haulers are not believed. We are gaslit by doctors. We're told that it's all in our head. We're treated like pariahs. We need long COVID to be defined as a disability, so that we can access existing programs and supports. We need emergency benefits that are similar to the CERB, regardless of whether we were employed, in between work, self-employed or an unpaid caregiver at the time of sickness.

Resting and pacing is suggested, but it's not achievable for people who have to pay bills or children to look after. Recovery should not be a lottery for only those who can afford to not work and have significant outside support. While Canada has treatment clinics, there aren't enough to deal with the sheer volume of long-haulers and most of these are capped off at max capacities.

Knowledge of what does and what doesn't work is beginning to develop. It needs to be disseminated. Federal, provincial and territorial governments need to coordinate efforts. A national strategy needs to be committed to by all. Information and knowledge needs to be robust and distributed so that all health care and allied professionals know how to recognize long COVID, treat symptoms and avoid doing harm.

COVID Long-Haulers Support Group Canada has participated in countless studies nationally, internationally and provincially. We have partnered with Viral Neuro Exploration and brain health charities to survey over 2,000 people. We are patient partners. We are advisers. We are in many research projects in this country. We suggest that this be expedited. Robust funding for coordinated longitudinal research needs to be strategized, prioritized and funded. The \$20 million that was given and allocated towards research for long COVID is a great start, but so much more is needed. There needs to be vast funding.

There's a burning need for research and treatment for kids with long COVID. They are under-represented and the least understood. Parents and pediatricians need to be educated to recognize and treat symptoms. Kids are missing out on their childhoods and peer relationships in school through absenteeism. They need special accommodations in school to help them succeed. These needs are urgent and need to be prioritized.

• (1615)

Excellent work is being done. What is lacking coordination of efforts and funding to match the scale of the problem.

Internationally, Canada lags behind its G8 neighbours in commitments to long COVID solutions, but with proportionate funding and a national strategy, we could be the global leader.

The vaccine rollout has proven it is realistic to create partnerships that will address the needs of all long-haulers. On behalf of our nearly 17,000 members and the 400,000 to 1.15 million people suffering with long COVID today, I thank the committee and beseech you to take swift action on these matters.

People do not pretend to be sick. With long COVID, long-haulers are pretending to be well.

Thank you.

• (1620)

**The Chair:** Thank you, Ms. Goulding.

We're now going to begin our rounds of questions, starting with the Conservatives.

Dr. Ellis, please, you have six minutes.

**Mr. Stephen Ellis (Cumberland—Colchester, CPC):** Thank you, Mr. Chair, and thank you to all of the witnesses who came today.

It's certainly a very interesting topic and timely, of course. As we move forward, we'll have to spend more and more time on this topic.

I'd be interested, simply as a comment to Dr. Arts and Dr. Falcone, if you would provide any papers you've authored or co-authored to the committee. I think they would be fascinating for some background reading.

That being said, Dr. Arts, through the chair, you spoke briefly about the interest you have with respect to COVID in the future at some point becoming a nidus for neurodegenerative disorders. I'm wondering if you might enlighten us a bit more on that. Also, you talked a bit about perhaps brain scan changes and some of the agents that may be useful to fight this potential onslaught of neurodegenerative disorders. If you could provide some context with respect to this, that would be great.

**Dr. Eric Arts:** Of course, we all hope that the surge is not coming in anywhere between five and 10 years. We suspect that with early diagnosis of cognitive impairments already observed.... There are a number of clinical studies that have looked at neurological consequences, particularly through neuroimaging. Some of these things can be diagnosed early.

One of the interesting concepts that's emerged in this process is.... It's always been thought that there's a linkage between infectious diseases and, in many cases, viruses. One of the witnesses described HIV. HIV is very unfortunate and leads to a lot of neurodegenerative diseases. We saw that very early on in the absence of treatment. When treatments were available, these different complications that led to many neurodegenerative diseases and cognitive impairments reduced dramatically. Now, in HIV, this is a very uncommon secondary infection and secondary disease.

One of the points with this is to try to identify therapeutics early on with things that we never had in the early days, for example, with HIV infections. There has been an explosion in pharma with anti-inflammatories and immunomodulatory drugs, and even antivirals. You can envision, even though the antivirals that exist today don't necessarily have a great impact in shortening the duration of disease—the COVID infection, that is—they could be instrumental in reducing the inflammatory responses that are likely the triggers for long-term COVID in general, but, in particular, in reducing early-onset dementia and the diseases I described earlier.

We have the opportunity now to screen for these drugs using very sophisticated animal models that have never been available before, specifically in cognitive early-onset...early diagnoses of cognitive decline and impairment. As a consequence, we can start looking at the drugs that are already available to us and try to identify ones that will be effective. Those particular drugs that are most often Health Canada-approved could then be parlayed into clinic trials pretty rapidly, because we are all developing these cohorts of long-term COVID to try to stave off what we see as the coming pandemic.

It's the way we envision this approach. As we screen for these current drugs that we have available to us, we try to identify the pathways leading there and develop much more targeted therapies that can be applied later with, maybe, reduced side effects, for example.

That's the way the academic community that studies this area is envisioning it. Fortunately, we have the tools and investments that were made early on. This is a pretty long-term, heavy financial commitment, but it is one that could save us billions in the future and preserve our health care system.

I hope that answers the question.

• (1625)

**Mr. Stephen Ellis:** Thank you, Dr. Arts.

I think I have one minute left.

Dr. Falcone, you talked about some biomarkers, which I assume will fold nicely into Dr. Art's work as well. Are these new biomarkers things like CRP and D-dimer or ESR, which we already know about?

**Dr. Emilia Liana Falcone:** One of the things we were able to do was systematically evaluate those biomarkers that you mentioned, because they're clinically available and widely used. In our experience, those are not the biomarkers that will aid in diagnosis, so we have to dig a little deeper.

Some of the candidates that we are investigating go into the realm of autoantibodies, but on broad scale levels. We're doing this through collaborations at the international level. There are also elements that have proteomic markers, as well as immunological signatures.

One of the specialties of my research group is to look at the microbiota and some of the metabolites. The microbiota is the community of bacteria that lives in any given area of the body, but we're particularly interested in the community that lives in the the guts.

This has a profound effect on interactions with the immune system, inflammation and immune dysregulation.

The microbiota is another example of a potential biomarker or elements of what the microbiota produces, such as its metabolites.

**The Chair:** Thank you, Dr. Falcone and Dr. Ellis.

Next, we'll go to Mr. Jowhari for six minutes.

**Mr. Majid Jowhari (Richmond Hill, Lib.):** Thank you, Mr. Chair.

Thank you to all our witnesses for coming today.

Welcome back, Dr. Falcone. I'm going to start with you.

In your opening remarks, you talked about agility. You said that's one way we can deal with the aftermath of COVID-19. You specifically talked about the integration of research into what I wrote down as "clinical evaluation". You also said that, if you had time during the questions, you have a number of other ideas you'd like to share.

Here's the platform for you to share those other points of views.

**Dr. Emilia Liana Falcone:** Thank you very much for that question.

What I would like to share are more concrete examples of how we can implement a setting where we integrate research platforms into clinical care.

Based on my experience at the National Institutes of Health, this was something I lived on a day-to-day basis. Concretely speaking, it means that, when a patient is admitted into clinical care—be it an out-patient or in-patient setting—they consent to being part of research protocols from the get-go. These research protocols can be granular, comprehensive and detailed—or not—depending on the infrastructure and resources available. Having the ability to collect clinical information with informed consent, in a way that can be harmonized among different research groups locally, nationally and potentially even beyond, would already be one major step that would, for instance, increase our agility. We would be able to collect and analyze these data in real time and have this information inform our next steps insofar as the pertinence of certain clinical evaluations and how comprehensive they need to be.

We know that patients with long COVID, when they're not in a long COVID referral centre where there is an awareness and acknowledgement of the disease, are often bounced around among different specialists, leading to lots and lots of tests. Some are helpful and some are not. This is a huge waste of resources and time, and of patient energy, as we heard from Ms. Goulding. Small efforts can translate into big functional setbacks for these individuals.

That's one example.



If we add another layer to that and collect biospecimens, there's a lot we can do with just one tube of blood: genomic evaluation, gene expression data, or looking for biomarkers—a lot of these are easily found in a substrate of a blood sample, such as the plasma or serum. It's in small amounts with our current technology. All of this can be harnessed into improved clinical care and possibly more rapid identification of new therapeutic targets.

We speak a lot, at least in Quebec—and I'm sure in other areas, as well—of analyzing big data, artificial intelligence and harnessing this kind of ability for us to learn better. One thing you need for these kinds of scenarios is a lot of data. You need to have access to those data in a way the patient is aware of and has consented to. The only way to do that is to start collecting it from the beginning.

• (1630)

**Mr. Majid Jowhari:** For collection of those data.... One can talk about regulation, but I think patient consent and educating the patient at the outset are key determinants, wouldn't you say?

**Dr. Emilia Liana Falcone:** Absolutely. The more individuals are informed and understand the implications, with all the right security measures and protections of confidentiality, of course, which are absolutely key.... In my experience, I find that—and perhaps Ms. Goulding can speak to this from other experiences—when we involve patient partners, there's a keen interest in participating in the improvement of care. We often find that patients are really enthusiastic and want to see change.

**Mr. Majid Jowhari:** Thank you.

I have about a minute. I want to go to Dr. Arts.

Dr. Arts, I'm not a medical doctor, and I don't have any medical background. I come from a management consulting background, and I always ask some fundamental questions. Does being vaccinated or not vaccinated have an impact on an individual's ability to develop long COVID and, even when they develop long COVID, an impact on whether it could be treated with different therapeutics?

**Dr. Eric Arts:** That's another good question. I also am not a medical doctor, but I can give you my opinion based on my knowledge.

One of the things we need to ascertain and understand more clearly is whether, if you get infected with different variants...because specifically with omicron it's quite a different type of viral infection, and we don't yet know how that's going to impact the development of what we call “short-term long COVID disease” and potentially “long-term long COVID disease”. That's one aspect we have to understand.

The other thing is how vaccination mitigates the development of long COVID when you do get infected. We know that if you have been vaccinated the severity of disease is reduced when you get infected—and now more so with omicron, which tends to be a wimpier virus in terms of pathogenesis. But we still don't understand fully how that's going to impact specific cues that establish what would be cardiovascular complications, which further link to cognitive impairments and any other neurological diseases that a lot of people are suffering from.

Those studies still need to happen, but I don't think we should wait in our development of therapeutics to try to define all the characteristics. We should be embarking on therapeutic development and testing as soon as possible. Because it's a longer manifestation of disease, we need to be looking at ways to cut it off at the knees, if you will.

That's my interpretation. I do agree with Dr. Falcone that cohort development at the same time you're dealing with drug testing, specifically those drugs that are already available, is going to be essential, because you need to be able to parlay that immediately into a phase two off-label clinical trial. Then you can see pretty rapid use of that in the clinic to potentially negate these long-term effects.

For all of what we're talking about there has to be a somewhat coordinated response, and a lot of countries in the world are grappling with how to deal with it. I'm surprised at how much progress we've already made in that development, and I think we stand a good chance of leading the world in that regard.

• (1635)

**The Chair:** Thank you, Dr. Arts and Mr. Jowhari.

[*Translation*]

Mr. Garon, you now have the floor for six minutes. I'm happy to see you again, and I hope you're doing well.

**Mr. Jean-Denis Garon (Mirabel, BQ):** Thank you, Mr. Chair.

The COVID-19 symptoms were short-lived, perhaps because of the vaccination. So I encourage Quebecers and Canadians to get vaccinated. But you already know that, Mr. Chair.

I'm going to do something I rarely do, which is to continue along the same lines as the last question. Obviously, I am also interested in the link between vaccination and the likelihood of contracting long COVID-19 and of experiencing symptoms of varying severity. I thought I noticed some non-verbal signs from Dr. Falcone that she might want to add a comment to Dr. Arts's analysis of this.

I'll give you the floor, Dr. Falcone.

**Dr. Emilia Liana Falcone:** Actually, this issue is of great interest to us, first of all, because it could give us a renewed optimism. It would also give us a better understanding of the pathogenesis of long COVID-19.

As far as the numbers are concerned, studies in the United Kingdom suggested that vaccination reduced the risk of long COVID-19 by 50%. It was very optimistic indeed. Then another study from the United States suggested that the risk was just under 50%, so 15%.

Of course, studies have their limitations, and each is based on data that differs from study to study. That being said, what we are finding is that vaccination could be beneficial. We know that, first, people who don't get COVID-19 are less likely to get long COVID-19. Second, people who don't have serious illnesses that could lead them to intensive care or hospital admission on a regular basis have a better chance of avoiding the very distinct complications that affect the group of people with serious illnesses.

For the remaining 90% of those with COVID-19 who were not hospitalized, there may be a decrease in the number of long COVID-19 cases, but it doesn't go away. So there is certainly a need for other approaches and treatments.

Another important question to ask is what would be the effect of the treatments used in the acute phase of COVID-19 in terms of possibly decreasing the chances of the person having long-term complications.

**Mr. Jean-Denis Garon:** I'm thinking of the famous drug PAXLOVID, which pharmacists in Quebec are allowed to prescribe in certain circumstances.

Are there any studies showing that more frequent use of this drug could reduce the incidence of long COVID-19?

Could this be one of the treatments you mentioned that doctors are already using in the acute phase of the disease?

• (1640)

**Dr. Emilia Liana Falcone:** It's possible, but we don't have any data on that. We have data on the decrease in the risk of developing a severe form COVID-19 or dying, but the consequences for less severe cases in the acute phase have yet to be determined. Consideration should also be given to the prophylactic effect this could have after exposure to COVID-19. It is a very interesting hypothesis that should be studied.

Another question is whether PAXLOVID could treat long COVID-19. That's another issue that certainly needs more study. For the moment, what we are seeing are anecdotal situations that seem to indicate, in some cases, that there might be an improvement in the symptoms, but we don't know how long that improvement will last.

**Mr. Jean-Denis Garon:** Thank you, Dr. Falcone.

There's a question that's been on my mind. There's a popular idea floating around that long COVID-19 doesn't really exist. There seems to have been even more doubt about it than about the existence of the virus itself.

Can you tell us how such ideas came to be circulated?

How has our knowledge of the long version of the disease evolved?

**Dr. Emilia Liana Falcone:** Ms. Goulding raised some very interesting points about this. There are still doctors who don't recognize the disease. There are still patients who have a certain amount of doubt. This is unfortunate because it interferes with the management of these patients, and it affects their return to work, their sick leave, and so on. All of this compromises their ability to function, of course, and their recovery.

So there has been an evolution, but there is still a way to go in terms of raising awareness about long COVID-19.

**Mr. Jean-Denis Garon:** Is this because the symptoms themselves are poorly recognized? We know that they aren't very different from those of COVID-19. How do you explain that? Is there a lack of clinical criteria for doctors?

When you talk about awareness, what do you have in mind? Are you thinking of better communication with physicians, as circumstances are changing too quickly?

**Dr. Emilia Liana Falcone:** There are several factors to consider.

Many symptoms are associated with long COVID-19. As mentioned earlier, some of these symptoms are common with other diseases.

You really have to assess the whole patient. You have to look at their medical situation before and after the infection. In order to make a diagnosis, you have to understand how that person's condition has evolved. At the moment, it's difficult to make a diagnosis, and that's a problem. The patient must have at least one symptom that persists for two months. However, symptoms can fluctuate over time and can even occur after recovery. They may occur after a month or three months, depending on the definition used.

Diagnosis is complicated for physicians who are unfamiliar with the symptoms and the tools that can help them assess some of the less obvious symptoms. Diagnoses such as postural orthostatic tachycardia syndrome, which has already been mentioned, require expertise.

When physicians don't necessarily have that expertise, we need to find ways to equip them. Otherwise, they need to be told what resources they can refer their patients to and where those patients can really be assessed in their entirety.

**Mr. Jean-Denis Garon:** Thank you, Dr. Falcone.

**The Chair:** Thank you, Mr. Garon.

[English]

Next we have Mr. Davies, please, for six minutes.

**Mr. Don Davies (Vancouver Kingsway, NDP):** Thank you, Mr. Chair, and thank you to the witnesses for being here.

Dr. Falcone, just so this is clear to me, is there a standard clinical case definition of "long COVID"?

**Dr. Emilia Liana Falcone:** Yes, there is the one that was established by the WHO.

**Mr. Don Davies:** Has the Canadian medical establishment adopted that definition?

**Dr. Emilia Liana Falcone:** We usually point to it. There's also one that was established by the CDC, so we tend to observe both definitions. It just becomes a question of whether you use the cut-off of four weeks or 12 weeks, and this is really something of debate, because you do see a lot of improvement between four and 12 weeks for a subset of patients. Almost 40% to 50% have this improvement, but then you're left with this other significant chunk of patients where COVID persists for a long time.

As you go beyond that 12 week cut-off, you start to see that the curve plateaus, and then you see what really looks like the phenomena that is a chronic illness.

• (1645)

**Mr. Don Davies:** What I'm trying to get a handle on is that long COVID seems like it's real. I'm just wondering if it's recognized by the medical profession in Canada to the degree that it needs to be.

**Dr. Emilia Liana Falcone:** It is recognized, like we've mentioned, but probably not to the degree that it needs to be in the sense that, like I said, I think there needs to be more education.

When we are in certain circles, we do see there are lots of doctors who are familiar with long COVID, but I still hear stories, including from my own patients, where it's not being considered or there's uncertainty. It's not as well known as other diseases; it's still really new.

**Mr. Don Davies:** Dr. O'Brien, as close as you can, what percentage of Canadians have had COVID-19, and what percentage of those have experienced long COVID?

**Dr. Kelly O'Brien:** Thanks very much for the question.

I do not know off the top of my head how many Canadians have had COVID, but in terms of some of the data on the prevalence rate, it's been estimated that anywhere from 10% to 30% of individuals can develop long COVID, and a lot of it is variable, depending on how the literature defines long COVID.

As Dr. Falcone mentioned, there was a rapid review done in Ontario looking at a high-level review of evidence of the prevalence of long COVID, and it included a number of systematic reviews with over 10,000 patients, and concluded a pooled, estimated prevalence of 51% to 80% of long COVID.

Now, the definition they used for that rapid review was for anyone who experienced a symptom at four weeks. As was mentioned earlier, the World Health Organization defines long COVID as symptoms that persist after 12 weeks, and do so for a duration of two months. I think that's why we're seeing so much variability in the prevalence. There really hasn't been a universally adopted definition of long COVID.

**Mr. Don Davies:** Ms. Goulding, it's funny, but in preparation for this meeting I've been on social media and there's an unbelievable counter-reaction, it seems, to people who are suffering from long COVID.

I'm wondering if you could outline for us some of the impacts that this stigma—I think you used the term gaslit—is having on long COVID patients across Canada.

**Ms. Susie Goulding:** It is critical, and it is causing damage to being able to recover. If you don't have a doctor who can diagnose

you or who believes that you have these issues, they're not going to be giving you support and sending you on to the specialist you need.

What I wanted to mention was that in the beginning of the pandemic the focus has always been on deaths and recoveries, and long COVID has always missed the mark in being part of the conversation, so this goes way back, and it's why there is little information. As Ms. Falcone was saying, doctors at this point today are still under the assumption that long COVID doesn't exist in some smaller...areas. You'll have to excuse me; I have issues with my brain after having COVID and with long COVID, and I struggle to find words sometimes, so the word slips me there.

The point that I'm trying to make is that it is very difficult without the support of a doctor and without the doctor having knowledge, and this is one of the huge issues that patients are having: finding a doctor that has information and has basic knowledge on how to recognize the symptoms, because we don't have a positive test result to go on. It needs to be a clinical diagnosis, but if the doctor doesn't have an understanding of what they're looking for or how to diagnose properly, or of the channels of treatment and where to send us, then we don't have a hope of recovering or of being heard. This is where depression and anxiety start to fester, and people are left without supports, not even being able to cook or clean, or just being disabled, without functionality in society.

It's a really vicious circle, like I mentioned. I think one of the most important things is that doctors really need to have an understanding. This information flow needs to start from the federal level, and it needs to be broadly disseminated so that they can recognize this.

• (1650)

**The Chair:** Thank you, Ms. Goulding and Mr. Davies.

We will go back to Dr. Ellis for five minutes, please.

**Mr. Stephen Ellis:** Thank you, Mr. Chair. I appreciate that.

One of the things in medicine that we need to learn from is to have a patient-centred focus and, Ms. Goulding, thank you for being here.

We've just finished a health human resource study. One of the concerns I have is about not only finding a physician or health professional who believes your diagnosis, but actually accessing a health professional at all. Is this something that you've heard from your members has been a difficulty?

**Ms. Susie Goulding:** The words I was looking for were “rural communities”.

Yes, absolutely, that's a problem. People in the Northwest Territories, Yukon, isolated communities and indigenous communities, people out east in the Maritimes and in provinces and places that haven't had a large case count of COVID don't go on to have an understanding of what long COVID is, because in the beginning they just didn't have the case count. They just didn't have the experience of seeing it in their communities, but now this is changing with the broad infection from omicron. People everywhere are getting infected and children are getting infected.

Yes, it is a disability to not be in an urban community to have access to care, to have access to doctors who have knowledge and to have access to actual rehab centres, because the centres that you see are provided to communities with high case counts in urban centres.

**Mr. Stephen Ellis:** Thank you very much.

That makes perfect sense.

Mr. Chair, through you, once again to you, Ms. Goulding, just to be clear, oftentimes in committee and in government we work really much better with just a few simple things. Could you give us three top things of what you would like to hear from a patient's perspective of what you think we could do?

I understand that perhaps you don't always understand how the government works, and that's no problem, but if you could, just give us three things and say, "Hey, here's what I think the government should do: A, B and C." Could you tell us what they would be?

**Ms. Susie Goulding:** Thank you so much for your understanding.

What I think would be really meaningful to long-haulers would be the acknowledgement and messaging in public health and across the nation that long COVID is an issue, that it does exist and that people need to take the necessary precautions not to catch COVID so that they, in turn, don't catch long COVID because it's not a thing that you want to mess with and you certainly don't want to have your life thrown to the wind because of this virus. That would be number one, the messaging.

Number two is definitely funding research. This is really a top priority, and a plan of execution needs to be made to coordinate all of the provinces and territories to really put a focus on this, prioritizing it. We need massive funding. The studies that are being done now with the \$20 million that is allocated can end up being piecemeal studies, whereas we need large longitudinal studies that will really look at the underlying mechanisms of what long COVID is. We need clinical studies set up. That's very important. That's number two.

Number three would be the treatment of long-haulers. It needs to be accessible to all. This is an issue, a challenging issue, with the health care communities running on empty right now, and to bring long-haulers in on top of that is a crisis. It needs to be expedited and really looked at through a magnifying glass in terms of how critical this is. There are studies out of Australia that are already noticing the effects on their economy. The workforce is being affected and women are disproportionately suffering from this disease and are falling out of the workforce. These are caretakers, families, caregiver roles, just everything is being affected.

Those would be my three points.

• (1655)

**The Chair:** Thank you, Ms. Goulding and Dr. Ellis.

Next we're going to go to Dr. Hanley, please, for five minutes.

**Mr. Brendan Hanley (Yukon, Lib.):** Thank you to all of the witnesses for your testimony, and particularly you, Ms. Goulding,

for having your personal experience and your advocacy, despite your own challenges. It's fascinating and so important to hear your testimony, but I'm going to give you a break.

Dr. Arts, you talked about the advantage that we have, with so many people infected, as a kind of potential for cohorts. But I'm going to pivot to Dr. Falcone for now and ask if it is also a disadvantage that COVID is now becoming so common? I think I know more people who have had COVID than have not. Maybe I'm mixing in the wrong crowds. Personally, I've been spared so far, but is long COVID clinically distinct enough that we will still be able to recognize it given the increasing prevalence of people who have had COVID, or will we really be dependent on that search for biomarkers?

**Dr. Emilia Liana Falcone:** I think we will certainly be able to distinguish the patients who have long COVID from the patients who had COVID but did not develop long-term symptoms, although that becomes even more concrete when you look at the evolution over time, because not everyone will go on to develop long COVID exactly at the same time point, or the symptoms might not be picked up or diagnosed at exactly the time point that one would want.

Of course, with the fact that there are more and more cases of COVID, what you lose is the cohort of patients who never got COVID, so your negative controls so to speak, which help you understand a little bit, tease out some of the background of the infection itself and how that distinguishes it from long COVID. That being said, this highlights all the more the need for, yes, larger cohorts that are followed longitudinally and, yes, diagnostic biomarkers. But the diagnostic biomarkers will have another purpose as well. They may help tease out the diagnosis of long COVID from other illnesses that have some similarities or some overlap. They will also be a support for the clinicians who might not be able to fully grasp all of the symptoms and all of the nuances of this complex entity. It's in that sense, too, that we would like.... People deal well with an objective finding, so if we could find that, it would be helpful.

**Mr. Brendan Hanley:** Yes, and it was more in that latter category of people presenting with non-specific symptoms who may have had COVID, how to distinguish the long COVID from perhaps other syndromes for which we as clinicians have always had to tease out what's going on, especially when we're talking about therapeutics.

I want to use my remaining time to turn to Dr. Arts. It's really interesting to hear your observation about the postpandemic effects and how you see a peak of neurodegenerative diseases in the years following. Surely we must then be seeing that with seasonal influenza and looking for connections. I know that perhaps we are seeking to better define the connection. I'm wondering if you could comment on that relationship. What is the common path of physiology potentially between influenza and neurodegenerative diseases and COVID and neurodegenerative diseases? Is it the inflammatory response? Given that they're very different viruses, is there something else, or is that still what we're looking for?

• (1700)

**Dr. Eric Arts:** It's always confusing. When we talk about seasonal flu, we kind of lump them together because it happens so frequently. If you go back into a person's lifetime and see that they developed early-onset dementia or Parkinson's, they may have had several episodes of flu, so you don't definitively know. The difference with what happened in 1918 or 1957 or 1964 was that those were more large antigenic shifts, so our immune systems don't recognize them as well. There's a greater chance that we have a higher level of inflammatory responses with the infection and that respiratory infection with inflammatory responses often trigger neuroinflammation responses that can lead to this type of progression.

What I was referring to is that we've been studying—and I'm new to the neurosciences field to a certain extent, and I've gotten a rude lesson, if you will—neurodegenerative diseases for 30 years, and in that period of time we've never developed a treatment that dealt with early-onset aspects of diseases. Now we have something that occurs a little bit earlier, that is not approved in this country, but when you look at it, our drug development pipeline for Alzheimer's and Parkinson's is very, very poor as compared to that for other diseases, and that's because we can't define when the triggers have occurred.

We know what's happened in the past and know what potentially happens now and even the signs and symptoms that we're discussing today in the near term for long-term COVID, which are already causing pretty significant cognitive impairments and which are possibly also associated with the advancement of even cardiovascular diseases, clots, etc. What we're looking at is the ability to define the disease and the triggers and then to make some inroads in treatment, especially now that, again—and this is hard to share—we have these amazing animal models in which we can induce the same diseases. We then apply touchscreen cognitive tests in those animals the same way we do in humans, with the same types of tests, and then look at the treatments that might be available already—and how they might impact mouse studies, for example—and then apply them to humans, especially with approved drugs. These are types of things we can never study unless we know the trigger and, of course, establish what those biomarkers are.

One of the things I fear is that a lot of biomarkers can be very hard to assess, as Dr. Falcone indicated, and the other thing Ms. Goulding indicated as well was the availability of those diagnostic and disease-monitoring tools. I think we'll have to be relying on neurological imaging quite a bit in diagnosis, disease progression and the effects of treatment.

**The Chair:** Thank you, Dr. Arts and Mr. Hanley.

[*Translation*]

Go ahead, Mr. Garon. You have two and a half minutes.

**Mr. Jean-Denis Garon:** Thank you, Mr. Chair.

Ms. Goulding, I found your testimony very moving.

The Bloc Québécois has been working very hard for several years now to extend the period of EI benefits to 50 weeks for certain serious illnesses. The House of Commons also passed a motion to that effect. The House of Commons is currently considering Bill C-215, which seeks to extend EI benefits to 52 weeks.

Do you think this measure could help people suffering from, for example, the most severe form of long COVID-19 to care for themselves with more dignity?

• (1705)

[*English*]

**Ms. Susie Goulding:** Thank you for asking me this question, because I really dropped the ball on the other question that was asked of me.

Benefits are needed, yesterday. People are suffering. They're losing their homes. They can't provide medicines for themselves. They can't eat properly. They're eating Kraft dinner. It's catastrophic. Benefits, benefits, benefits, definitely, and 55 weeks would really help.

It almost seems as if the people who are able to rest in the acute stages of catching COVID may be the ones who recover better. Pacing is recovery. The more you can rest, the more you can pace yourself. By pacing, I mean, doing only what your body tells you that you can do. It's like looking at your day with a battery that's half full, and being able to do only what that allots you to do, with only half the energy that you would normally have. That's how you have to go about your day, and get everything done. You have to prioritize.

Definitely, 55 weeks would be a great help, because if we were to provide aid to people who were trying to recover, they would not have to worry. They could take the time they need. They wouldn't have the stressors that were making things worse. They could relax, and take the time they need. Maybe this could be the difference; it could be the difference.

Thank you so much for asking this question. Yes, absolutely.

[*Translation*]

**The Chair:** Thank you, Mr. Garon.

[*English*]

Next, we have Mr. Davies, for two and a half minutes, please.

**Mr. Don Davies:** Dr. O'Brien, my information is that women appear to be disproportionately affected by long COVID by as much as a 4:1 ratio. Is that correct? If it is, are there any theories about what might explain that disproportionate impact?

**Dr. Kelly O'Brien:** Yes, sex is a predictive factor, when it comes to experiencing long COVID. There are hypotheses on that. There is some evidence to suggest what might be a predisposing factor, placing someone at a higher risk of establishing long COVID. One of those is an autoimmune condition. Women have a higher rate of autoimmunity, so there is that linkage there.

I see Dr. Falcone nodding her head.

The other hypothesis is that women tend to be in employment situations that placed them at higher risk, so personal care workers, education workers, other health care workers who didn't have the ability to take the time off, as Ms. Goulding mentioned, to have purposeful rest and recover during the acute phase of COVID, and didn't have the opportunity for sick leave or benefits, for example. There is that hypothesis as well.

**Mr. Don Davies:** Is there any linkage between the prevalence of long COVID and vaccination status?

**Dr. Kelly O'Brien:** That's a very good question, and the evidence is still emerging, as Dr. Falcone mentioned. Initially, there was some promising evidence to suggest that vaccination does have a protective effect against long COVID, but most recently there was an article that came out in *Nature* at the end of May suggesting that vaccination was only partially protective against long COVID. The evidence is still emerging, and time will tell as the evidence further emerges.

**The Chair:** Thank you, Dr. O'Brien.

Next is Ms. Goodridge, please, for five minutes.

**Mrs. Laila Goodridge (Fort McMurray—Cold Lake, CPC):** Thank you, Mr. Chair.

For those of you who follow along at home, one thing you perhaps don't see that happens at the health committee is that we receive a large number of briefs from individuals from all across the country, who share their perspective on a variety of things we study. I think it would be fair to say that this particular study has received a very large number of briefs. It seems that just about every day, or at least every Monday, we have a pile full of briefs. I want to let everyone who is following at home know this, especially those who have written and sent in those briefs. At least, my colleagues from the Conservatives—I see some heads nodding—and, I believe, just about everyone takes into consideration all of those written briefs we've been receiving.

There was one today that hit me probably a bit more than others, because it's so similar to so many of the emails I've received at my constituency office. It was one that talked about someone who was unable to fly due to ongoing travel restrictions and, as a result, she was going to miss a family funeral. Funerals are such emotionally charged moments in people's lives. To me, it's really sad that these travel restrictions are having such a huge impact on so many people's lives.

As a result of some of these briefs, I would like to move:

That the committee is of the opinion that travel mandates in relation to COVID-19 be lifted immediately; and that the chair report this motion to the House at the next available opportunity.

● (1710)

**The Chair:** There has been no notice provided for the motion, so we can take this as a notice of motion and bring it forward at a later date.

**Mrs. Laila Goodridge:** Mr. Chair, I am of the understanding that as long as a motion is related to what we are currently studying, it is in order.

**The Chair:** I take your point. The motion is in order. We are now obligated to debate the motion, unless you want to defer it so that we can hear from the witnesses. It's properly before the committee, so unless there's a motion to table it, the debate is now on the motion. The floor is open.

Go ahead, Dr. Ellis.

**Mr. Stephen Ellis:** Thank you, Mr. Chair.

This is perhaps somewhat unexpected. That being said, I think it's important that this committee understand the nature of the multitude of illnesses that exist with respect to COVID-19. Today we've heard some witnesses and experts with respect to long COVID and the devastating impacts that creates for Canadians.

We know from some of the papers that Dr. O'Brien has sent out that using multidisciplinary committees to begin to understand long COVID and the vast array of symptoms that can come along with it are very important. I would certainly suggest that another illness coming along with COVID is the desperation, depression and anxiety that exists with the inability to be reunited with loved ones, whether it be related to a funeral, as my colleague mentioned, or to the inability visit those who are near and dear to us. We realize there are a multitude of Canadian out there who are, of course, choosing for their own bodily autonomy to not be immunize and are unable to access air, rail and sea.

Although, we do know from recent comments in the House that there are folks who are not immunized who are able to access air, rail, and sea, which creates this distinct disadvantage for some within Canada. That, of course, is not the style of society that we are attempting to create here.

The other point that's very important for people to begin to understand is that for folks out there who have significantly waning immunity after perhaps six months after their third dose, we know the likelihood of them being protected against infection is small. In fact, those out there who are not immunized, but who had a rapid antigen test or even a PCR test before travel would indeed be safer to travel than with someone such as myself, who has a multitude of COVID shots and is not required to have any type of testing before I access any type of public transportation.

This inequity, I believe, is worth addressing. What better place to address it, sadly, than here in the Standing Committee on Health? This is an important issue that has been brought up in the House, but we've certainly not been able to sufficiently and adequately address it amongst members in a cohesive fashion to really point out the inequities of Canadians who are unable to access public transportation. In a country the size of ours, the expectation that they should drive around this country is really rather unfair.

The other thing that's important to consider, Mr. Chair, is that these individuals would also be unable to even leave this country, if they have such a desire. That creates a significant issue for them if they were not immunized. They couldn't access the United States and they couldn't access transportation. I suppose if they bought their own boat they could go somewhere else. This creates an inability not just to travel inside their own country, but to actually leave a country where they may disagree with many of its policies, especially this particular one on public health. It effectively traps them inside their own country, which is really something we've never seen or heard of before for folks who are not incarcerated.

The other thing to point out would be to say that this would probably affect about 15% of Canadians, given that 80% of folks would have had two doses of vaccine. I would suggest to the committee members that 15% of Canadians is not an insignificant number of people who have chosen not to be fully immunized, by the current definition.

That being said, I think this is a motion that some may see as inopportune. However, we do continue to study COVID-19 every other meeting in this committee.

Mr. Chair, I thank you for your time and for your indulgence.

• (1715)

**The Chair:** Thank you, Dr. Ellis.

Mr. Davies, please.

**Mr. Don Davies:** Thank you.

First off, I'm not sure I disagree that this is an issue that the health committee should look at. I would point out for anybody watching this that this is identical to a motion that was tabled in the House of Commons, and we had a full day of debate on whether or not we should remove travel restrictions and mandates. It doesn't mean this can't come before the health committee, but we have had a full day on this with lots of points made on it.

I also empathize very much with a part of the travel mandate aspect, in that I would be happy to examine the science and data on whether or not requiring people to be vaccinated before they travel on federal transportation services is backed up by the data. I think that's a fair question. I certainly have seen data that suggests that the science may not support any rational connection between that anymore.

One of the problems, of course, when we say that we should remove all travel mandates is that we're also including a mask mandate in that, which I think is a very different matter. I personally think that the science behind masks as being somewhat effective in stopping the spread of aerosolized, droplet-based illnesses is very strong.

That's why I generally oppose any kind of attempt to get rid of all mandates on federal transportation, because it fails to make that distinction between a requirement to be vaccinated versus to be masked or even, for instance, requiring foreign travellers to be vaccinated before they come to Canada, which has a different impact. We don't want foreign travellers to get sick in Canada and then necessarily put a burden on our domestic health care system.

Having said all of that, I am a little disappointed that this motion was made with 50 minutes to go. I think it's disrespectful to the witnesses who are here for this whole committee. This committee had an entire discussion about how we would allocate our time, and we agreed that this meeting would be dedicated to long COVID and to COVID treatments, which are two very important issues. I certainly think we can have this discussion on this motion, but I would suggest we do it on a different day when we can all be prepared for it.

For the record, by the way, I don't think the motion should have been in order, because I had no notice of it and had no opportunity to prepare for it. Although it's generally under COVID, we're talking about mandates that are basically made at the transport ministry, not the health ministry. It's a very tangential connection and very weak nexus between that issue and studying COVID, in my view.

I respect the fact that the ruling has made, and I'm going to move that we table this motion so that we can hear from the witnesses here for at least the last bit of the meeting.

I move that we table the motion.

• (1720)

**The Chair:** Okay, so a motion to table is tantamount to a motion to adjourn debate, which is not debatable, so we'll proceed directly to a vote. I presume that we'll need to do it by a standing vote. I doubt there's consensus on this point.

Mr. Clerk, please take the vote.

(Motion agreed to: yeas 7; nays 4)

**The Chair:** Thank you very much, Mr. Clerk.

Thank you very much for your patience, witnesses.

We're going to continue now with rounds of questioning, and it is the turn of Ms. Sidhu, please, for five minutes.

**Mrs. Laila Goodridge:** I believe that I have time left.

**The Chair:** No, your time has been well used.

Ms. Sidhu, go ahead, please.

**Mrs. Laila Goodridge:** I do believe that I have time left, as my time gets frozen once I move a motion.

**The Chair:** Your time doesn't get frozen when you move a motion. You decided to use your time for the motion. Your time is up. In fact, it's well past the time.

I recognize Ms. Sidhu.

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

Dr. Arts, you said that biomarkers are hard to assess. However, waste-water surveillance has become a useful tool for detecting variants and informing public health decisions on COVID-19. Can you please expand on how this important tool is being used? Is the data available to the public?

That's for Dr. Arts or Dr. Falcone.

**The Chair:** I think Dr. Arts is trying to answer the question, but nobody can hear him.

Go ahead.

**Dr. Eric Arts:** Oh, geez; you'd think I'd know after a few years of this.

What I was saying that was all of the data on the waste-water surveillance, in particular the viral load assessments, is provided to our regional public health units but also to Public Health Ontario and the Public Health Agency of Canada. It's used in assessments for public health policies across Ontario. Similar systems have been set up in other provinces as well.

In addition to that, we do assessments whenever there is a high level of SARS-CoV-2 in the waste water at ports of entry, and then also in large urban areas where we're assessing this through Health Canada. Three groups—University of Waterloo, University of Guelph and Western University—do that surveillance. That is a more in-depth analysis of what types of variants are circulating in the population and the proportions of those variants.

That information is shared, again, with the Public Health Agency of Canada, the public health units and Public Health Ontario. There is an attempt to provide that information through the Ontario science table. It's a little bit more complicated in terms of its reporting. We hope that the information will be shared.

There is some confidentiality in relation to that information that is assessed. That is more in relation to understanding when something is coming into the country and how it spreads. That is up to the Public Health Agency of Canada to assess and determine when they want to release that information.

● (1725)

**Ms. Sonia Sidhu:** Thank you, Dr. Arts.

Dr. Falcone, we all know that long COVID-19 has a long impact on some chronic diseases. What kinds of impacts do you feel there are or you see on such chronic diseases as diabetes or mental health, but especially mental health? How has it gotten worse? How is long COVID impacting those populations?

**Dr. Emilia Liana Falcone:** Well, for one, both of the chronic illnesses you mentioned are risk factors for long COVID. For those who get long COVID and who have these pre-existing chronic illnesses, we can see exacerbations. For diabetes you could see an exacerbation in the acute phase, and there could be issues with glucose management more long term. With mental illness, we certainly see a worsening of symptoms. Of course, this is multifactorial, but certainly there's an impact from just not being able to recover. People find it very discouraging. When you compound that with issues of sleep, for example, all of those are ingredients for deterioration in pre-existing mental illness.

**Ms. Sonia Sidhu:** Thank you.

COVID-19 has highlighted new and existing issues that make it a challenge to collect, access and share health data for the benefit and use of Canadians. I know that in the mandate letter of the Minister of Health he was tasked with working with the provinces and territories to create a “world-class health data system” for Canada.

Would you have any recommendations with regard to the development of a pan-Canadian health data strategy to improve Canada's health care data system?

**Dr. Emilia Liana Falcone:** I think that, certainly, such an infrastructure could definitely be beneficial.

**The Chair:** We can't hear you, Dr. Falcone. I don't know if...

Dr. Falcone, I don't think it's on your end. I think it might be on ours.

Can you try it now, Dr. Falcone? That's perfect.

Go ahead with a brief answer, if you could.

**Dr. Emilia Liana Falcone:** I think, briefly, one way that would ensure the success of such a mandate would be to have a committee that includes representatives from all of the provinces and territories, and in different disciplines, so we could come together and come up with protocols and infrastructures that are consistent and coherent across the country.

● (1730)

**The Chair:** Thank you, Ms. Sidhu and Dr. Falcone.

Next we're going to go back to Ms. Goodridge, please, for five minutes.

**Mrs. Laila Goodridge:** Thank you, Mr. Chair.

Thank you to all of the witnesses for all of the work you've done. I think it's really important.

I just do want to apologize, I know that you have worked very hard on this. I was moving a motion as is the prerogative of this committee and sometimes that's what happens.

I specifically want to ask some questions of Dr. O'Brien.

I think the way you laid out the six lessons for COVID-19 really made sense in my head, and I was just wondering if you could simplify any further, or if you had any points that you think are truly important for policy-makers in this country to bring forward as we go through as COVID goes on.

**Dr. Kelly O'Brien:** I think recognizing the role for rehabilitation first and foremost in the context of long COVID is important, and then, secondly, ensuring access to rehabilitation services for those living with long COVID and ensuring that the access is equitable.



I think we're all on a learning curve, and speaking from my profession of physiotherapy, this is a time where we are growing and learning as the evidence emerges. For example, rehabilitation is not just exercise and does not just have to do with physical activity, and we're learning that depending on the path of physiology of long COVID—

**The Chair:** Dr. O'Brien—

**Mrs. Laila Goodridge:** Just hold on one quick second because we're not hearing you in the room and I'm not sure—

**The Chair:** We're having the same technical problem we're have with Dr. Falcone.

We're hearing you in the room but only through the earpieces and not in the speakers in the room, so it's on our end and not yours, so bear with us please.

**Dr. Eric Arts:** I just wanted to ask Ms. Goulding a quick question.

Would you mind, if you're interested, send me an email address because we are trying to engage some patient advocacy groups, and I'd really appreciate that.

**Ms. Susie Goulding:** Yes, absolutely, my pleasure.

**Dr. Eric Arts:** Thank you.

**Ms. Susie Goulding:** Thanks, Eric.

**The Chair:** Ms. Goulding, you should be aware that we are in public right now so you may want to do that privately unless you want everyone who is watching the webcast to get the answer to that question.

**Mrs. Laila Goodridge:** Ms. Goulding, I would highly recommend that you not share your email address.

**The Chair:** Ms. Goodridge, we're still having the technical difficulties.

We're going to suspend for three minutes to see if we can get this resolved.

• (1730) \_\_\_\_\_ (Pause) \_\_\_\_\_

• (1735)

**The Chair:** I call the meeting back to order.

Colleagues around the table, if you're having any trouble hearing the witnesses, if you plug in your earpiece, you will be able to get them through your earpiece.

When we left off, Ms. Goodridge was just starting her turn.

Ms. Goodridge, you have the floor.

**Mrs. Laila Goodridge:** Thank you, Mr. Chair.

Thank you to the witnesses.

I think that very brief informal conversation we had with Mr. Arts and Ms. Goulding goes to show how little information is, in fact, out there on the COVID long-haulers and some of that idea.

Ms. Goulding, I think you have spoken extremely eloquently thus far even though you've apologized a few times for having words escape you. From my perspective, you've done an exception-

ally good job at explaining this, and I am wondering if there's anything else you want to leave with us as a committee to consider as we go forward with this. We will be forming some recommendations at some point when this committee wraps up this study, and I think your perspective, since you are someone with lived experience, is extremely valuable.

**Ms. Susie Goulding:** Thank you so much.

I think what's really important to remember is that we're all Canadians. We all need support together. We need to support one another. As we said at the beginning of the pandemic, no Canadian will be left behind. I think we need to honour that and address the issue of people suffering with long COVID and really support their needs financially, with respect to getting access to care and definitely by trying to get to the bottom to figure out the underlying mechanisms of what's causing this disease and these terrible symptoms that people are dealing with. People really are losing their lives. It's quite a serious issue, and what's terrifying is that it's so unknown to such a large percentage of the population that this could possibly be an outcome of having COVID. People really need to protect themselves.

I think messaging is really important with public health to help people understand what we're going through, to deal with our situations with compassion and to really want to help one another to get through this situation. There is strength in numbers, and we are only going to get through this together. Fantastic outcomes can come from new discoveries with respect to chronic illnesses that people have been suffering from for years on end in other communities because there are many aspects that are overlapping with other illnesses in different communities. This research could be game-changing for millions of people. Funding for clinical research is important as is support for long-haulers so they can live and recover and get back to being productive citizens of society. We all just want to get back to work. We want to enjoy the things in life that we used to enjoy. We want to have relationships with our families and live a meaningful life and just recover and be believed and supported.

Thank you.

• (1740)

**Mrs. Laila Goodridge:** Thank you, Ms. Goulding. I believe that's my time.

**The Chair:** Thank you, Ms. Goodridge.

We have Dr. Powlowski for five minutes.

**Mr. Marcus Powlowski (Thunder Bay—Rainy River, Lib.):** I'd like to ask all the doctors, either Ph.D.'s or medical doctors, something.

Drs. Falcone, O'Brien and Arts, you all mentioned the incidence as being somewhere in the neighbourhood of 10% to 30%. I'm pretty sure you've all had the same experience as I have, which is that when it comes to COVID, the world is a little bit different. Not only do we read the papers, but we also know a lot of people who've had COVID.

I'm a doctor too. I know we're not supposed to listen to anecdotal evidence. But my anecdotal evidence is, like Dr. Hanley's, that the majority of people I know have had COVID. All of my employees on Parliament Hill have had COVID. My family have all had COVID. Most of the people I know have had COVID. Yet to my knowledge, none of them complain of long-term symptoms.

Doesn't that 10% to 30% seem a little bit high to you, and isn't part of the problem that with rapid testing having supplanted PCRs, we really don't know what percentage of people have had COVID? Again, the question is, do you really think it's as high as 10% to 30%?

**Dr. Eric Arts:** I'll take the first stab at that, if nobody minds.

You're right. We can't estimate the actual percentage. Right now all we have to go by is waste-water surveillance to estimate the rates in the population at this point. I would suspect, from modelling data, that it probably is close to 30% of the population who have been infected now.

I don't think the percentage is the important point. It is the severity of the cases that we see and the number, in the end. I say this because we can all agree that if 10 million people were infected, then the impact on society would be quite devastating. I don't like to be a doomsayer; I'm always on the side of someone who says, I think it's not as bad as we all think it is. But in particular, I look at severe cardiovascular events and also these cognitive impairments. That, to me, is the gravest concern. We struggle already in our health care system in dealing with dementia, Alzheimer's and Parkinson's. I think that's where the difficulties lie.

The last point I'll make is that I had it. I'm not one, as well, to acknowledge symptoms, but I was out for at least a month and a half, and that was with delta. That was prior to my ability to get vaccinated; it was too early for me. It took me quite a long time to recover, and I still have some minor effects. Now, is it debilitating? No, not for me. I had to do a pretty busy work schedule. But if it is mild, in my case I can see how it could be more severe in others. That's anecdotal.

• (1745)

**Mr. Marcus Powlowski:** Thanks.

I want to get one more question in, namely, whether either the vaccine or the treatments reduce the incidence.

Either Dr. Falcone or Dr. Arts have said that, no, there isn't a correlation, meaning that people who have more severe COVID are more likely to have long COVID.

I'm not sure which of you mentioned a recent study from Harvard and the University of Pennsylvania finding that 40% of people on ventilators had a cognitive decline. Again, anecdotally if nothing else, certainly among the general population you're not getting anywhere near as much as 40%. Is there not some inclination that there is a correlation? Certainly the English found it. But now in more recent studies, isn't part of the problem that we don't know the denominator in mild COVID as to what percentage of the population have had it, whereas we do know the denominator with severe COVID, because we know who's been in the hospital and who's been in the ICU?

**The Chair:** Give a brief response, if possible. Dr. Powlowski has used up all of his time posing the question.

**Some hon. members:** Oh, oh!

**Mr. Marcus Powlowski:** Let me ask Dr. Falcone, since I'm [*Inaudible—Editor*].

**Some hon. members:** Oh, oh!

**The Chair:** Answer succinctly, please.

**Dr. Emilia Liana Falcone:** I agree. The fact that we don't know the denominator makes it very hard to estimate the prevalence, but even if it's a couple of per cent, with such a large denominator, it's potentially a huge number of individuals.

**The Chair:** Thank you very much, Dr. Falcone.

[*Translation*]

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

**Mr. Jean-Denis Garon:** Thank you, Mr. Chair.

I'll try to be briefer than my colleague Mr. Powlowski.

There has been a lot of discussion today about the research findings, and it was very interesting. I'd like to talk a little bit about research funding.

Dr. Falcone, has the COVID-19 crisis changed the way we think about clinical research?

Should we change the way we fund clinical research, so that we are better able to respond quickly to public health crises as serious as the one we've experienced?

**Dr. Emilia Liana Falcone:** I think the research response has still been good in the context of this pandemic. However, we have seen that COVID-19 was very surprising. It only surprises us. Sometimes you need to be open to slightly new hypotheses, which may not be based on the same preliminary data.

It is with this in mind that some funds could be earmarked for projects that have a slightly higher level of risk but can be very profitable, especially in a context where you need to mobilize quickly.

**Mr. Jean-Denis Garon:** If I understand correctly, you are talking about special funds that would be used in extremely serious and urgent situations. A number of criteria would allow funds to be released very quickly. This process could run in parallel with regular research funding.

To better understand, I would like to know what mechanism would be implemented to fund this clinical research.

**Dr. Emilia Liana Falcone:** It could be a somewhat parallel mechanism.

**Mr. Jean-Denis Garon:** The next question will be my last, since I have only about a minute left.

Earlier we talked about the denominator and the prevalence.

Should we be concerned in the long-term about the impact of long COVID-19 on the workforce? In Quebec, for example, we are facing a labour shortage. There are also pressures in hospitals, and this is linked to inadequate funding of the health care system, particularly by the federal government.

Do you have the same concerns in this regard?

**Dr. Emilia Liana Falcone:** Yes, I also have concerns, especially with long COVID-19 because the duration can be quite variable. The symptoms can persist for months, or even years. In our clinic, we see people who, more than two years after having an acute infection, are still suffering from sequelae and are unable to return to work.

**Mr. Jean-Denis Garon:** Thank you very much.

**The Chair:** Thank you, Mr. Garon.

[English]

The last round of questions is going to Mr. Davies, please, for two and a half minutes.

**Mr. Don Davies:** Thank you.

I'm not sure who is the right person to ask this of, so it's for whomever feels they can answer. Is long COVID impacted by the particular variant? Is it linked at all to, let's say, the omicron versus the delta variant or any previous version?

• (1750)

**Dr. Eric Arts:** It's going to be very difficult to assess in past clinical studies, because too many people did not have the information on what strain they were infected with. However, we do know, based on time periods, the likelihood of your being infected with one type of variant versus the other, so those assessments can be made. Yes, there are large cohort studies that could be used to assess that information, although they create a bit of an epidemiological study nightmare, but I think some things will work out in understanding that better.

One thing we do know is that omicron, for example, and delta were pretty distinct variants in terms of their population size and when they occurred, so that we have pretty understandable data, but those—

**Mr. Don Davies:** I'm sorry, I'm going to stop you there. I think I have the answer.

I want to give the last word to Ms. Goulding. I think it's so important that we hear from patients, particularly when we're dealing with a new phenomenon.

The last word goes to you, Ms. Goulding. What would you like the federal government to know first and foremost and what thoughts would you like to leave us with, as you are a representative of many people suffering from long COVID across the country?

**Ms. Susie Goulding:** I think it's important to recognize that the pandemic isn't over. It's not nearly over. With all the new waves and

variants, long COVID continues. More people are joining our groups. When is this going to end? I think it's really urgent to understand the fast nature of how we need to get on top of this while we can. It's just compiling. The numbers are growing. This is an urgent situation that needs to be brought to the top of the criteria. People are really suffering here.

We don't want to see this happening to more people. We need to understand what is happening. We need to help our researchers, again, funding their efforts in perhaps different ways from what we're used to. It's very frustrating for researchers to get their studies up and running and then there are setbacks in terms of getting their budgets or whatever needs to get going. Everything is just taking such a long time to get rolling. We just really need to get on top of this.

Canada really lagged in recognizing this. The first recognition of long COVID was in July of 2021 with Dr. Tam's announcement that there was such an outcome. I think we really need to step up on this illness. Other countries have made significant contributions to dealing with the necessary issues and supporting with funds. Billions of dollars in the States have been allotted to research and funding for long COVID.

As well, recognizing it as a disability would give people access. I think that's a critical thing. People are really suffering. They can't go back to work. They don't have access to food or to the basic necessities of life. I think that's something you need to rectify right away.

**Mr. Don Davies:** Thank you for sharing that.

**The Chair:** Thank you, Ms. Goulding.

Colleagues, stand by. I'm going to thank the witnesses, and then we have a bit of committee business that we need to deal with before we wrap up.

To our witnesses, today you had the full experience. You had a late start because of votes. We had technical difficulties. We had a debate on a motion in the middle of the meeting. Thank you for hanging in there. Thank you for staying with us.

Ms. Goulding, we wish you good health and thank you for your advocacy.

Dr. O'Brien, Dr. Arts and Dr. Falcone, thank you so much for the patient and professional way you've handled all of the events today. Thank you so much for the work you do in taking on this global pandemic and ensuring that we're able to move forward with the expertise you contribute to it all. Thank you so much for being with us.

Colleagues, you have received a budget for the children's health study. It's an estimate of \$22,000. That budget is not at all cast in stone, but it's something we need to approve. It takes into account the possibility that we will have witnesses come here to testify before us, as well as the cost of sending headsets and the like. I would be pleased to entertain a motion to adopt the budget on the children's health study.

• (1755)

**Mr. Don Davies:** I so move.

**The Chair:** Thank you, Mr. Davies. Is there any debate?

(Motion agreed to)

**The Chair:** Is it the will of the committee to adjourn the meeting?

**Some hon. members:** Agreed.

**The Chair:** I see consensus. The meeting is adjourned.

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