

IN THE MATTER OF A HEARING BEFORE THE HEARING
TRIBUNAL OF THE ALBERTA COLLEGE AND ASSOCIATION
OF CHIROPRACTORS ("ACAC") into the conduct of
Dr. Curtis Wall, a Regulated Member of ACAC, pursuant
to the Health Professions Act, R.S.A.2000, c. P-14

DISCIPLINARY HEARING
VOLUME 6
VIA VIDEOCONFERENCE

Edmonton, Alberta
November 20, 2021

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1 Proceedings taken via Videoconference for The Alberta
2 College and Association of Chiropractors, Edmonton,
3 Alberta

4

5 November 20, 2021 Morning Session

6

7 HEARING TRIBUNAL

8 J. Lees Tribunal Chair

9 W. Pavlic Internal Legal Counsel

10 Dr. L. Aldcorn ACAC Registered Member

11 Dr. D. Martens ACAC Registered Member

12 D. Dawson Public Member

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14

15 ALBERTA COLLEGE AND ASSOCIATION OF CHIROPRACTORS

16 B.E. Maxston, QC ACAC Legal Counsel

17

18 FOR DR. CURTIS WALL

19 J.S.M. Kitchen Legal Counsel

20

21 K. Schumann, CSR(A) Official Court Reporter

22

23 (PROCEEDINGS COMMENCED AT 9:16 AM)

24 THE CHAIR: This is continuation of the

25 Hearing Tribunal for Dr. Wall is back in session.

26 And Ms. Nelson does have your witness in the

1 waiting room and is prepared to bring him into the
2 meeting, Mr. Kitchen, so I'll turn the floor over to
3 you.

4 MR. KITCHEN: Good morning, Mr. Schaefer,
5 can you hear us?

6 THE WITNESS: Yes, good morning.

7 MR. KITCHEN: Excellent. Are you able at
8 all to tip your camera down about -- yeah, perfect,
9 there you go, excellent.

10 All right, so, Mr. Schaefer, the first thing we're
11 going to do is we're going to swear you in, and
12 Karoline, our court reporter, is going to do that, and
13 once she does that, then we'll get into the
14 questioning.

15 THE WITNESS: Sounds good.

16 CHRIS SCHAEFER, Sworn, Examined by Mr. Kitchen
17 (Qualification)

18 MR. KITCHEN: So, Mr. Chair, I'm going to
19 start with some qualification questions. As you'll
20 know from my end the other day, there was consent
21 between the parties on the qualification of the next
22 witness but not on this one, so I'm going to run
23 through some questions and then propose a qualification
24 to you, and then, of course, Mr. Maxston will have some
25 opportunity to make some comments.

26 Q MR. KITCHEN: Mr. Schaefer, the first thing

1 I'll start with is what's your current occupation?

2 A My current occupation is as an Occupational Health and
3 Safety consultant. I have been doing that now for
4 quite a number of years. Since 2004, I've had my own
5 company, but I've been working in Occupational Health
6 and Safety as a consultant since 1994.

7 Q Okay, thank you. Now, you said "consulting", what are
8 the types of things you consult on?

9 A Well, I consult on all aspects of Occupational Health
10 and Safety training. Primarily what I do is one of my
11 specialties is respirator fit testing and training. So
12 respirator fit testing and training that I would
13 consult on would be for any atmospheric hazard from
14 anything that would require the most basic level of
15 respiratory protection all the way up to and including
16 respiratory protection for emergency responders like a
17 self-contained breathing apparatus, both closed- and
18 open-circuit systems.

19 Q And do you teach any courses on respirators or how they
20 fit?

21 A Yes, I do. I do teach a course, a course on respirator
22 fit testing and training, and I have been teaching that
23 course as an advisor to the University of Alberta
24 Faculties of Medicine and Dentistry for several years,
25 as well as private clients.

26 Q I just want to -- on your résumé, you've got a long

1 list of certifications, I don't want to bring you
2 through all of them, but I'll just ask you about a
3 couple of them. One is a CSA respirator training and
4 fit testing instructor. Can you tell me about that
5 certification?

6 A Sure. CSA, if you're not already aware, is equipment
7 certification, and they do have their own standards for
8 equipment certification. So CSA stands for the
9 Canadian Standards Association, and if you have ever
10 worked in an industrial environment, from a very basic
11 perspective, you would know that CSA does the approvals
12 for basic safety equipment like steel-toed boots, hard
13 hats, and safety glasses, among many others, but those
14 would be probably basic ones that you would be aware
15 of, and CSA is the certification body for the standards
16 set for the safety of that equipment and others as
17 well.

18 So as the course for CSA goes, it's a course that
19 is within the standards of the use of that equipment
20 through the Canadian Standards Association.

21 Q Thank you. I see also hazmat instructor. Now, I think
22 I know what hazmat is, but could you please tell me
23 what that's all about?

24 A Hazmat is hazards materials and training. So for
25 people that go into high-risk situations like
26 biohazardous environments, they need specialized

1 training and specialized equipment, because there is a
2 lot of chemicals, vapours, and gases and even
3 particulates that are very small, and those can
4 penetrate through basically any part of your body.

5 So with hazmat training, it's all about, the
6 basics are, is you've got to have full containment,
7 you've got to have full encapsulation of workers or
8 responders, and they have to be provided for any
9 potential exposure through either inhalation or skin
10 absorption of contaminants that could negatively affect
11 their health.

12 Q Thank you. And just one more, right under that, you
13 have "H2S alive instructor". Can you tell me what the
14 H2S alive thing is?

15 A Yes, absolutely. H2S is the chemical formula for
16 hydrogen sulphide gas. Hydrogen sulphide gas is a
17 common detriment to oil and gas workers for --
18 primarily in Western Canada. We see our highest levels
19 of hydrogen sulphide gas in Western Canada oil fields,
20 so that is a course that is required for anybody that
21 works in oil and gas situations that they have that
22 course so that they know how to protect themselves and
23 also respond to help others in the event of unintended
24 or accidental hydrogen sulphide release or exposure.

25 Q All right, thank you. So if I understand this, I don't
26 think I do, the 'S' stands for sulphide. I'm curious,

1 in your line of work, have you dealt with issues around
2 carbon dioxide?

3 A Yes, absolutely.

4 Q Have you dealt with issues around oxygen in the air?

5 A Always, always. Yeah, you know, having a safe amount
6 of oxygen in air is pretty essential to personal
7 safety, so that's definitely a big part of my whole
8 career.

9 Q And are you familiar with the Occupational Health and
10 Safety legislation?

11 A M-hm, yes, I am.

12 Q Thank you. Is that something you commonly work with?

13 A You know, it depends on the course that I'm offering
14 and the training that I'm offering, but, yeah,
15 absolutely. Atmospheric hazards are a big, huge
16 component of Occupational Health and Safety.

17 Q Have you done any testing on the cloth or nonmedical
18 masks that have been commonly used to try and prevent
19 the spread of COVID?

20 A Yes, I have.

21 Q Have you done any testing on the medical or procedural
22 or surgical masks that have been commonly used to try
23 and prevent the spread of COVID?

24 A Yes, I have.

25 Q Thank you.

26 MR. KITCHEN: Well, Mr. Chair, I'm going to

1 read out for you -- those are all my questions on
2 qualification -- I'm going to read out what I'd like to
3 have Mr. Schaefer qualified as. I'd like to have
4 Mr. Schaefer qualified as an expert in the area of
5 Occupational Health and Safety, in particular, all
6 types of respirator masks, including the medical and
7 nonmedical masks used to attempt to prevent the
8 transmission of COVID-19. And, of course, I --

9 THE CHAIR: Can you just read that one
10 more time, please?

11 MR. KITCHEN: Sure. I'd like to have
12 Mr. Chris Schaefer qualified as an expert in the area
13 of Occupational Health and Safety, in particular, all
14 types of respirator masks, including the medical and
15 nonmedical masks used to attempt to prevent the
16 transmission of COVID-19.

17 THE CHAIR: Mr. Maxston, did you wish to
18 comment before we --

19 MR. MAXSTON: I have I think two brief
20 questions for Mr. Schaefer, and then my friend is aware
21 of this, I've got a few comments about the
22 qualification that's being tendered, so I'll just ask
23 my questions briefly.

24 Mr. Maxston Cross-examines the Witness (Qualification)

25 Q MR. MAXSTON: Good morning, Mr. Schaefer.

26 A Good morning.

1 Q My two questions for you are this: I'm looking at the
2 bottom of page 2 of your cv, and it talks about, you
3 say, "Associations: Member of Alberta College of
4 Paramedics"; are you still a regulated member of the
5 Alberta College of Paramedics?

6 A No, I am not, but that is a -- that is a course that I
7 had -- that is a -- sorry, that is a membership that I
8 had a couple years ago. I had completed the Alberta
9 College of Paramedic program as far as the emergency
10 medical responder is concerned, and I did have that
11 membership, yes.

12 Q Forgive me for not quite understanding this then, were
13 you a regulated member of the Alberta College of
14 Paramedics, so you could practice as a paramedic, or
15 had --

16 A Yes --

17 Q -- just taken the --

18 A -- yes, I was --

19 Q -- courses --

20 A -- yes, I was. I was an actual member of the Alberta
21 College of Paramedics, registered through the course
22 that I had taken, so I had specific registration by
23 completing exams with the Alberta College of Paramedics
24 to practice as a medic within Alberta.

25 Q Sure, and I --

26 A So I was definitely registered.

1 Q And how long were you a regulated member of the Alberta
2 College of Paramedics?

3 A One year.

4 Q And do you recall your designation, or were you an
5 advanced care paramedic, primary care paramedic, EMT,
6 EM -- you know, do you recall the designation that you
7 were in?

8 A Of course. EMR, emergency medical responder.

9 Q And you can correct me if I'm wrong, but I think "EMR"
10 is -- I think there's three designations; the first is
11 advanced care paramedic, then there's primary care
12 paramedic, and then there's the designation you were
13 in, which is EMR; is that correct, to your
14 understanding?

15 A That's absolutely correct, yes.

16 Q And, I'm sorry, you said you were an EMR for one year
17 with the College?

18 A Yes.

19 Q Okay.

20 MR. MAXSTON: Those are all my questions,
21 Mr. Chair, for the witness. I wonder if I might
22 provide some responses to the qualification that
23 Mr. Kitchen has tendered.

24 THE CHAIR: Okay.

25 Discussion

26 MR. MAXSTON: My friend will rightly point

1 out to you that I could make these same comments during
2 my closing statement, and I made them during the
3 opening statement, but I just want to reiterate the
4 Complaints Director's position this is not a question
5 of the efficacy of masking in this hearing, it's about
6 compliance with regulatory responsibilities. We'll
7 review that in greater detail. You can, of course,
8 accept evidence in whatever manner you see fit. The
9 Complaints Director maintains his position that this
10 type of evidence should be given little weight in terms
11 of the charges that are in front of you.

12 I do want to mention that the College anticipated
13 that Mr. Schaefer's testimony would be confined or
14 largely confined to the question of surgical or
15 procedure masks that are set out in the Pandemic
16 Directive, and, of course, the College does not have
17 any ability to regulate or control the types of masks
18 that members of the public wear. So I think the
19 qualification that's been tendered is perhaps a little
20 bit broad in terms of it referring to all types of
21 respirator masks, so I have a little concern in that
22 regard -- have a concern in that regard.

23 And I'll just, for reference sake, I just want to
24 remind the Tribunal of some comments that were made by
25 Mr. Kitchen during the qualification -- pardon me, the
26 preliminary application that occurred in terms of

1 whether Mr. Schaefer could be called at all as an
2 expert witness, and you'll recall we objected to that,
3 and you made a ruling that you would allow
4 Mr. Schaefer.

5 And just very briefly, this is on page 55 of the
6 transcripts, this is my friend commenting on what
7 Mr. Schaefer will be called to testify about: (as
8 read)

9 It should be quite obvious that this report
10 [meaning Mr. Schaefer's] deals with a
11 different subject than Dr. Wall's other three
12 experts. The other three experts are various
13 scientists and medical doctors ... They are
14 all dealing with COVID-19; they're dealing
15 with the SARS-CoV-2 virus. They're not
16 dealing with whether or not masks are
17 harmful. Certainly not in a specific sense
18 that Chris Schaefer is doing, that being
19 oxygen levels and carbon dioxide ...

20 The effectiveness of masks is a different
21 subject from the harms of masks.

22 And a few pages later, you made a ruling that
23 Mr. Schaefer can testify. So my client's clear
24 expectation is that Mr. Schaefer's testimony will be
25 confined to, again, the harms of masks, not the science
26 related to COVID or transmissibility or anything along

1 those lines.

2 So Mr. Kitchen has been scribbling, and I'm sure
3 may want to made some response comments to what I said,
4 but again I think it's important to remember the basis
5 on which this witness was offered initially when we had
6 our preliminary application on that, and I think it's
7 very important for Mr. Schaefer's comments to be
8 confined to the question of the harm of masks and
9 nothing more. Thank you, Mr. Chair.

10 MR. KITCHEN: Mr. Chair, if I could, just a
11 couple comments in response.

12 THE CHAIR: Yeah.

13 MR. KITCHEN: First, the reason I say all
14 types of respirator masks is because, well, that's just
15 the reality; that's what Mr. Schaefer has dealt with in
16 his line of work. And I'm a little surprised to hear
17 that the Complaints Director didn't anticipate evidence
18 about nonmedical masks in addition to medical, as, of
19 course, you'll see in the first paragraph of
20 Mr. Schaefer's report, it talks about the different
21 kinds of masks, and so it's a little surprising.

22 But the reason that I've asked inclusion of cloth
23 masks is -- or nonmedical masks is because that's a
24 reality of what we're dealing with, and that's what
25 Mr. Schaefer has dealt with, and those aren't
26 dramatically different, they're very similar, and so I

1 don't think that scope is too broad, I don't think it's
2 inappropriately broad, I don't think it's irrelevantly
3 broad. So I would ask that he not be limited to talk
4 about medical masks but also be permitted to talk about
5 nonmedical or cloth masks.

6 And, of course, I have no issue with my friend's
7 comments about being limited to talk about the harms of
8 masks and not the efficacy. We won't have any
9 questions about that, so it's just the harms of masks,
10 but when I say "masks", I mean medical and nonmedical.
11 Those are all my submissions in response.

12 THE CHAIR: Thank you. I think we'll take
13 a short break while the Hearing Tribunal caucuses to
14 give you an answer to your request, Mr. Kitchen. So if
15 we could be moved to a break-out room. Hopefully this
16 won't take very long. Thank you.

17 MR. KITCHEN: Thank you.

18 (ADJOURNMENT)

19 THE CHAIR: Okay, we're back in session,
20 and the Hearing Tribunal discussed your request,
21 Mr. Kitchen, and we have one question for Mr. Maxston,
22 and we wanted a clarification on why Mr. Schaefer
23 should be limited to medical masks.

24 MR. MAXSTON: I think, Mr. Chair --

25 THE CHAIR: Is it because of what's in the
26 transcript? Is it because of what's in the CMOH

1 orders?

2 MR. MAXSTON: I think it's because primarily
3 of what is in the Pandemic Directive that the College
4 has, which refers to the requirement for chiropractors
5 to wear surgical or procedure masks as being the
6 minimum acceptable standard.

7 I think I said in my comments about this question,
8 and I'll invite Mr. Lawrence to comment if he wants to,
9 but we anticipated that the primary focus of
10 Mr. Schaefer's testimony would be on those matters,
11 because the College cannot -- I see Mr. Lawrence
12 nodding his head -- the College cannot regulate what
13 members of the public do, it can only regulate what
14 chiropractors do. I'm not sure if that answers your
15 question, but that was the concern. We didn't want
16 this net to be cast too broadly.

17 THE CHAIR: Okay, I think we're just going
18 to take that under advisement, Mr. Maxston. We'll go
19 back into our cubbyhole, and we should have an answer
20 here shortly, thank you. Just please bear with us, and
21 we'll go to our break-out room.

22 (ADJOURNMENT)

23 Ruling (Qualification)

24 THE CHAIR: The hearing is back in
25 session. The Hearing Tribunal has discussed the issues
26 raised. We just want to clarify that the testimony

1 will be regarding the harm and not the efficacy
2 associated with these masks, and we've also ruled that
3 the testimony will relate to the medical masks not the
4 nonmedical masks.

5 Having said that, we're aware that there are some
6 issues here, and if Mr. Maxston feels that the line of
7 questioning goes beyond the scope that we've discussed,
8 then he certainly has the option to raise objections.

9 MR. KITCHEN: I wonder, and I invite
10 comments on this, and I can be corrected if I'm off the
11 mark on this, is it possible for me to receive written
12 reasons for that decision, because that will likely be
13 something that will end up being appealed, so -- and
14 maybe that comes at the very, very end when we get
15 written decisions -- written reasons on the whole
16 decision, but that's something I would -- I'd ask for
17 written reasons on it.

18 THE CHAIR: At the risk of taking us back
19 to a break-out room, my thought would be that we can
20 address it in the decision, once the decision is made,
21 make a note to that effect. I don't think we want to
22 interrupt this hearing to be doing that. I don't want
23 to start writing parts of decisions, so --

24 MR. KITCHEN: No, no, I'm not asking you for
25 it right now, I apologize. No, what I meant is I'm
26 just asking whether it's, you know, tomorrow or a week

1 from now or a month from now or at the very end,
2 that's -- I'm not asking for it right now. I'm just,
3 in general, I'm making it known that, you know, likely
4 that will be a source of appeal, so I think it best
5 that there be reasons for that.

6 THE CHAIR: Duly noted, Mr. Kitchen.

7 MR. KITCHEN: Thank you.

8 CHRIS SCHAEFER, Previously sworn, Examined by
9 Mr. Kitchen

10 Q MR. KITCHEN: All right, well, with that,
11 Mr. Schaefer, you can hear me?

12 A Yes, I can.

13 Q Excellent, we'll jump right in. And I think you've
14 already answered this, but just to clarify, you live
15 and work in Alberta; is that correct?

16 A That is correct, yes.

17 Q Can you tell me what was the, generally speaking, what
18 was the type of work you did prior to the onset of
19 COVID?

20 A I had been doing safety training for my own company,
21 but I had been doing safety training for a lot longer
22 than that, but -- so safety courses in a variety of
23 disciplines, as well as fit testing and training.
24 So -- but fit testing and training has definitely been
25 a significant portion of the work that I've done in
26 clients that range from the military, to health care,

1 to educational institutions and private industry.

2 Q Has that work changed any since the onset of COVID?

3 A Absolutely, it's changed a lot. It's changed a lot
4 primarily because there's so much -- there's no real --
5 there's no real requirement for many of the masks that
6 are mandated for COVID, that they would be fit tested,
7 there's no requirement to that.

8 So before the COVID thing, everything -- any type
9 of mask whatsoever had to be fit tested on the wearer.
10 They had to have approval fit test for safety. But
11 since COVID, since this virus, there has been no
12 requirement for the majority types of these devices to
13 require a fit test to the user, which is really, really
14 odd.

15 Q And why is that odd?

16 A It's odd, because in order to determine whether or not
17 the wearer is suitable for wearing a mask, there are
18 some screening processes that have be completed first.

19 So, for instance, if you have difficulty breathing
20 without a mask, wearing a mask is going to make it much
21 harder for you to breathe. It will increase breathing
22 resistance for everybody. So if you're healthy, you
23 breathe effortlessly right now, you will experience
24 increased breathing effort by covering your mouth and
25 nose, and so there's a screening process. Not
26 everybody is capable of wearing a mask. Nobody -- like

1 there's a screening process that has to be completed.

2 So for people that have pre-existing medical
3 conditions or identify pre-existing medical conditions
4 within screening to wear a mask, they have to go to
5 their doctor and get further testing done to determine
6 their suitability or ability to be able to wear a mask
7 and stay healthy. So that's one thing. The screening
8 process, there's no screening to determine the
9 suitability of masking for the general population and
10 employment in general, right? So any workers, there's
11 no screening anymore; it's just wear one or else, and
12 that's never happened before.

13 The other thing is is that in order for any type
14 of mask to protect the wearer, that mask has to make an
15 airtight seal around the face. Without an airtight
16 seal, there's no way that it can provide any
17 respiratory protection. So a fit test determines that
18 it is making an air-tight seal to your face so that it
19 can verify that the contaminant is being filtered; it
20 is having to flow through the filter into the wearer's
21 mouth and then lungs.

22 But if you don't have an airtight seal, then the
23 air that you inhale is -- a lot of it's going to follow
24 the path of least resistance, which is through the
25 openings, any openings, available openings, because
26 it's harder to pull air through a filter than it is

1 just to breathe surrounding air. So if there's leaks,
2 that's where you're going to be pulling the contaminant
3 in from.

4 Q And so you talked about air coming in, and it coming in
5 through what I'm going to call the path of least
6 resistance, is that also true for air going out?

7 A Well, you know, there is some air coming in, but when
8 you look at the volumes of breathing of inhalation and
9 exhalation, it's going to cause an insufficient air
10 supply. You're going to get a buildup of your own
11 exhaled carbon dioxide in the cover, and if you're
12 going to get -- see, in an actual respirator --

13 Let me explain in an actual respirator, actual
14 respirators have an exhalation valve built into them,
15 so that every time you exhale, your carbon dioxide gets
16 pushed out the exhalation valve so you don't rebreathe
17 it. If you just put a closed cover on your face, then
18 it will capture some part of dioxide, and as you
19 inhale, it will force you to rebreathe some air but
20 also carbon dioxide that can be significant amounts
21 above and beyond what is considered safe according to
22 Occupational Health and Safety air quality standards.

23 Q Thank you. All right, well, you've already answered
24 some questions, but just to go back to sort of a
25 preliminary issue, let me ask you a couple different
26 questions. Mr. Schaefer, do you know Dr. Curtis Wall

1 personally?

2 A I've never met him. I don't know what he looks like,
3 and I really don't know much about him at all.

4 Q Do you have any personal interest or personal stake in
5 the outcome of this case?

6 A Absolutely not. I've just been hired to give my expert
7 opinion, and that's what I'm here for.

8 Q You don't have any financial interest or stake in the
9 outcome of this case then?

10 A No, because I'm getting paid by the hour, and so it
11 doesn't matter to me what the outcome is.

12 Q And just to confirm, do you understand your duty to
13 provide this Tribunal with your expert knowledge and
14 opinions in an objective and neutral manner?

15 A Absolutely.

16 Q Thank you. Now, just to give a bit of a road map,
17 we've already got into the meat of it a little bit, but
18 I'm going to be asking you about, you know, what masks
19 really actually are, and then I'm going to ask you
20 about carbon dioxide, about oxygen, a little bit about
21 testing, and then, lastly, I'll ask you, from an
22 Occupational Health and Safety perspective, a little
23 bit about the harms or hazards involved.

24 So to start off, now -- and my friend may want to
25 object to this, because we've got issues with different
26 types of masks, but in the very first paragraph of your

1 report, you say -- we're talking about the masks that
2 are being mandated to attempt to prevent the stop of
3 COVID, you say: (as read)

4 These masks are the medical, nonmedical, and
5 procedural masks.

6 Now, can you please explain for us what those terms and
7 what those types of masks mean to you?

8 A Sure, absolutely. So a medical mask in a health care
9 setting is referred to an N95. It's something that
10 is -- what health care uses is a closed cover
11 primarily, it is N95, which means that it's a filter, a
12 filtration that's not resistant to oil, that's what the
13 'N' is. 95 refers to the best-case scenario protection
14 that you could get with that device if it's properly
15 fitted and used and disposed of and replaced as
16 specified, as required, as the manufacturer requires.
17 And that's what the medical is.

18 The nonmedical is any device that is really you
19 put it on your mouth and nose. So you could take a
20 plastic bag put it over your head; I mean, that's not a
21 nonmedical mask, but, you know what, a nonmedical mask
22 is anything that covers your mouth and nose. So if you
23 want to put a bandana on your mouth and nose, you want
24 to -- you want to -- anything literally that covers
25 mouth and nose is classified as a nonmedical mask.

26 And a procedural mask is something that is -- is

1 something that they will typically use, and I won't say
2 what they use it for because it's kind of -- you know,
3 they use it for different things in health care
4 settings, but it's a looser fitting -- it's a slightly
5 looser fitting style, but it's still -- it's still
6 enclosed enough that it typically -- it's like the blue
7 mask, right? So a procedural mask is kind of -- it's a
8 looser fitting than the N95, N95 is a tighter fitting
9 and, depending on nonmedical, it can be anything from
10 cloth to virtually anything anybody wants to do to
11 cover their mouth and nose, because there's really
12 no -- there's no rules on nonmedical masks; it's really
13 just anything you put on your mouth and nose could be
14 considered a nonmedical mask that covers your face.

15 And procedural mask, like I said, it's really just
16 a -- it's a device. These are all -- they're all like
17 the -- N95 and procedural would be considered temporary
18 use only, to be replaced regularly, as needed when
19 there's moisture buildup inside, and disposed of
20 immediately. So the procedural and the medical in
21 health care settings, both have to be used -- they're
22 really only designed for short duration use and then to
23 be immediately disposed of. They were never designed
24 for hour upon hour use. It was never designed that
25 way, and it's still not designed that way. So it's
26 been used that way, but it's not designed that way.

1 So there are some dangers to that, but as far as
2 procedural masks go, just -- it's a looser fitting mask
3 that they use in the health care settings and
4 disposable, just like N95. N95s are tighter fitting;
5 procedurals are looser fitting.

6 Q Thank you, that's helpful. Would you say that when we
7 use the word "surgical mask", in your experience, is
8 that typically a reference to that category of
9 procedural or blue masks?

10 A Yeah, you know, surgical masks, you know, in surgery,
11 physicians and other health care practitioners, they
12 may use N95, or they may use procedural. It's -- it
13 depends on -- depends on what's going on, but both may
14 be used.

15 Q So you're aware that what the Alberta College of
16 Chiropractors has mandated that chiropractors must
17 wear -- this mandate is found in the COVID-19 Pandemic
18 Practice Directive, you're aware that the masks -- the
19 type of masks that the Alberta College of Chiropractors
20 is requiring chiropractors to wear are those procedural
21 or blue masks?

22 A Yes, I am aware.

23 Q Okay. And you're aware that the CMOH orders that
24 mandate masking for the general public mandates the
25 nonmedical masks?

26 A Yes, I am aware.

1 Q All right, in the second paragraph of your report, you
2 state that: (as read)

3 Masks are required to have engineered
4 breathing openings.

5 Can you explain what "engineered breathing openings"
6 are, and why masks are required to have them?

7 A Okay, so if you are going to cover your mouth and nose
8 with any device, it's important that you do not
9 restrict your oxygen coming in, the air coming in, and
10 your carbon dioxide and expelled toxic air leaving, and
11 that is why we exhale outside of our bodies in the
12 first place.

13 If we take a look at a mask, a mask has to have
14 engineered openings. So, for instance, if you take a
15 look at, say, here is a common Halloween-style mask,
16 it's got engineered openings for nostrils for
17 breathing, as well as mouth for breathing. It's
18 important to be able to have easy, free breathing.
19 When you restrict your breathing, then you get that
20 accumulations of exhaled carbon dioxide that are then
21 rebreathed because there's no exhalation valve to purge
22 it, so you rebreathe your own exhaled waste toxic
23 carbon dioxide, which is not going to be good for
24 anybody, and for people over a longer period of time
25 and if there's any pre-existing medical conditions
26 could be a very serious situation.

1 Now, if you look at an actual respirator, like
2 this, you can see that it is covered, there are two
3 filters attached in the design. In the middle, there's
4 an exhalation valve. That's to purge exhaled heat,
5 moisture, and carbon dioxide, okay, for a reason,
6 because we don't want to rebreathe it. So air comes in
7 here, air can only enter through inhalation, air can
8 only leave through exhalation.

9 And when I say "engineered openings" -- I say
10 engineered opening and exhalation, but also engineered
11 opening and inhalation. So if I unscrew the filter,
12 you can see, if I just turn it like this, you can see
13 it's a big hole, there's a big hole there. The reason
14 the hole is there is so that air can flow in very
15 easily and freely so that, you know, it can enter your
16 lungs as unobstructed as possible, because anything
17 that you put on your mouth or nose, it makes it harder
18 to breathe. Depending upon the person, the length of
19 exposure, the type of work or activity they're engaged
20 in, and any pre-existing medical conditions could all
21 change their ability to be able to wear that device at
22 all.

23 Q I notice you used the word "device", just to clarify,
24 you would say that these procedural or blue masks we're
25 talking about, you would call that a device?

26 A Well, let me explain something, it's very difficult for

1 me to refer to any of the mandated masks for COVID as
2 actual masks. It's really difficult. I struggle with
3 it. It's hard, because they don't meet the actual
4 definition of a mask from anything as simple as a
5 Halloween mask, to a goalie mask, to a scuba mask, any
6 kind of actual mask that's engineered, it's engineered
7 for easy breathing.

8 If you look in a goalie mask, it looks full faced,
9 it looks pretty encapsulated, but it does have
10 breathing vents, so the air can flow in and out easily.
11 Every type of mask, it's important that air flows in
12 easily and air flows out easily.

13 Now, a goalie mask isn't going to offer anybody
14 respiratory protection or a scuba mask, but they are
15 devices that are engineered for breathing, but if you
16 just close your -- take a piece of material or a paper
17 and cover your mouth and nose with it, it will restrict
18 breathing, it will restrict your ability to inhale, and
19 it will restrict your ability to exhale.

20 Q So I know in your report, you use the term "breathing
21 barriers" to describe these types of so-called masks
22 that are mandated for COVID. Can you just explain to
23 me why you use that term?

24 A Well, I coined that term actually, and the reason I use
25 it is because I think it most accurately describes the
26 situation -- what actually happens when you wear one of

1 these. If you've ever worn one, and, for most people,
2 they probably have, they probably notice immediately
3 that it does become increasingly difficult to breathe
4 with one on. There's a reason that you're blocking
5 your breathing. So when I call them breathing
6 barriers, it's based upon the practicality that they
7 block breathing, they block the normal flow of
8 breathing.

9 Now, all respirators, even proper respirators,
10 like the one I showed you, with the two filters and
11 exhalation valve in the middle will increase breathing
12 difficulty a little bit because you are going to pull
13 air through the filter, so it's going to be a slight
14 increase in inhalation effort but very minimal, and
15 because it's designed for breathing, it's very minimal.

16 Let me remind you what I said earlier, anybody
17 that wears any respirator before COVID needed -- or
18 mask, for that matter -- needed any type of filtering
19 mask needed to be fit tested. And before they could be
20 fit tested, they had to be screened for their ability
21 to wear it safely.

22 And without that screening, it's like Russian
23 roulette, who's going to have to wear one and shouldn't
24 be wearing one. Somebody with COPD, somebody with
25 heart conditions, lung conditions of any type, high
26 blood pressure, these are all people that need to be,

1 before COVID, needed to be examined by a physician to
2 determine their ability to safely wear a respirator
3 that's actually engineered for breathing, much less a
4 closed cover over your mouth and nose that caps -- that
5 makes it exponentially harder to breathe and captures
6 carbon dioxide in significant amounts.

7 So that's why I call it a breathing barrier.

8 Q Thank you. Do you find it strange that we seem to be
9 doing -- based on what you've said, we seem to be doing
10 things very differently post-COVID than pre-COVID when
11 it comes to things like fit testing? Do you find that
12 strange?

13 A I think it's incredibly strange that there would be
14 mandates for closed-cover barriers that aren't
15 engineered -- aren't engineered for easy breathing, and
16 I find it very strange that there is no requirement for
17 a fit test for a filtering mask or respirator. That
18 should be paramount; that should be primary.

19 Q Now, I know you've touched on this, but just to
20 clarify, you say in the fourth paragraph in your report
21 that wearing these what we're going to call breathing
22 barriers are hazardous to the wearer.

23 A M-hm.

24 Q Why exactly are they hazardous?

25 A Well, think about it like this, if you take something,
26 like if you take a piece of cloth or a piece of paper

1 towel or whatever it is, hold it closely to your mouth
2 and nose, it becomes more difficult to breathe, right?

3 So we know that it's harder to breathe, which
4 increases respiration effort. For people with
5 pre-existing conditions, it's not going to be good.
6 But even for people without pre-existing conditions,
7 increased breathing effort, you increase the capture of
8 carbon dioxide, and then you are re-inhaling that
9 carbon dioxide, it's going to cause a variety of
10 negative health effects, even if the person has no
11 pre-existing medical conditions.

12 So common symptoms of blocking your flow of
13 breathing and inhaling excess carbon dioxide can be
14 things like experiencing a headache, nausea, dizziness,
15 lack of coordination, maybe impaired hearing,
16 impaired -- sometimes impaired vision. It can be a --
17 it can be feeling faint, overheating. And it can be
18 worse than that, it could be people that have a very
19 difficult time breathing, feel like they can't catch
20 their breath, and it can go down from there. So
21 anybody that inhales more than what the -- anybody that
22 inhales above what the indoor Occupational Health and
23 Safety standard is for carbon dioxide is at risk.

24 So if you were to look at my report, you would see
25 the standards for carbon dioxide according to the
26 Alberta standards for safety and see that the maximum

1 exposure for indoor carbon dioxide is a thousand parts
2 per million. That's not very high. That's not very
3 high. That's over a 24 period -- 24-hour period, but
4 it's not very high. Because the normal oxygen that we
5 have currently in our atmosphere is around 3 to 400
6 parts per million. So it doesn't have to go very high
7 to get to a thousand.

8 And the testing that I've done inside these
9 breathing barriers is very high levels of carbon
10 dioxide. Even if somebody like -- here's the thing, if
11 you wear a breathing barrier, and you are just sitting
12 at a desk, looking at a computer, you're going to have
13 hazardous levels of low oxygen just from having it on,
14 any one of those three devices on it.

15 And if you are doing an activity like lots of
16 speaking, those levels will drop dramatically, because
17 your oxygen demand will increase dramatically.

18 And as well as, if you look at physical activity
19 like, say, going for a run or something, and your
20 oxygen demands go up significantly, then putting a
21 closed cover on your face and blocking that ability to
22 breathe can have a very severe negative impact of your
23 ability to properly absorb oxygen or as much oxygen as
24 your body needs and dispel -- disperse and dispel
25 carbon dioxide away from you so you don't re-inhale it.

26 Q Thank you. I know you said that a thousand parts per

1 million is the sort of the safe limit for carbon
2 dioxide. How long is too long to be exposed to that
3 much carbon dioxide or more?

4 A Well, according to the -- the highest level that you
5 can legally be exposed to in Alberta, according to
6 Alberta standards -- and they revised their standards
7 in the spring of this year, they actually -- it was
8 actually higher, but they lowered it, instead it's
9 lower, so -- is a thousand parts per million. That's
10 based on a 24-hour exposure.

11 But I'll tell you based upon the testing that I've
12 done and other research publications that I have as
13 references, medical reports and research that I
14 could -- I'm more than happy to submit a long list of
15 certified medical scientific reports to show that
16 levels of carbon dioxide in one of these devices exceed
17 5, 10,000 parts per million within a minute, anybody
18 wearing any one of those three.

19 And oxygen levels -- here's -- carbon dioxide is
20 only one part of the equation. The other immediately
21 life-threatening condition is low oxygen. Hypoxemia is
22 low oxygen in the blood; hypoxia is low oxygen in
23 tissues. So what happens is is if you are not inhaling
24 oxygen concentration, enough of an oxygen concentration
25 in air, you're going to suffer -- you're going to
26 suffer oxygen deficiency in your blood and in your

1 tissues.

2 And so the normal oxygen level in air is 19.5 --
3 20.9 percent, 20.9 percent. Where it becomes dangerous
4 to health becomes immediately dangerous, life and
5 health, according to our regulations is 19.5 percent or
6 lower.

7 So using instrumentation, you could see that the
8 oxygen drop between the breathing barrier in the
9 person's mouth or nose is significantly below 19.5
10 percent. Immediately, within the first 20 seconds,
11 you'll see oxygen drop below 19.5 percent, which is
12 safe levels. And if they're -- if they've got a
13 tight-fitting cover, if their cover is very
14 tight-fitting, especially like the N95 style or some of
15 these cloth covers that are especially tight fitting,
16 but even with a procedural-based mask, you're going to
17 see unsafe levels of carbon dioxide and unsafe levels
18 of oxygen. And even with the procedural-based what
19 they call mask, which I call breathing barrier, is
20 levels far in excess of a thousand parts per million,
21 multiples higher, 10,000, 20,000 parts per million.

22 And I have done -- I've done testing. I've done
23 video to show it. I am competent to operate testing
24 equipment, and my testing equipment has been, you know,
25 properly calibrated and properly tested to ensure that
26 it's working properly as well, so I could verify it.

1 The readings that I take would hold up in a court of
2 law.

3 Q What's the device that you use; what's the name of it?

4 A Well, there's -- I -- there's a number of devices that
5 I could use. It's not -- it's not restricted to one
6 type of device, because any device that has those
7 appropriate sensors with those arrangements -- with those
8 ranges of gas detection, as well as, you know, proper
9 use and maintenance of the device would be suitable,
10 but the one that I used was a MultiRAE Lite most
11 recently.

12 Q And is that -- is that testing device, is it designed
13 to test levels of carbon dioxide and oxygen in the
14 atmosphere?

15 A Yes, it is.

16 Q Okay.

17 A So with these devices, you can get to a (INDISCERNIBLE)
18 quick with any number of sensor configurations, because
19 they're designed to test multiple types of gases, but
20 carbon dioxide and oxygen is a very common
21 configuration, and the sensors can be -- they can be in
22 the monitor and installed in the monitor for that
23 purpose, yes.

24 Q So we know the limit for carbon dioxide is a thousand
25 parts per million, and I heard you say that you took
26 readings inside these masks while they're being worn,

1 and some of those readings were 5 or 10,000 parts per
2 million, but could you give me an idea of what an
3 average would be inside the mask after it's been on for
4 a bit?

5 A Okay, so let's say a couple minutes of wearing either a
6 nonmedical, a medical, or a procedural based, you're
7 looking at, a couple minutes of wearing, 20,000 parts
8 per million carbon dioxide, oxygen levels as low as 18
9 percent, 18 to 18-and-a-half percent. The lowest
10 oxygen can go legally is 19.5 before it becomes
11 immediately dangerous to life and health.

12 So in Occupational Health and Safety standards,
13 when we talk about IDLH, which stands for immediately
14 dangerous to life and health, we're looking at
15 device -- we're looking at levels that might not
16 necessarily cause you to drop dead once they're
17 reached, but certainly they're considered levels that
18 now become -- those exposures become harmful without
19 protection from those exposures.

20 Q And so now I've heard you use the number 20,000. So
21 are these -- well, let me ask you this: The parts per
22 million of carbon dioxide inside the mask while it's
23 being worn, does it fluctuate, or is it steady?

24 A Well, it depends on a number of things. It depends
25 upon what's the activity level of the person that's
26 wearing it. The hard -- the more exertion, the higher

1 the carbon dioxide's going to go. It also depends upon
2 what is the -- how tight-fitting is it around mouth and
3 nose. If it's very tight-fitting, obviously it's going
4 to trap more carbon dioxide than if it's a looser
5 fitting.

6 So there's various factors. So, yes, it can
7 fluctuate, or it can remain steady, depending upon the
8 fit of it and depending upon the activity level of the
9 person that's wearing it.

10 Q But in your experience with the loose-fitting ones,
11 even though there are these leaky areas where air gets
12 in and out, the parts per million of carbon dioxide
13 stays above a thousand inside --

14 A Absolutely. It's still harmful to wear. It's still
15 hazardous to wear for sure, because when you're exposed
16 to levels that are levels that are far in excess, even
17 with the looser -- even if it's not loose-fitting, it's
18 a looser, slightly looser fitting, you're still going
19 to find levels of oxygen that are lower than what is
20 legislatively allowed and levels of carbon dioxide that
21 are higher than what is legislatively allowed.

22 Q Now, you talked about some of the effects of this
23 overexposure to carbon dioxide. Have you, in your line
24 of work, have you ever encountered individuals
25 suffering from these effects?

26 A You know, I am not a physician; I am an Occupational

1 Health and Safety specialist, so I primary measure the
2 hazard. So I test people and equipment for their
3 occupations to ensure that they are protected from
4 respiratory hazards, but I do not evaluate the health
5 conditions of people that may be affected by low carbon
6 dioxide or high levels.

7 Q Okay.

8 MR. LAWRENCE: I'm sorry, to interrupt,
9 Mr. Chair, I don't see Dr. Aldcorn on the screen. I'm
10 just wondering, did we lose somebody? Excuse me,
11 sorry, Mr. Kitchen.

12 MR. KITCHEN: That's okay. I don't see him
13 either. He's --

14 MR. LAWRENCE: She.

15 MR. KITCHEN: I'm sorry, yes, she. Yeah,
16 that's a concern.

17 MR. LAWRENCE: Oh, there she is, okay.

18 DR. ALDCORN: Sorry.

19 MR. LAWRENCE: So I'm not sure if we want to
20 just read the last couple of minutes back for
21 Dr. Aldcorn's benefit.

22 MR. MAXSTON: Maybe we can ask Dr. Aldcorn
23 when she went offline --

24 DR. ALDCORN: Yeah.

25 MR. MAXSTON -- intentionally or not or
26 when she came back.

1 DR. ALDCORN: Completely unintentionally.

2 The last we were discussing was the fact that the
3 numbers of the CO2 and O2 levels would depend on the
4 nature of the tight-fittingness of the mask and the
5 exercise level of the individual. And I apologize.

6 MR. KITCHEN: So that means you did miss one
7 question --

8 DR. ALDCORN: I'm so sorry.

9 MR. KITCHEN: -- well, there's two ways we
10 can handle this: One, there's going to be a
11 transcript, of course, you'll get to read it; two, we
12 could just give Miss -- Miss Karoline to read it. It
13 doesn't matter to me, so I leave it to the Tribunal.

14 THE CHAIR: Let's have the court reporter
15 read it back. That way, she'll get the same thing we
16 all got.

17 THE COURT REPORTER: (by reading)

18 Q Now, you talked about some of the effects
19 of this overexposure to carbon dioxide.
20 Have you, in your line of work, have you
21 ever encountered individuals suffering
22 from these effects?

23 A You know, I am not a physician. I am an
24 Occupational Health and Safety specialist, so
25 I primary measure the hazard. So I test
26 people and equipment for their occupations to

1 ensure that they are protected from
2 respiratory hazards, but I do not evaluate the
3 health conditions of people that may be
4 affected by low carbon dioxide or high levels.

5 Q MR. KITCHEN: Mr. Schaefer -- I take it --
6 yes, everybody's here, good -- Mr. Schaefer, are you
7 confident that if somebody else did the same tests that
8 you've done on these masks or breathing barriers, are
9 you confident they would come up with the same results
10 that you have?

11 A If they're properly --

12 MR. MAXSTON: I'm a little concerned, that's
13 a little speculative. I don't know if you want to
14 consider rephrasing that, because I mean that -- what
15 studies, who is conducting them? I think that's just a
16 little bit broad, because there may well be studies
17 which disagree with Mr. Schaefer. I'm just a little
18 concerned about that type of question.

19 MR. KITCHEN: Well, I didn't use the word
20 "studies", but let me try this.

21 Q MR. KITCHEN: Are you confident,
22 Mr. Schaefer, that if somebody did the same testing
23 you've done with the same device that you used that
24 they would produce the same data regarding carbon
25 dioxide and oxygen?

26 A Well, if they're following the proper procedure, as I

1 have, and they had done everything the same that I did
2 as far as making sure that the equipment is -- has been
3 properly calibrated, properly bump-tested, and making
4 sure that everything is working as it should, then I
5 would anticipate that the difference being them holding
6 it versus you holding it should have no effect on the
7 readings whatsoever.

8 Q And just to be clear, you used the same device to test
9 the levels of oxygen and the levels of carbon dioxide?

10 A Yes, because the device was equipped with two sensors,
11 one with oxygen and one with carbon dioxide, to measure
12 these simultaneously, so I measured them both at the
13 same time actually.

14 So there's a display on the monitor, there's a
15 display for the readings of oxygen, and there's a
16 separate display for the readings of carbon dioxide, so
17 you can see both in realtime.

18 Q I see. Now, I notice you used the word "asphyxiation"
19 at one point in your report; can you just, for those of
20 us who do not know what that means, can you explain to
21 me what asphyxiation is?

22 A Well, asphyxiation is when your body is suffering from
23 insufficient oxygen, so whether it's, you know,
24 accidental, intentional, whatever it may be, your
25 body's not getting enough oxygen, that's asphyxiation.

26 And so there's various levels of it, but

1 asphyxiation may be fatal. It may cause injury. So
2 these are the kinds of things that this is what -- and
3 it's all due -- asphyxiation's due exclusively in
4 this -- in this -- I guess how I should say -- view to
5 insufficient oxygen.

6 Q Now, you say carbon dioxide is an asphyxiant, and it
7 displaces oxygen.

8 A M-hm.

9 Q Can you explain why or how that happens?

10 A Well, carbon dioxide is used to -- carbon dioxide can
11 displace oxygen, because it is considered an inert gas,
12 so pure carbon dioxide is able to displace oxygen.

13 So, for instance, let me give you an example,
14 carbon dioxide is often used in industrial situations
15 to purge out hazardous atmospheres of, say, things like
16 confined spaces and such to remove oxygen from those
17 spaces. So we know carbon dioxide can cause
18 displacement of oxygen. And it can do that in any
19 closed container, it doesn't have to be a confined
20 space like industrial, but any closed container where
21 you've got accumulations of carbon dioxide, and it can
22 affect how you can absorb and how you can be exposed to
23 oxygen, how you can absorb oxygen basically.

24 Q Now, I know you've mentioned the 19.5 figure, but I'm
25 just curious, what is the number that the Occupational
26 Health and Safety code in Alberta describes as being

1 the point at which, if you go below it, it becomes
2 hazardous?

3 A 19.5 percent. That's immediately dangerous to life and
4 health. So you can't go below 19.5 percent for any
5 reason.

6 And if you are exposed to air in Alberta, if you
7 are exposed in air -- breathing air that has an oxygen
8 concentration below 19.5 percent, you have to be
9 equipped with a separate air source, like
10 self-contained breathing apparatus, a supplied-air
11 system, that will give you the correct oxygen
12 requirement that you need.

13 Q That number of 19.5, is that fairly universal
14 throughout jurisdictions?

15 A Yes, it is.

16 Q Okay. I know in your report, you mention the
17 Occupational Health and Safety Administration [sic];
18 could you tell us what that is?

19 A Occupation Health and Safety Administration? What
20 exactly is your question?

21 Q I'm just wondering what is the Occupational Health and
22 Safety Administration, because that's not Occupational
23 Health and Safety Alberta. I just want to know what
24 that is.

25 A Okay, so Occupational Health and Safety
26 Administration [sic] is the US standard of safety

1 requirements. So it's funny, because when you say
2 it -- you said it full out; I'm more familiar with it
3 in its abbreviated form, which is OSHA.

4 Q OSHA.

5 A If you would have said "OSHA", I'm like absolutely, but
6 because I never hear it as Occupational Safety and
7 Health Administration, that's why I kind of just
8 hesitated for a second.

9 So anyhow, OSHA is the governing body for safety
10 standards and exposures in the United States.

11 Q Okay, and is that -- are they similar to OHS here in
12 Alberta?

13 A Yeah, many of the OSHA standards are accepted in
14 various jurisdictions in Canada as well.

15 Q So in your report, you refer to a 2007 letter from
16 OSHA. Can I just get you to turn to the first page of
17 this letter, that's page 085 or 85 from your report,
18 and for those who are following along, that's near the
19 end of the report, and then the top left-hand corner is
20 the page number, 085. Now, this letter, can I just ask
21 you to read out the first sentence of the third
22 paragraph there at the bottom of that page.

23 A (as read)

24 This letter constitutes OSHA's interpretation
25 of the requirements discussed.

26 Q We must be on different pages. So I'm looking at the

1 first page of the letter --

2 A Okay, I'm looking at -- I'm on page 085.

3 Q Maybe you've got a different page 085. Well, can I get
4 you to go to just the first page of this letter, where
5 it says "April 2nd, 2007, Mr. William Costello"; do you
6 see that?

7 A Oh, okay, okay, yes, I see that now, yeah.

8 Q Okay. And if we go down, the first paragraph starts
9 with "Thank you", second paragraph --

10 A Yeah.

11 Q -- starts "Within your letter", if you could just read
12 the first sentence of the third paragraph there.

13 A Okay, so the third sentence of the second paragraph --
14 third paragraph, okay, okay, I got you, okay. So it
15 is -- is it the one "to ensure that employees", is that
16 the second one?

17 Q No, it's starts with the word "Paragraph".

18 A Oh, "Paragraph", okay: (as read)

19 Of paragraph (d)(2)(iii) of the respiratory
20 protection standard considers any atmosphere
21 with an oxygen level below 19.5 percent to be
22 oxygen deficient and immediately dangerous to
23 life or health.

24 Did you want me to continue?

25 Q No. That sounds a little dramatic to me. Can you help
26 me understand, you know, from the perspective of an

1 Occupational Health and Safety expert, what does
2 "immediately dangerous to life or health" actually
3 mean?

4 A Well, I thought I actually explained that a little
5 earlier, but I'll tell you what, I'll go over it again.

6 So "immediately dangerous to life and health"
7 means that if you are exposed at that level or below
8 that level especially, then you are going to be putting
9 your health in harm's way. So that can have
10 significantly dangerous impacts on your health. And
11 the lower it goes, the lower it goes, like the more it
12 differentiates, like if it's -- the lower it -- for
13 oxygen, oxygen requirements here, the lower it goes
14 below the minimum oxygen requirement, the 19.5 percent,
15 the more dramatic and the more negative those effects
16 are going to be. So it's bad.

17 You never are allowed to exceed -- you're never,
18 ever allowed to breathe air less than 19.5 percent
19 under any circumstance in Occupational Health and
20 Safety settings. There's no -- there's no exceptions.
21 This is the deadline. You can't go below 19.5.

22 If you do, if somebody is tested and they are
23 exposed to levels of oxygen below 19.5 percent, the
24 operation, the working operation, would have to be
25 immediately shut down, and they would have to be
26 evacuated from that space; even if it was 19.4, they'd

1 have to be immediately evacuated. There's nothing
2 below 19.5 that's acceptable.

3 If somebody had to work in an atmosphere of 19.5
4 percent or lower, they would have to be equipped with a
5 separate source of clean air with -- delivered via air
6 line, supplied air-breathing apparatus. For those of
7 you listening that might not necessarily be aware what
8 that is, that is the same type of breathing apparatus
9 that fire fighters wear when they go into smoking
10 buildings, so they have a separate source of air. Why?
11 Because they need it, because they go into
12 oxygen-deficient atmospheres. And that's the type of
13 equipment you need to be exposed to any oxygen
14 concentration below 19.5 percent.

15 Q So when people are working with a procedural mask on,
16 are they working in an environment that's immediately
17 dangerous to life or health?

18 A The barrier, the breathing barriers create this
19 environment. So if you are in your office or home or
20 wherever it may be, and you are exposed to good
21 breathing air without a breathing barrier, wearing a
22 breathing barrier will create this hazardous
23 environment for your body.

24 Q Could I get you to turn the page over on this letter,
25 and you'll see there a box containing two paragraphs of
26 text; do you see that?

1 A Yes, I do.

2 Q Can I just get you to read the first three sentences of
3 text inside that box?

4 A (as read)

5 Human beings must breathe oxygen to survive
6 and begin to suffer adverse health effects
7 when the oxygen level of their breathing air
8 drops below 19.5 percent oxygen.

9 So for the person doing the documentation on this, I
10 should probably say that -- I'll read it over again,
11 just so that they can do their recording properly on it
12 by hand. So: (as read)

13 Human beings must breathe oxygen ... to
14 survive, and begin to suffer adverse health
15 effects when the oxygen level of their
16 breathing air drops below (19.5 percent
17 oxygen). Below 19.5 percent oxygen ...,
18 air is considered oxygen deficient. At
19 considerations of 16 to 19.5 percent, workers
20 engaged in any form of exertion can rapidly
21 become symptomatic as their tissues fail to
22 obtain the oxygen necessary to function
23 properly.

24 And do you want me to read what's in the brackets as
25 well there as reference?

26 Q No, that's good, thank you. Now, this concentration of

1 16 to 19.5, that range, is that what you've discovered
2 when you've tested the levels of oxygen between these
3 breathing barriers and the faces of those wearing them?

4 A Absolutely. Every oxygen concentration, whether it's
5 procedural they're wearing, and even at resting rate
6 without any form of exertion, just resting rate,
7 resting rate, we're seeing an oxygen drop of below 19.5
8 percent within 2 minutes of wearing it on either
9 procedural, nonmedical, or medical masks. Within 2
10 minutes, and that's without, that's without speaking a
11 lot or any other type of obvious exertion.

12 THE CHAIR: Mr. Kitchen --

13 MR. KITCHEN: Yes.

14 THE CHAIR: -- I'm just wondering, it's
15 quarter to 11, we started at 9, and I don't want to
16 interrupt the flow, but I'm wondering if people would
17 like to take a 5- or 10-minute break just to stretch
18 and whatever.

19 MR. KITCHEN: I'm fine with that. Can I
20 just -- because I'm almost done with this area of
21 questioning; can I just -- can I ask one question to
22 tie that up?

23 THE CHAIR: Certainly, certainly.

24 Q MR. KITCHEN: Mr. Schaefer, I'll just get
25 you to turn the next page over, can you just tell me
26 who is it that wrote this letter, and what's his title?

1 A The person who wrote this letter is Richard E. Fairfax,
2 F-A-I-R-F-A-X, Director, and his title is Directorate
3 of Enforcement Programs. So he would be in charge
4 of -- just for the record, this is somebody that's in
5 charge of enforcement programs for all of OSHA, which
6 is -- encompasses all of the United States, and in
7 Canada, we have the same even, within our own
8 individual provinces, we have the same standards for
9 oxygen that nothing under 19.5 percent. Everything
10 below 19.5 percent is immediately dangerous to life and
11 health. It's universal throughout North America -- or
12 I should say through the US and Canada.

13 Q One last question before we break, do you find it
14 strange that the public has been mandated to wear, by
15 various government bodies, devices that cause their
16 oxygen to be below a level that's safe?

17 A Well, I don't know if "strange" is the right word,
18 James. I'm not sure if "strange" is the right word. I
19 think it's much more serious than "strange", because I
20 know how serious it is, I know how serious the rules
21 are regarding oxygen concentrations below 19.5 percent.
22 In every one I've tested, every one, I've tested
23 adults, I've tested children, everyone, within 2
24 minutes of wearing either a procedural, nonmedical, or
25 the medical N95, even that's (INDISCERNIBLE) approved,
26 within 2 minutes is having oxygen drops below 19.5

1 percent.

2 Q Thank you.

3 MR. KITCHEN: And that's it for me for now
4 until we come back after our break.

5 THE CHAIR: Okay, well, let's reconvene at
6 11:00 then, and we'll continue on with Mr. Kitchen and
7 Mr. Schaefer. Thank you.

8 MR. KITCHEN: Thank you.

9 (ADJOURNMENT)

10 THE CHAIR: We are back in session, and
11 we'll have Mr. Kitchen continue with his direct exam of
12 Mr. Schaefer.

13 MR. KITCHEN: All right, thank you.

14 Q MR. KITCHEN: Now, Mr. Schaefer, I think you
15 touched on this, but just to clarify, in your
16 experience, do some people tolerate wearing these
17 breathing barriers better than others?

18 A Oh, absolutely, because some people have pre-existing
19 medical conditions that make it difficult to breathe
20 without any restriction. If you added a restriction on
21 top of that, it could be life threatening for those
22 people, and every bit of, you know -- depending upon --
23 there's levels, right? So if it's -- it depends on the
24 level of pre-existing medical condition they have and
25 the severity of it, but it could be life threatening,
26 it could cause somebody a life-threatening medical

1 emergency to wear a breathing barrier, even a properly
2 certified respirator, if they haven't -- if they don't
3 have the health and they haven't been properly screened
4 beforehand, before wearing it. It's important. It's
5 important that we check out and people are
6 health-assessed before we restrict our breathing. It's
7 important.

8 Q Do you do screening and fit testing at workplaces for
9 employees?

10 A Absolutely. Screening is a prerequisite for fit
11 testing. I can't fit test anybody that hasn't
12 completed screening protocol.

13 Q Can you tell me what are some of the things you look
14 for when you're screening?

15 A Well, the screening is a document that the patient -- I
16 shouldn't say "patient", but the client, the customer
17 or client is going to complete in their own -- with
18 their own privacy, so they're going to complete it
19 completely themselves, and then I just look at the
20 results.

21 The results that I'm looking for, there's a list
22 of pre-existing medical conditions, and if they
23 identify that they currently have any of those
24 pre-existing medical conditions, then my obligation, as
25 an Occupational Health and Safety fit testing
26 professional, is that I have to refer them to their

1 physician for further testing and analysis to determine
2 whether or not they have the physical fitness to be
3 able to handle a restriction in their breathing.

4 Q Is asthma one of those conditions?

5 A Yes. Do you want me to mention some of the conditions?

6 Q Well, you can only do that if I ask you to do that.
7 Well, let me ask you, just off the top of your head,
8 you don't need to go through the whole list, but just
9 give me some examples of some of these conditions just
10 so we have an idea. We know one of them is asthma, but
11 give us an idea.

12 A Allergies, high blood pressure, cardiac conditions,
13 lung illnesses. I'm not reading; I'm just going off
14 memory right now. Let's just see here, I can look up
15 that form quickly here if you would like me to read
16 them all, but, you know, those are included in that, so
17 allergies, asthma, heart disease, high blood pressure.

18 Okay, I'm just going to open it up right now.

19 Q Well --

20 MR. MAXSTON: Mr. Kitchen, I'm not going to
21 contest your client's view on different conditions.
22 I'm not sure if we have to go down this road, to be
23 honest with you. I don't --

24 MR. KITCHEN: Yeah --

25 MR. MAXSTON -- want to have to get him to
26 read from something, if that's what you need him to do.

1 MR. KITCHEN: No, I don't.

2 Q MR. KITCHEN: And, you know, since what
3 you're reading from, Mr. Schaefer, is not actually in
4 the record. I think that's fine, that answers my
5 question anyways.

6 Now, we've talked about this immediate danger,
7 that life and health, but does it surprise you then
8 that most people, when they wear these breathing
9 barriers, even for hours on end, that they don't pass
10 out from wearing them?

11 A Well, it doesn't surprise me, but just because they're
12 not physically passing out does not mean that harm is
13 not being done.

14 So here's the facts that I've been able to
15 establish from my testing: People that wear breathing
16 barriers are subjecting themselves to an oxygen
17 deficient IDL -- IDLH inhalation atmosphere. And in
18 many cases, they subject themselves to an IDLH level
19 carbon dioxide as well.

20 If you subject yourself to IDLH levels of low
21 oxygen, it will negatively impact your health whether
22 you're aware of it or not, and that's why all the
23 governing bodies that govern the rules of health and
24 safety legislate what the minimum oxygen concentration
25 in air that you can be exposed to, because you might
26 not necessarily feel harm right away, you might not

1 necessarily have a headache right away or dizziness,
2 you might not necessarily feel nausea right away, any
3 of these other minor -- more minor types of symptoms of
4 low oxygen.

5 But we know that if you are exposed to a hazard in
6 a low enough concentration or a high enough
7 concentration, depending on what the hazard is, harm
8 will occur, and it might be something -- it might not
9 necessarily be something that the wearer or user is
10 aware of, at least not immediately.

11 Q In your experience, has Alberta Health Services or the
12 Alberta Public Health authorities generally, have they
13 acknowledged the risks and harms associated with these
14 breathing barriers that you've been talking about?

15 A I've reached out to Dr. Hinshaw back in June of last
16 year with a very detailed letter on pointing out -- at
17 that time, it was -- nothing was mandated, it was just
18 a recommendation that people wear, in Alberta, N95,
19 nonmedical, or procedural what they call, you know,
20 surgical mask for protection from COVID, and I had to
21 point out a lot of the errors that she had stated.

22 I have read -- the only reply that I have received
23 from Dr. Hinshaw's office to date is a read receipt.
24 Actually it was CC'd to 23 other doctors in charge of
25 public health in Alberta. So I have a lot of read
26 receipts, no official response.

1 To also clarify, besides not having an official
2 response, I have never -- there's been numerous
3 attempts to contact Dr. Hinshaw's office for a
4 response, and it has not been granted, it's been
5 denied.

6 Q Do you have any thoughts on why Alberta Health Services
7 or the Chief Medical Officer of Health hasn't been
8 willing to discuss these risks and harms?

9 A I have thought --

10 MR. MAXSTON: I don't want to be difficult
11 here, but I think that question really is asking your
12 witness to talk about what's in the minds of the other
13 people. I think if you rephrase it and ask him a
14 different question, I might not object, but I don't
15 think he can speak to why they're not doing or doing
16 anything.

17 MR. KITCHEN: Right, I was asking him his
18 thoughts, so I'll just ask it again with those words in
19 there.

20 Q MR. KITCHEN: Mr. Schaefer, and, you know,
21 maybe you just have no idea, and that's okay, but do
22 you, from your perspective, can you think of any
23 reason -- or what do you think the reason is that there
24 hasn't been any discussion on this?

25 A I don't know. In all honesty, Mr. Kitchen, I have no
26 clue, but I will tell you this, is that normally,

1 normally, before any types of mask mandates are --
2 would be even recommended in Occupational Health and
3 Safety settings, professionals like myself would be
4 consulted long in advance of any potential mandates
5 that would occur, and that has not happened this time,
6 in this instance.

7 Q Now, as an Occupational Health and Safety expert, as an
8 Occupational Health and Safety consultant, do you work
9 at all with Occupational Health and Safety Alberta?

10 A I'm always -- I don't work specifically for
11 Occupational Health and Safety Alberta; they have their
12 employees, their own government employees, but do I
13 work in union with them, like in cooperation?
14 Absolutely. Everything that is Occupational Health and
15 Safety-related in Alberta works in cooperation with
16 Occupational Health and Safety representatives in
17 Alberta.

18 Q And in your experience, has Occupational Health and
19 Safety, OHS, have they acknowledged any of these risks
20 or harms associated with these breathing barriers?

21 A There hasn't been any -- there hasn't been any real
22 willingness to discuss that on behalf of OH&S, and
23 they're more than happy to back Provincial mandates
24 without discussion and without discussion or any other
25 opinion that's contrary to the AHS mandate.

26 Q Why do you think that is?

1 A I don't know. I don't know, Mr. Kitchen, but it is
2 very strange, because in a normal time, before COVID,
3 there was so much discussion about any new policy that
4 could be implemented long in advance before it would
5 become a mandate. There's planning, there's
6 discussion, there's determination.

7 But I think what I find that's very interesting is
8 that this is not just an Alberta situation; this is a
9 worldwide thing. How strange is it that something like
10 this type of breathing barrier could be mandated,
11 rolled out so fast without any consulting of, you know,
12 no one, no one trusted respirator professionals, by
13 medical staff, who aren't experts in respiratory
14 protection, they aren't qualified to -- medical doctors
15 alone are not qualified to comment or give advice on
16 various aspects of respiratory protection because
17 they're not asked -- they don't deal in respirators
18 professionally, they have very limited knowledge about
19 respirators and masks and their protection levels and
20 what they can do and what they can't do. And I find it
21 strange that this has been implemented on a worldwide
22 basis with virtually no contest, without official
23 contesting of it, it's very strange.

24 Q In fact, earlier you said, it was more than strange,
25 you said it was serious?

26 A Well, strange that it hasn't been documented, but when

1 I said serious, I said serious in relation to oxygen --
2 I said serious in response to your question for me on
3 the effects on people being exposed to less than 19.5
4 percent oxygen. Yes, that is beyond strange. That is
5 alarming. That is alarming that these devices could be
6 mandated when they clearly -- when the testing that I
7 am trained to perform clearly shows oxygen levels
8 dropping below 19.5 percent with all three of these
9 versions of mandated breathing barriers, whether it's
10 an adult or a child even at resting rate, and we know
11 that the drop is going to be even more significant for
12 people that are engaged in any kind of activity.

13 Q And do you understand that we're here today because
14 Dr. Wall has contested these breathing barriers and
15 that, for doing so, he is facing professional
16 discipline?

17 A Yes, I'm aware.

18 Q On page 8 of his report, Dr. Hu, I think his first name
19 is Jia, but Dr. Hu says -- and just to clarify, he is
20 the expert tendered by the Alberta College of
21 Chiropractors -- on page 8 of his report, he says: (as
22 read)

23 There are no known harms associated with
24 masking.

25 Now, maybe it's obvious, but do you disagree with his
26 statement?

1 A Completely. I completely disagree with Dr. Hu's
2 statement, because there are numerous scientific
3 research papers and studies. I've looked through
4 Dr. Hu's references, and I didn't see one registered
5 scientific study in any one of his references, but I
6 have references from registered scientific journals,
7 medical journals. I have references from the --
8 published by the National Library of Medicine to show
9 quite the opposite of what Dr. Hu's references claim.

10 Plus, in addition, my own -- obviously, my own
11 testing, of course, but then as far as scientific
12 references go, there's -- I can send a whole bunch of
13 actual registered, published, scientific medical
14 researchers that have shown quite the contrary to what
15 Dr. Hu has stated.

16 Q A number of witnesses in this hearing, including
17 Dr. Hu, have said that the issue of masking as it
18 relates to COVID is a politicised issue. Do you think
19 it's a politicised issue?

20 MR. MAXSTON: I am going to have to object
21 to that, Mr. Chair, that runs afoul of commenting on
22 the harm or lack thereof in terms of masking.

23 MR. KITCHEN: I think that's a fair
24 question.

25 THE CHAIR: Can you restate it?

26 MR. KITCHEN: And this is part of the reason

1 why I raised the fact that this has been a constant
2 issue in the hearing, the other expert, Dr. Hu, who
3 Mr. Schaefer just responded to, said that masking is a
4 politicised issue, and so have several other witnesses,
5 so now I'm asking Mr. Schaefer if he thinks masking as
6 it relates to COVID is a politicised issue.

7 MR. MAXSTON: I'll just again state,
8 Mr. Chair, that I think this witness is being tendered
9 for a very specific purpose, and that was harms, in his
10 view, that are caused by masking, and I don't think
11 this witness is anywhere near the -- is a very
12 different type of witness from the other experts that
13 have testified.

14 MR. KITCHEN: I don't see what entitles
15 Dr. Hu to talk about the politicisation of the issue
16 that doesn't also entitle Mr. Schaefer to talk about
17 it.

18 THE CHAIR: Well, I don't want to go back
19 and retroactively deal with Dr. Hu, but I do think this
20 witness was qualified as an expert in a very specific
21 area, and I do think the question extends beyond that.

22 Q MR. KITCHEN: Well, just one more question
23 then, Mr. Schaefer, from your perspective, do you think
24 Occupational Health and Safety is the primary
25 consideration in forming these mask mandates?

26 A Well, Mr. Kitchen, Occupational Health and Safety has

1 not been a consideration at all in these mask mandates,
2 as demonstrated, and I would contest any safety
3 professional with qualifications equal to mine to prove
4 otherwise, that oxygen deficiency is created by wearing
5 a breathing barrier. That is why our parents taught us
6 to never put a bag over our heads. It is pretty
7 standard, you cover your mouth and nose with a random
8 object, it limits your ability to breathe naturally,
9 and anything that limits your ability to breathe
10 naturally can potentially be harmful to health. That's
11 why we have screening, and anybody with pre-existing
12 medical conditions that has a limit on their breathing
13 could cause a life threatening medical emergency.

14 MR. KITCHEN: Thank you. Those are all my
15 questions.

16 MR. MAXSTON: Mr. Chair, if you're
17 comfortable, I'll just continue on. I don't expect to
18 be too long.

19 THE CHAIR: Yes, that's fine. Just before
20 you start, Mr. Maxston, Mr. Schaefer, you're okay to
21 continue with this cross-examination, or did you want a
22 break?

23 A I'm fine. Thank you very much, Mr. Lees.

24 THE CHAIR: Okay.

25 Mr. Maxston Cross-examines the Witness

26 Q MR. MAXSTON: Mr. Schaefer, I've got some

1 questions I'm going to take you to in a couple of
2 minutes that I had thought of in advance of the
3 hearing, but I want to touch on a few things that are
4 fresh in my mind now that you've just talked about with
5 Mr. Kitchen, if you don't mind.

6 A Sure.

7 Q So a few minutes ago, you talked about the fact that
8 some people tolerate masking better than others and
9 that that was a function of pre-existing medical
10 conditions and the severity of those medical
11 conditions; do you remember that exchange you had?

12 A Yes, I do.

13 Q And I think you talked about properly screening
14 individuals as well, and it's important that people are
15 health-tested in terms of masking and medical
16 preconditions; do you remember that?

17 A Well, at least as far as identifying pre-existing
18 medical conditions that could make them not a good
19 candidate for wearing any type of mask or respirator.

20 Q Sure. And you would agree with me that it's important
21 to go to a doctor to determine whether they have any
22 pre-existing medical conditions?

23 A That is correct.

24 Q I want to touch on a few things that you talked about
25 with Mr. Kitchen. You talked about, in your view, that
26 Dr. Hinshaw didn't contact OHS, I think that's the

1 Provincial OHS, but I think you'd agree with me that
2 you don't have any direct knowledge of that, do you?

3 A I didn't say that Dr. Hinshaw didn't contact OH&S.
4 What I had said was that Dr. Hinshaw has not been --
5 air testing on these masks has not been done, so they
6 haven't -- the safety of people wearing them has not
7 been properly determined, because there has been
8 absolutely no air testing on oxygen deficiencies or
9 carbon dioxide accumulations on these masks by --

10 Q Well, I don't want to belabour -- oh, sorry, so sorry,
11 were you finished?

12 A Yeah.

13 Q I don't want to belabour this, but I think,
14 Mr. Schaefer, it's fair to say though you haven't been
15 involved in the development of the CMOH orders, have
16 you?

17 A That is fair to say; I have not been involved in the
18 development of those orders.

19 Q You made a comment I think it was a couple times during
20 your testimony then, Mr. Kitchen had sort of a wrap-up
21 question for you, and you were talking about the fact
22 that it was strange that devices are mandated, that
23 breathing devices are mandated. Would you agree with
24 me that it is clear they are mandatory though?

25 A I would agree with you that it is clear that these
26 breathing barriers are currently mandated, that's

1 correct.

2 Q And you've had a chance to look at the College's
3 Pandemic Directive, I assume?

4 A I have not memorized it, but I have had exposure to it;
5 I have looked at it, yes.

6 Q Yeah, and it's not a memory test for you. I'm just --
7 there's a phrase, and my friend and I talked about this
8 when you were being qualified, there's a phrase in it
9 that says "surgical or procedure masks are the minimum
10 acceptable standard", and it goes on to say that
11 chiropractors and staff must be masked. You'd agree
12 with me that that's mandatory for chiropractors?

13 A You know, I can't agree with -- look, just because --
14 just because it's -- just because one of these or more
15 of these breathing barriers is mandatory for
16 chiropractors and other professions, doesn't mean
17 they're safe.

18 Q Oh, I'm not asking you that. I'm asking you it's
19 mandatory for chiropractors, question mark, full stop.

20 A Aware a procedural-based is what you're saying?

21 Q Yeah, I'm just saying that the Pandemic Directive, and
22 I pointed you to the masking situation in particular,
23 that's mandatory for chiropractors; aside from your
24 views on the safety or harm, that's mandatory?

25 A That appears to be correct.

26 Q So, Mr. Schaefer, I'm going to turn you to now a couple

1 of, I guess, more generic questions, and I just wanted
2 to be clear, and you kind of touched on this with
3 Mr. Kitchen and I think with me a minute or 2 ago, you
4 haven't been involved in the Government's response to
5 COVID-19; that's correct?

6 A That is correct.

7 Q And you've been qualified today to provide your opinion
8 about the harms that masking can cause for the wearer,
9 and that's correct?

10 A That's correct.

11 Q And you're not here, of course, to provide any evidence
12 about the benefits that might accrue from masking for
13 people in the presence of the person being masked; is
14 that correct?

15 MR. KITCHEN: Hold on, hold on --

16 A Well -- well --

17 MR. KITCHEN: -- that question --

18 THE CHAIR: Just (INDISCERNIBLE),

19 Mr. Schaefer. Sorry, go ahead, James.

20 MR. KITCHEN: That question is premised on
21 efficacy of masks, which my friend, my learned friend,
22 went out of his way to make sure we were not going to
23 talk about, and now he's trying to talk about it.

24 MR. MAXSTON: I'm trying to just make a
25 comment that this witness isn't providing that
26 evidence.

1 MR. KITCHEN: Well, that's been established
2 time and over again, so I don't understand why we're
3 just filling the record with repeats of what we've
4 already established.

5 MR. MAXSTON: Well, I just wanted to be
6 clear that this witness is not providing evidence about
7 any potential benefits to persons in the presence of
8 the wearer of a mask.

9 MR. KITCHEN: Well, I think we're --

10 MR. MAXSTON I'll move on, I'll move one,
11 yeah. Mr. Kitchen, if you have a problem with this,
12 you'll let me know.

13 Q MR. MAXSTON: You're not here to provide any
14 evidence about the transmission of COVID for preventive
15 measures for COVID?

16 A That's correct.

17 Q Would it be fair to say that your views about mandatory
18 masking are inconsistent with most government Public
19 Health agencies, in Canada I should say?

20 A In Canada, as far as the mandates that have come down
21 provincially and nationally?

22 Q Yeah, that would be correct.

23 A Yeah, I would say that we definitely have a difference
24 of opinion.

25 Q You talked with my friend, Mr. Kitchen, about the
26 testing that you've done. None of that testing is

1 attached to your expert report, is it?

2 A That testing that I've done is not -- let me just take
3 a look here.

4 MR. KITCHEN: Perhaps you could be a little
5 more specific, Mr. Maxston --

6 MR. MAXSTON Yeah (INDISCERNIBLE) --

7 MR. KITCHEN: -- there's no exhibit that has
8 a list of the readings. Is that what you're getting --

9 MR. MAXSTON: Yeah, that's kind of what I'm
10 getting at.

11 Q MR. MAXSTON: And, Mr. Schaefer, this isn't
12 a gotcha question, but I'm just looking at the second
13 page of your report, and you talk about using the
14 MultiRAE Lite, and you observed that upon commencement,
15 and you have some comments then. I'm just saying
16 there's no data or test results from those tests you
17 performed which are part of your expert report,
18 correct?

19 A I don't have it in the report, specific readings, but I
20 have -- I've done lots of documentation on it and
21 reports on it, so --

22 Q Yeah, I'm just -- I wasn't trying to take you down the
23 road of what you did; I just wanted to be clear they're
24 not attached.

25 A Yeah, the specific testing, I've done a lot of testing,
26 so for me to have all of the different test subjects

1 and all of the different readings would be quite
2 extensive as far as those testing results would be, so
3 they're not attached, no.

4 Q Okay. I want to ask you some questions about your
5 registration with the Alberta College of Paramedics,
6 and I think you've told me that you were at EMS for one
7 year, you were a regulated member of that college for
8 one year. Did you have to meet any entry requirements
9 to get your EMS registration with the ACP --

10 A Absolutely.

11 Q -- College of Paramedics?

12 A Yes, I did.

13 Q And that's a mandatory requirement to become an EMS
14 with the College of paramedics?

15 A It's a mandatory requirement to be registered with the
16 Alberta College of Paramedics to work in an
17 occupational setting as a medic in Alberta.

18 Q And even though you were only a -- I shouldn't say
19 "only" -- but it was a one-year period you were a
20 regulated member, there were mandatory requirements you
21 had to follow during that year like con ed or paying a
22 licence fee; would you agree with that?

23 A Yes, in fact, the only requirements they registered
24 with Alberta College of Paramedics, because I completed
25 all of their requirements, the only requirement, moving
26 forward from year to year, was to pay the fee to stay

1 registered. And that registration is required to work
2 as a medic in Alberta, and I had no intention of
3 working as a medic in Alberta as I was already fully
4 employed as an Occupational Health and Safety
5 specialist, so that's why I ended it.

6 Q Sure. And just to be clear, is it your understanding
7 that if you don't follow those requirements, you can't
8 be a member of the College?

9 A Yeah, you have to follow -- you have to work -- you
10 have to practice your skills within a protocol as
11 determined by Alberta College of Paramedics, yes, in an
12 occupational setting.

13 Q Sure. I'm going to ask you a fairly specific question
14 here, but would you comply with the paramedic
15 equivalent of the College's pandemic requirement about
16 mandatory masking if you were in the field?

17 A I would comply with wearing a mask, but I would not
18 wear a breathing barrier. I have not worn a breathing
19 barrier, and I won't. So, remember, there's a big
20 difference between what's currently been mandated and
21 what an engineered mask is.

22 A mask is safe to wear. A mask is engineered
23 inhalation openings. A mask has an engineered
24 exhalation opening. That's safe. It's established as
25 safe. It's proven as safe over many decades.

26 So a closed cover is not something that I would

1 wear, no, but I would wear an actual mask.

2 Q So I just want to be clear, again, when we look at the
3 Pandemic Directive for the College of Chiropractors, it
4 says that the requirement is a surgical or a procedure
5 mask; you would comply with that kind of directive from
6 your regulatory body if that was applicable?

7 A I know that those aren't masks. Those are breathing
8 barriers. I'm not going to jeopardize my health and
9 safety through low oxygen and accumulations of carbon
10 dioxide for any occupation, because that's my health,
11 and my health is important to me. It's more important
12 than anything else.

13 Q So you would choose to not comply with it?

14 A I would wear -- I would wear something that far exceeds
15 the recommended protection, which is an actual
16 certified respirator that actually is designed for easy
17 and safe breathing, I would wear that, and it would far
18 exceed any potential respiratory benefit that a
19 breathing barrier could provide.

20 Q Those are all my questions --

21 A (INDISCERNIBLE)

22 Q Sorry, did you want to finish? I cut you off.

23 A Oh, sorry, I just wanted to say that -- so what I would
24 wear would be far and above what has been currently
25 mandated.

26 MR. MAXSTON: Those are all my questions,

1 Mr. Schaefer, thank you.

2 A Thank you very much, Mr. Maxston.

3 THE CHAIR: Mr. Kitchen, did you have
4 anything on redirect?

5 MR. KITCHEN: Just a couple.

6 Mr. Kitchen Re-examines the Witness

7 Q MR. KITCHEN: Mr. Schaefer, you attest to
8 the truth of what you said about the results of the
9 testing you did?

10 A Well, I am under oath in this courtroom, so I believe
11 I've already done that.

12 Q You just finished a discussion with my learned friend
13 about whether or not you would wear a breathing barrier
14 if your regulatory body told you you had to in order to
15 practice, and if you didn't have access to the
16 respirator, if all you had access to was the breathing
17 barrier that they said you had to wear, would you wear
18 it to keep your licence?

19 A No, I would not wear it to keep my licence because my
20 health is more important than my job.

21 MR. KITCHEN: Thank you.

22 Q MR. KITCHEN: Wait, hold on, forgive me.
23 Mr. Maxston asked you about screening and
24 pre-conditions. Just to clarify, you would say that
25 masks -- well, would you say that masks are harmful to
26 people who have no pre-existing conditions at all?

1 A Look, a mask is engineered for breathing. People
2 without pre-existing conditions should be able to wear
3 an actual engineered mask with engineered inhalation
4 and exhalation valves no problem, provided -- you know,
5 depend -- again, it depends like on previous -- if
6 there's no pre-existing conditions, they're considered
7 fit, then an actual mask is safe to wear for that
8 person.

9 But if you're talking -- I'm not talking about a
10 breathing barrier here. A breathing barrier with no
11 inhalation valves, no exhalation valve, that's not safe
12 for anybody.

13 MR. KITCHEN: Thank you. Those are actually
14 all my redirect questions.

15 THE CHAIR: Thank you very much,
16 Mr. Schaefer. I believe that concludes your testimony
17 this morning, and we thank you for your attendance and
18 for your testimony, and you're free to leave the
19 hearing.

20 A Thank you very much, Mr. Lees.

21 THE CHAIR: It's 20 to 12, and we could
22 start at 12:45. Mr. Maxston?

23 MR. MAXSTON: Yes, I wondered, do you have
24 any questions? You didn't have any questions, I'm
25 assuming, of Mr. Schaefer --

26 THE CHAIR: Oh, I'm sorry, I jumped the

1 gun there. Did the Members of the Tribunal want to
2 caucus and discuss that? I think I'll have to take a
3 lashing for that, probably ten lashes, but yeah.

4 So I suggest then that we break for lunch, and we
5 reconvene at 12:45 with Mr. Kitchen's witness and go
6 from there.

7 MR. MAXSTON: Just so I'm clear, Mr. Chair,
8 my apologies, will you want Mr. Kitchen -- maybe this
9 is a question Mr. Kitchen is going to ask, do you want
10 him to have Mr. Schaefer available then at 12:45 if you
11 have any further questions? And I'm just asking, I
12 don't know exactly where we're heading at 12:45.

13 THE CHAIR: Okay, I'll touch base with the
14 Tribunal Members when we break here, and if there are
15 some follow-up issues from the Hearing Tribunal with
16 respect to Mr. Schaefer, I'll get in touch with
17 Mr. Kitchen, and we'll arrange to get him back.

18 MR. KITCHEN: Yeah, if you could just please
19 let me know within 10, 15 minutes, just that way, I can
20 release him or I can keep him around.

21 THE CHAIR: Yeah, thank you for bringing
22 that up. That's my fault, I got ahead of myself. When
23 we break now, we'll go into a break-out room first, the
24 Panel Members and our legal counsel, and we'll just
25 find out if there are any follow-up questions, and then
26 I will let you know, Mr. Kitchen.

1 MR. KITCHEN: Okay, thank you.

2

3 PROCEEDINGS ADJOURNED UNTIL 12:45 PM

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1 Proceedings taken via Videoconference for The Alberta
2 College and Association of Chiropractors, Edmonton,
3 Alberta

4

5 November 20, 2021

Afternoon Session

6

7 HEARING TRIBUNAL

8 J. Lees

Tribunal Chair

9 W. Pavlic

Internal Legal Counsel

10 Dr. L. Aldcorn

ACAC Registered Member

11 Dr. D. Martens

ACAC Registered Member

12 D. Dawson

Public Member

13 A. Nelson

ACAC Hearings Director

14

15 ALBERTA COLLEGE AND ASSOCIATION OF CHIROPRACTORS

16 B.E. Maxston, QC

ACAC Legal Counsel

17

18 FOR DR. CURTIS WALL

19 J.S.M. Kitchen

Legal Counsel

20

21 K. Schumann, CSR(A)

Official Court Reporter

22

23 (PROCEEDINGS RECOMMENCED AT 12:46 PM)

24 THE CHAIR:

Mr. Kitchen, the floor is

25 yours.

26 MR. KITCHEN:

All right, Dr. Dang, first

1 thing is we're going to have you sworn in by Madam
2 Court Reporter, Karoline, so she's going to do that,
3 and then we'll switch over to me asking you questions.

4 THE WITNESS: Okay.

5 DR. BAO DANG, Sworn, Examined by Mr. Kitchen

6 MR. KITCHEN: So, Chair, Mr. Maxston and I
7 have agreed we're going to consent to the qualification
8 for Dr. Dang. However, I know Mr. Maxston has a couple
9 comments, so what I'm going to do is I'm going to put
10 the qualification forward, and then Mr. Maxston can
11 give comments, and if there's anything I need to say in
12 reply, then I'll do that.

13 So, Mr. Chair, the -- Dr. Wall tenders Dr. Bao
14 Dang as an expert in the area of respirology and, in
15 particular, COVID-19 and the efficacy of masking and
16 related measures.

17 Now, I'll turn it over to Mr. Maxston, who I think
18 wants to just make some comments on that.

19 MR. MAXSTON: Mr. Chair -- thank you,
20 Mr. Kitchen -- Mr. Chair, as I've discussed with
21 Mr. Kitchen, I just want to, again, emphasize the
22 Complaints Director's view that you can accept evidence
23 in whatever manner you see fit, but that the Complaints
24 Director's position is with respect to these expert
25 witnesses that the focus of this case is regulatory
26 compliance and not the efficacy of masking, and you

1 should place appropriate weight on the evidence of this
2 expert. Thank you, Mr. Kitchen.

3 MR. KITCHEN: Thank you.

4 THE CHAIR: Okay, thank you both. We're
5 okay to proceed then, Mr. Kitchen?

6 MR. KITCHEN: Unless you have any objections
7 to the qualification that I've provided for you.

8 THE CHAIR: I heard comments; I didn't
9 hear any objections, so --

10 MR. KITCHEN: Okay.

11 THE CHAIR: -- let's proceed.

12 Q MR. KITCHEN: Okay, all right. Well,
13 Dr. Dang, let's start with, do you practice here in
14 Alberta?

15 A I do.

16 Q And where?

17 A My main clinical practice is in Medicine Hat, and then
18 I do mainly consultancy work in Calgary.

19 Q And what does your clinical practice in Medicine Hat
20 consist of?

21 A It is an outpatient community respirology practice in
22 my own office, as well as interpreting and managing my
23 own pulmonary function lab there, as well as seeing
24 patients in hospital at the Medicine Hat Regional
25 Hospital for internal medicine, critical care, and
26 respirology.

1 I should mention I also have a satellite clinic in
2 Brooks, which is a small city near Medicine Hat as
3 well, with an associate pulmonary function lab there as
4 well, and I spend a few days per month there as well.

5 Q Can you tell us what's a pulmonary lab?

6 A They -- well, basically we do pulmonary function
7 testing, which is a series of breathing tests. Some
8 people here may have done it, where you sit in a glass
9 booth and you blow through a tube at the instruction of
10 a respiratory therapist to see if you have chronic lung
11 disease such as asthma or COPD or other lung disease,
12 as well as doing things like teaching on how to use
13 inhalers and also other tests such as methacholine
14 challenge test and arterial blood gases.

15 Q So you're familiar with doing what I'm going to call
16 breathing testing?

17 A Correct, I think the -- the respiratory therapist does
18 most of the hands-on teaching and testing, but I'm the
19 medical director, so I run it, yes.

20 Q Okay, thank you. And how much of your practice would
21 you say is at the hospital as opposed to at your
22 clinic?

23 A I would estimate 20 to 30 percent at the hospital and
24 the rest in my office.

25 Q And can you give us an idea of the type of things you
26 do at the hospital?

1 A So I am part of the call schedule for general internal
2 medicine, as well as doing respirology consults as
3 well, so we see everything. Basically, the family
4 doctor or the hospitalist would consult internal
5 medicine for any complicated case of heart, lung, or
6 any body system disease, as well as managing patients
7 in the intensive care unit, and we would see patients
8 in the emergency room at the request of the emergency
9 physician for a consultation and ward consultations as
10 well.

11 Q So would you, just to give me an idea of this, would
12 you be confined to simply reading charts and talking to
13 doctors, or would you actually go into the room where
14 the patient is?

15 A Yes, we would always go to examine the patient as well
16 and get a full history, so it would be a full
17 assessment of the patient, reviewing the chart of
18 course as well, but examining and talking to the
19 patients and then formulating our opinions and advice.
20 Occasionally, I do procedures as well and -- or
21 interventions to help the patient or to diagnose
22 disease in patients.

23 Q Thank you. So would you refer to what you do, what you
24 just described, as direct patient care; would that be a
25 fair assessment?

26 A That is correct.

1 Q I just want to ask you a few questions about your
2 impartiality. Dr. Dang, do you know Dr. Curtis Wall
3 personally?

4 A No, I've never met him.

5 Q Do you have any personal interest or personal stake in
6 the outcome of this case?

7 A I do not.

8 Q Do you have any financial interest or stake in the
9 outcome of this case?

10 A No, I do not.

11 Q Do you understand your duty to provide this Tribunal
12 with your expert knowledge and opinions in an objective
13 manner?

14 A Yes.

15 Q Thank you. Dr. Dang, are there different types of
16 health care settings?

17 A Yes.

18 Q Is there a big difference between, let's say, the
19 hospital in Medicine Hat and your clinic?

20 A Yes, that is correct.

21 Q Is there a big difference between a hospital setting
22 and a chiropractor's office?

23 A I would say so.

24 Q Based on your knowledge and the type of work you do at
25 the hospital, would you say the type of the work you do
26 is quite different than what a chiropractor does in a

1 chiropractic office?

2 A Yes, I would think so.

3 Q In a setting like the hospital in Medicine Hat, are a
4 large number of the people there symptomatic?

5 A Generally, yes, that is usually one of the requirements
6 of being hospitalized.

7 Q In a setting like a hospital, do nurses and doctors
8 regularly interact with people that possibly have an
9 infectious illness?

10 A Yes, potentially.

11 Q In settings like hospitals, are they designed to
12 receive symptomatic patients potentially ill with
13 infectious illnesses?

14 A Yes, absolutely.

15 Q What would you say are some of the big differences
16 between a hospital setting and a setting like a
17 chiropractic office?

18 A Well, I would think the acuity, patients are -- tend to
19 be quite sick, sick enough certainly to go to the
20 hospital and sometimes be admitted. They're
21 symptomatic. There are lots of interventions that are
22 offered to patients, some of them quite invasive.

23 And basically, generally, I think the biggest
24 difference would be the degree of acuity of sickness of
25 a patient as it would merit them coming to the hospital
26 and usually being admitted to the hospital.

1 Q Thank you. Now, I'm going to move into your report.
2 In the second paragraph of your report, you state how
3 ridiculous it would have been to mandate the entire
4 public wear masks during past outbreaks of respiratory
5 infections, such as H1N1 and SARS. Now, the first
6 question I have for you on that is are those infections
7 viral-based or bacterial-based?

8 A Both of them are viral-based.

9 Q And you said H1N1 was in 2009 and SARS was in 2003;
10 that's correct, right?

11 A Yes, I actually, of course, took part in the medical
12 care during those time periods as well.

13 Q Well, that was my next question, so you were practicing
14 medicine during both of those?

15 A Well, in 2003, I was in medical school, and then in
16 2009, I was in my full practice at that time.

17 Q Okay.

18 A But in both cases, I had clinical exposures, of course,
19 to them.

20 Q Right. Besides those, are there any other historical
21 viral outbreaks that you've had experience dealing
22 with?

23 A Not major ones that I can think of, to my knowledge,
24 directly.

25 Q Now, forgive my ignorance, I can't help but notice that
26 SARS must have something to do with what's going on

1 now, because the virus that causes COVID-19 is
2 SARS-CoV-2. Can you just briefly tell me is there --
3 well, let me ask you this: Is there a relation between
4 SARS in 2003 and COVID-19?

5 A Correct, yes. They're both made by a similar family
6 type, shall we say, of the virus. SARS just means
7 severe acute respiratory syndrome, so it described
8 usually the type of illness a patient could get being
9 exposed to the Coronavirus. Now, these viruses, of
10 course, are related to each other then, they do share a
11 lot of similar properties, but they are different
12 viruses. I suppose, as an analogy, you could say those
13 species, and then you have different types of dogs.

14 Q Okay, thank you. Now, you said back then that there
15 was no, quote, controversy about masks. What do you
16 mean by that?

17 A Well, I just meant that in terms of our approach to
18 public health at that time was radically different.
19 There was no thought of having universal mandatory
20 masking. The most -- even in the hospital setting, we
21 didn't have continuous masking. We had masking for
22 patients at risk in isolated rooms, which we always
23 would have but just I would say of a higher volume, but
24 there was no question of having mandatory masking in
25 the community setting or in any public setting, either
26 indoors or outdoors. It wasn't even contemplated.

1 Q And in your opinion, was that the correct approach to
2 take back then?

3 A Yes, I believe so.

4 Q And do you think back then that not mandating masking
5 was an unsafe thing to do for patients and for health
6 care workers?

7 A No, I mean -- you're asking is -- because we didn't
8 mandate masks in our universal setting, was that unsafe
9 for the --

10 Q Yeah --

11 A -- patients?

12 Q -- that's what I'm asking.

13 A Yeah, yeah. So, no, I don't think -- I think we did
14 the right -- I think the public health authorities did
15 the right thing at that time, it just had masking in
16 very limited settings, which was what was always
17 applied in the past anyways -- or in the past in terms
18 of modern medicine.

19 Q Why do you think it is that there was no attempt to
20 implement or impose mandatory masking back then?

21 A Well, I don't think anyone can say with certainty.
22 There are multi-factorial reasons. One, I don't think
23 at that time or as I say even now there was any firm
24 evidence that that would work. Applications to general
25 population would be problematic to say the very least,
26 and it would be, at that time, probably considered a

1 great infringement upon people's ability to do their
2 day-to-day activities. And it was also, I would say --
3 I believe the health authorities would not have made an
4 impact upon reducing transmission.

5 Q In your opinion, has anything changed since then to
6 make mandatory universal masking more scientific now
7 than it was back then?

8 A No, I can't think, from a scientific perspective, why
9 it is more advantageous now than then.

10 Q And why do you think now, this time, for the first
11 time, we've done this mandatory universal masking in
12 response to a respiratory virus?

13 A Well, again, I think it's multi-factorial, and I can't
14 say with certainty. I can only think that our
15 situation is different from a social and political
16 aspect, which has led to this in terms of causing mass
17 paranoia and fear and panic. And with, you know,
18 communications and everything being so much more
19 instantaneous now, I think that has led to these
20 reactions.

21 Q Would you consider what you just said to be
22 sociopolitical reasons?

23 A Correct.

24 Q So not scientific reasons?

25 A Correct.

26 Q Now, you were there back then; was there less fear back

1 then?

2 A I think there was less global fear that led -- that
3 prevented this domino effect, yes, partially because of
4 not -- the lack of social media, the lack of all these
5 things we're doing right now. I mean, obviously,
6 there's the internet, and there was online
7 communications and telecommunications, but not anywhere
8 to the extent that we have now.

9 Q You discussed in the third paragraph of your report
10 that: (as read)

11 Despite decades of mask wearing in the
12 operating theatre, in many studies looking at
13 whether masking prevented infection in that
14 type of health care setting, the evidence
15 does not support the conclusion that masks
16 are effective at preventing transmission in a
17 setting like the operating room.

18 Now, do you find it surprising that Dr. Hu has so
19 confidently claimed that these same masks are now
20 highly effective at preventing the transmission of
21 COVID in health care settings?

22 A Yes, I would disagree with that assessment.

23 Q Is there anything fundamentally different about COVID
24 as compared to past respiratory infections that make it
25 likely for masks to work now against COVID even though
26 they did not work in the past against other respiratory

1 infections?

2 A No, I don't think so. Many of the studies that myself
3 and he posted cited literature in the past, which is
4 how you build up on scientific knowledge; you base your
5 theories and evidence on previous evidence.

6 Q In order for masks to work now, would there have to be
7 something fundamentally different about COVID?

8 A Well, just the virus itself would have to behave in an
9 entirely different manner, I would think, and be an
10 entirely different size. But, no, with regards to what
11 the virus is currently, there would be no substantial
12 difference.

13 Q Speaking of size, is SARS-CoV-2, the virus, is it
14 larger in size than past viral respiratory infections
15 like SARS or H1N1?

16 A I don't think so. I don't know the exact size off my
17 memory, but viruses generally are of the order -- a
18 different size compared to bacteria. So I think
19 that -- I think I gave it in my report the size of the
20 SARS virus, it was I think 100 microns, but I could be
21 off by a decimal point or two. I just can't remember
22 that.

23 Q Well, you have here, it's 0.1 micron.

24 A Oh, then that's the correct answer.

25 Q Okay, and then, in brackets, you say about a hundred
26 times smaller than a bacteria.

1 A That would be correct, yes.

2 Q Help us understand, us nonmedical people, what is a
3 micron?

4 A Well, a micron is microscopic so you can't see it
5 unless it's under a microscope, and even smaller than
6 that, not even a regular microscope. So I imagine most
7 of the audience here had to use a regular microscope at
8 some point in their schooling, high school or
9 university. You would have to go up to the next order,
10 which is an electron microscope, to probably see these
11 viroids. So we're talking about a magnification of
12 100,000 to a million times to even see a dot, for
13 example.

14 Q Is electron microscopes what they use to be able to see
15 things like RNA and DNA?

16 A Yeah, I'm not even sure they can see that, but they
17 could see bacteria, and they could see some viruses.
18 They're those kind of microscopes that fill up the
19 entire room basically in the old days. Maybe they're
20 smaller now, but I used to work, when I was doing my
21 training, on an electron microscope, and it filled up
22 the entire room, and, yeah, it required a lot of power.
23 It was like one of those super computers you would
24 think of in the old days.

25 Q So just to try and get an idea of the size of the
26 SARS-CoV-2 virus, is it similar to a really large

1 molecule?

2 A It's very small molecule. Like a virus would be the
3 size of an mRNA or a DNA, for example, so it would be
4 extremely small. Probably one of the smallest forms of
5 life forms possible.

6 Q So would it be smaller than, for example, a protein?

7 A Yes, I think it would be generally smaller than a
8 protein.

9 Q Now, SARS-CoV-2, this tiny little molecule-sized virus,
10 is it only transmitted through like large water
11 droplets, or is it also transmitted through what's
12 called aerosols?

13 A Well, I think in the early days, they thought it was
14 more droplets, because that would be the typical nature
15 of this infection, but I think there's more and more
16 convincing evidence that aerosolized is possible and
17 also a common route of transmission as well. The exact
18 degree in terms of which one is more I don't think has
19 been sorted out, but I think it is universally
20 recognized now that it can be transmitted in both
21 methods.

22 Q And can you just explain for us what's the difference
23 between these large droplets and aerosols?

24 A Well, large droplets are, as the name implies, say you
25 cough or you speak or sing or shout, you can spew
26 droplets. Sometimes you see them, like if they're very

1 big, and they kind of go to a front trajectory, I would
2 say, in layman's terms, almost similar to a shotgun,
3 for example, it sprays out. So it's a very brief
4 interaction, and whatever it hits, it potentially could
5 attach to that and infect, and then it's gone. So if
6 you were too far away, for example, then it probably
7 wouldn't reach you.

8 Aerosolized means that it is suspended in air, and
9 it could stay there for minutes to hours, and it would
10 float. So think of it as a floating cloud, for
11 example. And if some living thing got in the way of
12 it, it could potentially could attach to that living
13 organism.

14 Q And these large droplets, you described how they come
15 out and kind of like a shotgun, how far do they tend to
16 go typically?

17 A Well, I don't think anyone knows for sure. The
18 regulations say 2 metres in Canada because they figured
19 that that would be roughly the safest distance to stay
20 apart, but that's far from universal. Every country
21 has their own rules.

22 I think the references for this date all the way
23 back to research from the 1930s, so I don't think
24 anyone knows for sure. It obviously depends upon the
25 intensity of the cough or the sneeze or whatever
26 propellant propelled the droplets. It's entirely

1 dependent on that. Just like if you shoot something
2 with a rifle or whatever, it depends on how much
3 pressure is applied.

4 Q So we'll pick a number, let's call it 3 metres; if
5 COVID was only transmitted through large droplets, and
6 we all stayed 3 metres apart all the time, do you think
7 that would actually work to stop the transmission of
8 the virus?

9 A Theoretically, if that was true, that it only
10 transmitted 3 metres, and the only way of transmission
11 was through large droplets, and every organism or human
12 being could stay more than 3 metres apart for an
13 appropriate length of time, and there's no
14 aerosolization, then theoretically, in a perfect world,
15 that would be possible. But in my opinion, in a
16 practical sense, that would be impossible, so short of
17 isolating everyone, you know, like completely.

18 Q So is the reason these 2 metre distancing rules don't
19 work is it because of the aerosolization?

20 A I believe that's a large part of it, not the only part.
21 I believe that 2 metres or any distance that you
22 enforce -- that by mandated is unenforceable in a
23 practical sense, because everyone at some point
24 inadvertently or under circumstances where they allow
25 exceptions are put in very closer. Just, for example,
26 being packed in airplanes, despite being lined up 2

1 metres apart before boarding the plane.

2 Q Right. Is there any logical or scientific reason to
3 think that masks are significantly more effective at
4 preventing the transmission of COVID in a health care
5 setting than in the general community?

6 A I don't think, from a scientific point of view,
7 necessarily, because the masks are the same and the
8 virus are the same theoretically, if you're talking
9 about mask for mask.

10 The applications of the rules may be more vigorous
11 in the hospital and under certain circumstances may be
12 beneficial, but they would be, in my opinion,
13 impossible to enforce and to make perfect in a
14 community or a general population setting.

15 Q In your experience, is there any sort of significant
16 difference in efficacy between nonmedical cloth masks
17 or the medical blue procedural masks?

18 A Well, yes, they're quite different, and I would say the
19 blue ones for certain things are certainly better than
20 the cloth masks.

21 Q Are the blue procedural masks, are they better at
22 stopping the large droplets than the cloth masks?

23 A They would be -- I think they would be superior at
24 stopping anything compared to -- relatively compared to
25 the cloth mask. I'm not saying that they're effective
26 against viral transmission, but if you compare, of

1 course, a disposable medical grade blue mask to, well,
2 a nonstandardized cloth mask, I would have to say they
3 would be superior in every way for stopping things.

4 Q So the procedural blue masks, they would stop more
5 aerosols?

6 A Well, they're not aerosols, but they potentially would
7 stop more droplets, yes.

8 Q Oh, okay. So with aerosols, is there much difference
9 between the two?

10 A I don't think so, because aerosols would then just, as
11 I say, it's like a cloud, so unless you seal any mask
12 airtight, it's just going to seep around the masks.

13 Q Is that what you see in your work; do you observe that;
14 do you observe the aerosols coming out of the blue
15 masks?

16 A Well, you can't observe it if it's invisible; you have
17 to theorize that that's what's happening. They have
18 done studies I think looking in terms of within the lab
19 where you can see it, because they can trace the gases
20 and see that it's clearly going around the masks. One
21 experiment you can do is just if you see people vaping
22 or that sort of thing through a mask, and you can see
23 it going around it, so -- or the other way around.

24 Q Would you say the idea that these blue surgical masks
25 are effective at preventing the transmission of COVID,
26 would you say that's a scientific theory or a

1 scientific fact?

2 A I'd say that's a theory that has been debated and
3 disputed, yes. Not a fact.

4 Q On the second page of your report, you mention a
5 randomised control trial on the effectiveness of masks
6 regarding COVID that was conducted in Denmark --

7 A Correct.

8 Q -- for short, it's called the DANMASK-19 study. Can
9 you just tell me briefly about some of the findings of
10 this study?

11 A Well, it was a study in a public setting looking at
12 masks and seeing if it would reduce rates of COVID, and
13 the findings were negative, meaning it didn't
14 significantly show a reduction in COVID infection.

15 The significance of this study -- I mean, every
16 study has problems -- is that it is the only randomised
17 control trial looking specifically at COVID. Every
18 other piece of evidence so far is based on either
19 previous literature pre-COVID or else based on
20 observational data. So the only randomised control
21 study, which is considered -- generally considered the
22 highest form of research, looking specifically at this
23 issue during the COVID pandemic so far is a negative
24 study for showing benefits with wearing a mask.

25 Q Now, you've said that randomised control trials are,
26 you said, the highest -- of the highest value, is that

1 what you said?

2 A Yes. Well, they are the -- they're generally accepted
3 as the most difficult studies to set up. Generally, if
4 you start a medical treatment or something like that,
5 and you want it to be approved, you have to have a
6 randomised control trial -- or more than one usually,
7 but you have to have randomised control trials to prove
8 that it is better than the alternative, which is
9 usually whatever was done before, or a placebo.

10 This is the study that can -- randomised control
11 studies are those that can show causation.
12 Observational studies can show correlation, but they
13 generally cannot conclude that it causes it, for
14 example.

15 Q Okay, so to go back to what you're saying, you said
16 generally these randomised control trials are what's
17 required for a new product or intervention, so I guess
18 this mandatory universal masking was imposed without
19 any randomised control trials that demonstrate that
20 it's a good idea?

21 A Correct. I believe Dr. Hu also said the same thing,
22 but then he mentioned because you wouldn't -- the
23 analogy he put up of not testing someone without a
24 parachute.

25 Q Yeah, what's the likelihood of surviving jumping out of
26 an airplane without a parachute?

1 A Well, I guess it depends how high the plane is, but I
2 would say, under normal circumstances, zero.

3 Q Right, okay. And what's the likelihood of surviving
4 COVID if you contract it?

5 A Well, taking the general population, it would be more
6 than 99 percent.

7 Q Taking the population of health care workers, would
8 that number go up?

9 A It has more to do with health, age, and risk factors,
10 so on the whole, in general, no, it would stay the
11 same, over 99 percent survival rate.

12 Q And forgive me, I know this question is obvious, but
13 what's the difference between 0 and 99?

14 A I think infinity, if you argue that way,
15 mathematically, but obviously quite extreme opposite
16 ends of each other.

17 Q It's not really a fair assessment to compare jumping
18 out of a plane with a parachute with COVID, is it?

19 A I think not. May I just take a 1-minute pause?

20 MR. KITCHEN: Yeah, you know what, Chair,
21 can we take just a little bit of a break; is that all
22 right? Maybe until 1:30. Mr. Lees?

23 A I just need 2 minutes, but whatever you ...

24 THE CHAIR: That's fine. I was just going
25 to ask, Mr. Maxston, you're okay?

26 MR. MAXSTON: Yes, I'm fine, thank you.

1 THE CHAIR: Okay, we'll reconvene at 1:30.

2 MR. KITCHEN: Thank you.

3 (ADJOURNMENT)

4 THE CHAIR: Okay, Mr. Kitchen, I believe
5 we're all back, so please continue.

6 MR. KITCHEN: Thank you.

7 Q MR. KITCHEN: Now, Dr. Dang, before the
8 break, you were talking a little bit about randomised
9 control trials versus observational evidence. Now,
10 observational evidence does have some value; is that
11 right?

12 A Correct, lots of studies are observational studies, far
13 more than randomised control trials, I would say.

14 Q But just to properly contextualize this, observational
15 evidence has some value but less than randomised
16 control trials?

17 A Correct, generally speaking, the gold standard to try
18 to find causation would be to do a randomised control
19 trial. Observational trials often can lead to
20 randomised control trials if there is enough
21 correlation.

22 Q Well, I'm going to ask you some questions about your
23 observations, and you mention this in your report, I'm
24 going to ask you first about some international
25 observations. From what you've seen, has the
26 transmission of COVID noticeably decreased in

1 jurisdictions with mandatory masking, let's say,
2 California as compared to jurisdictions with no
3 mandatory masking like Florida or Texas?

4 A No, they have not decreased.

5 Q Now, bear with me, but has the transmission of COVID
6 noticeably increased in jurisdictions like Florida or
7 Texas with no mandate as compared to jurisdictions with
8 a mandate?

9 A Not necessarily, no. I don't think they have any
10 correlation honestly.

11 Q Now, Dr. Hu has stated that every country that has
12 imposed masking as a mandate has experienced decreased
13 transmission of COVID; do you agree with him?

14 A Well, no, I think that's patently false because we have
15 higher rates now than ever, so -- in some places.

16 Q Are you aware of any academic literature that would
17 support his claim?

18 A None that could support it conclusively.

19 Q Now, I want to ask you about closer to home, but
20 Alberta and your practice in Medicine Hat, and you
21 state in the third page of your report that you have
22 seen patients who have contracted COVID despite
23 diligently wearing a mask as directed by the mandates.
24 Can you tell me any more about that?

25 A Well, in general, yes, I think everyone has made a
26 sincere effort to just obey the law, because that's

1 kind of the nature of our civil society, but almost all
2 the patients that I've seen have been respectful of the
3 laws and the rules, and they have contracted COVID.

4 Q Do you have any patients that generally don't wear a
5 mask?

6 A For various reasons, I do, yes.

7 Q Do you see any difference between the two as far as
8 contracting COVID?

9 A I don't, no, not in my personal experience.

10 Q And some of your patients that wear a mask, are they
11 themselves health care workers?

12 A Some of them directly are my patients, or some are --
13 just happen to be health care workers that I have known
14 to have contracted COVID, but some are directly under
15 my care.

16 Q You mean like the health care workers that you work
17 with?

18 A Correct, yes, I know some of them, they aren't
19 necessarily my patients, but I know they've contracted
20 COVID because they chose to make it public, for
21 example, or it became public, one way or the other.

22 Q Okay. Now, Dr. Hu has said that despite hundreds of
23 thousands of interactions between Alberta health care
24 workers and patients with COVID, he says transmissions
25 have been very, very, very low, likely less than 100.
26 Based on your experiences and observations, is Dr. Hu's

1 statement likely to be true?

2 A I think it would be more than 100. I think there may
3 be a degree of less than, say, in the community because
4 of various factors, not just -- not primarily masking
5 that may reduce the incidents to some extent, but I
6 don't see that as being supported by evidence.

7 Q If we had to put a number on it, how many would you --
8 how many transmissions of COVID between patient and
9 health care worker do you think has happened in
10 Medicine Hat?

11 A Well, we're not a big facility, first of all, but I
12 would say, I'm just estimating here, I would say in the
13 hundreds.

14 Q Hundreds just in Medicine Hat?

15 A Yeah.

16 Q (INDISCERNIBLE)

17 A Over the last two years though, that's --

18 Q Right, but Dr. Hu has said that it's less than 100 for
19 the whole province.

20 A Well, I don't think that's true.

21 Q Now, I want to ask you about the general community.
22 From your perspective as a clinical respirologist in
23 Medicine Hat, has mandatory masking noticeably reduced
24 the transmission of COVID in the general community in
25 Medicine Hat?

26 A No. Medicine Hat, up until the very first mandate,

1 was -- some people may or may not know -- the last
2 major jurisdiction in Alberta to enforce the mask
3 mandate. They did it very reluctantly in terms of all
4 the other -- compared to the other City councils, and
5 their numbers, up until that date, had faired much
6 better than Calgary or Edmonton, for example, whereby
7 they imposed mask mandates very early on, independent
8 of the Provincial guidelines.

9 Q So I just want to make sure I understand you then, and
10 you tell me whether or not it's correlation or
11 causation, but you're saying that, with mandatory
12 masking, cases actually seemed to go up after the
13 mandatory masking?

14 A Well, that would be a correlation. That was what was
15 observed. It can't be disputed because that simply is
16 what was observed. Whether that is due to the mandates
17 or not is debatable, of course.

18 Q Right. But you haven't seen any correlation of cases
19 going down with mask mandates, have you?

20 A No firm correlation. I think the virus itself has
21 cyclical natures, just like any other typical virus, so
22 it will peak and ebb throughout the seasons and
23 throughout the year, but due to many, many
24 circumstances, I don't think masking has any impact on
25 that.

26 Q Is a peak and a wave sort of the same thing?

1 A Yes, correct.

2 Q And how many peaks or waves of the virus have we had so
3 far?

4 A I believe we're in the fourth one they say in Alberta
5 anyways.

6 Q And for how many of those waves has mandatory masking
7 been in place?

8 A In terms of the Alberta rules, I believe it was
9 instituted December 8 -- or announced on December 8th,
10 2020, which is I believe during the second wave.

11 Q So is there any data to suggest that the third wave and
12 fourth wave were decreased because of masking?

13 A No, because their waves were much higher than the very
14 first wave when there was no mandatory masking at all,
15 provincially or by city.

16 Q So the cyclical nature of the virus is going on
17 unabated by universal widespread masking?

18 A Correct, I think it's independent of that. I don't
19 think it has made any impact on viral transmission.

20 Q So you wouldn't say there's even any correlation, let
21 alone causation?

22 A Correct.

23 MR. MAXSTON: Just while you gather your
24 thoughts, I just want to express a bit of a concern
25 that some of the questions have some preambles to them
26 and the question at the end; I'm a little concerned

1 that there's a bit of a leading question pattern here.
2 I wonder if I can just ask you to think about that
3 maybe when you're asking your questions. I'm not going
4 to formally object, but I've just seen a -- I think a
5 little bit of that that causes me a little concern.

6 MR. KITCHEN: Sure, I'll slow down and ask
7 some more questions so that we're not leading anywhere.

8 Q MR. KITCHEN: Dr. Dang, do you think enough
9 evidence has accumulated over the last year-and-a-half
10 to allow us to reasonably know, one way or the other,
11 whether the Public Health restrictions have been
12 effective regarding COVID?

13 A No, I think it's highly debatable to now.

14 Q So mindful of my learned friend's comments, it's highly
15 debatable, so you're saying -- I want to make sure I
16 understand -- is there enough evidence to say that the
17 restrictions definitely don't work?

18 A No, I don't think anyone can say that either with
19 certainty. I say that is debatable that you can say
20 that these restrictions have had a meaningful impact.
21 If you go by case numbers itself, in terms of the
22 volume of COVID cases, in some jurisdictions, we have
23 seen the highest rates ever despite vaccinations,
24 restrictions, et cetera. So if you go by results, you
25 could argue that they've had no impact because you have
26 more cases than ever.

1 Q And just to be clear, there is not enough evidence to
2 definitely say they do work?

3 A Correct, yes, there's -- I would agree with that
4 statement completely. There is no definite evidence
5 that they do work as they were intended, and that the
6 point is really debatable at this point.

7 Q Based on a preponderance of evidence, if you had to
8 choose between the restrictions are generally working
9 or the restrictions are generally not working, which
10 would you say is the case?

11 A Well, I said previously, given the -- many
12 jurisdictions having the highest cases ever since the
13 pandemic began, over almost two years now, I would say
14 that they generally are not working.

15 Q You said the word "debatable"; is there a debate
16 currently ongoing about the effectiveness of these
17 measures?

18 A I think, to some extent, there is a debate. I believe
19 currently the debate has been more leaning to one side
20 than the other in terms of the ability to debate, but
21 anything in the scientific realm should be debatable
22 and argued reasonably.

23 Q Do you think the Alberta Public Health authorities are
24 open to debate?

25 A Based on what I can see so far of their actions, no, I
26 do not think they are open to debate.

1 Q Do you find that strange?

2 A I do. Normally, the scientific community should be
3 open to debate and arguments and to see both sides of
4 the situation before making profound measures that
5 impact basically the entire population.

6 Q Do you think the decisions that Alberta Health Services
7 or the CMOH are making, do you think they're entirely
8 informed by science?

9 A I do not think they have considered all the evidence in
10 science that is available or looked at both sides of
11 the situation, so the short answer to that being, no, I
12 don't.

13 Q Do you think there's anything nonscientific that's
14 influencing these decisions?

15 A Well, I think there's always an element of a bit of
16 fear and the tendency, it appears, from this
17 organization to err on one side rather than the other.
18 I think there's also, to some extent, a kind of a
19 domino effect from what is happening around the world,
20 so that every jurisdiction has to feel like they're
21 following everyone else's, and it's reached a point
22 where it's very hard to go against the grain, as it
23 were. But there have been some countries that have
24 successfully done that, and I think I put a point in my
25 report to that effect as well.

26 Q And would you say that impact, is that a scientific

1 impact?

2 A Sorry, can you clarify that?

3 Q You said there's the domino effect of feeling like you
4 have to follow what other jurisdictions are doing; is
5 that effect a scientific effect?

6 A No, I think that's mainly a social political effect.

7 Q Dr. Hu has repeatedly stated that the evidence
8 supporting the effectiveness of masks is, quote,
9 overwhelming. Do you think that's a scientifically
10 accurate statement?

11 A Well, I disagree with that statement is I think the
12 best I can say. I think that there is not overwhelming
13 evidence. I think it is still highly debatable at this
14 point, and there have been studies in the past for and
15 against his position.

16 Q Dr. Hu has also said that there's heaps and mounds of
17 evidence supporting the effectiveness of masks.

18 A I would not say --

19 Q Do you -- I was just going to ask you, do think the
20 statement is an exaggeration?

21 A I disagree with the statement.

22 Q Would you say he's -- you merely disagree with him, or
23 would you say he's exaggerating?

24 A Well, I don't think what he said is true. I don't
25 think there are heaps and mounds. Although heaps and
26 mounds is a very subjective description, so maybe, in

1 his mind, heaps and mounds are -- is different from
2 what I think of heaps and mounds.

3 Q Dr. Hu said masks are an effective tool for preventing
4 the spread of respiratory viruses writ large. In your
5 opinion, is this a medically sound statement?

6 A Again, I would disagree with that, based on the studies
7 in the past, looking specifically at viral
8 transmission, masks have not been proven to be
9 beneficial in that sense. And from a structural point
10 of view, I don't see how they could be, given the sizes
11 of viruses versus the pores of masks.

12 Q And forgive me if this seems redundant, but then Dr. Hu
13 goes on to say in the last page of his report that:
14 (as read)

15 The efficacy of masking on disease
16 transmission is beyond doubt.

17 Do you agree with that statement?

18 A I do not.

19 Q Let me ask you a different question: Do you think that
20 statement is even reasonable?

21 A Well, personally, I don't think it's reasonable. As I
22 mentioned before, science is open to debate, and so
23 this is I think still a very debatable point. And
24 there has been some research looking into this long
25 before COVID, and the results have been mixed at best.
26 So to say that this is definitely one way or the other

1 is not right.

2 Q Do you think there are some things about science or
3 medicine that really aren't debatable because we know
4 what the answer is?

5 A Yes, but very few things.

6 Q Okay. So does it surprise you then that Dr. Hu is so
7 confident that he's absolutely right about the efficacy
8 of masks?

9 A Well, really I can't speak for Dr. Hu or his intention,
10 I presume they're honourable, but I think, as I say, in
11 any scientific debate, especially on a question as
12 this, that potentially it could affect civil society to
13 such a broad extent, I think it should be open to
14 debate, and I don't think that there is firm evidence
15 saying conclusively that masking worked or that they
16 justify the measures that have been in place.

17 Q Now, of course, to Dr. Hu's credit, he specifically
18 said masks aren't perfect, nothing's perfect, masks
19 aren't perfect.

20 A Correct.

21 Q Are you -- would you say that masks don't work at all
22 ever?

23 A It -- no, I think that it depends on what the purpose
24 of the mask is and the conditions that they're used.
25 In some very limited settings, they might be useful to
26 some extent. Even in the days, as I mentioned, the

1 previous pandemics that I was experiencing, we didn't
2 have these universal rules in the community of
3 populations, but we certainly had limited settings in
4 isolated rooms, in negative pressure rooms, and
5 different types of masks and different procedures for
6 wearing the masks.

7 So -- but the original purpose of wearing masks,
8 supporting my OR research -- or in the studies that
9 looked at it in the operating room, it's not for viral
10 transmission protection but really to prevent
11 transmission of very large things like blood and saliva
12 and things like that.

13 Q So some masks could work sometimes for some things?

14 A Correct, yes.

15 Q But when it comes to COVID, from your observations, are
16 the masks working to stop the transmission of COVID?

17 A No, and if we go completely by result-based assessment,
18 then I think that definitely you can say, no, it has
19 not been successful in that way.

20 Q Now, I want to go back to this issue of causation and
21 correlation, because I think this is probably pretty
22 important.

23 Dr. Hu stated in his testimony that a very, very,
24 very large number of health care workers in Italy
25 contracted and died from COVID early on. He concluded
26 that part of the reason that happened was because the

1 Italian health care workers ran out of masks. Now, in
2 your opinion, is there a causal link between masking
3 and what happened to the Italian health care workers,
4 or is that only correlation?

5 A Well, that would be, at best, correlation. I think
6 even if you clarified that with Dr. Hu, he would agree
7 with that if he's a clinician and a researcher because
8 that's -- that's not a randomised control study, and
9 that's not -- there are other factors at play, so you
10 can always say, at best, that there's a -- there may be
11 a correlation.

12 Q So there's no scientific basis to attribute causation
13 to that?

14 A Correct.

15 Q Dr. Hu in his testimony described the lockdown
16 restrictions imposed last December -- which we've
17 already talked about, that's the first time universal
18 masking was in place all across the province -- he
19 stated that cases went up after that November, December
20 lockdown, but then eventually later, the cases went
21 down. He then concluded that the lockdown caused the
22 cases to eventually go down, and that the initial rise
23 in cases was only correlated with the lockdown. Do you
24 agree with Dr. Hu's analysis?

25 A No, I don't think you can have one or the other. You
26 have to say, at best, there may be a correlation. As I

1 mentioned too before, I believe that the virus is
2 cyclical.

3 And if -- and I remember that first lockdown quite
4 clearly in my mind, because I kept track of it, and for
5 personal reasons, I just remember it, but the
6 Government announced -- well, Medicine Hat was the last
7 city that announced a mandatory mask, of all the major
8 cities in Alberta, on December the 4th, and then four
9 days later, the Premier announced a lockdown on -- a
10 masking and general restrictions on December the 8th,
11 but to be effective that weekend, so it would be a few
12 days to give people some time to prepare for that.

13 Even though he instituted that, at that time, the
14 cases for that time period had reached the highest it
15 had seen at that time. It continued to reach -- go up
16 slightly for the first few days, but then it peaked,
17 and then after that, it steadily started to go down. I
18 mean, you can look into the statistics for this; you
19 yourself can easily prove that.

20 Now, obviously even by their own words, they said
21 that it would take two -- at least two weeks or more
22 before any of these measures would take -- would have
23 any benefit. So the fact that it peaked already and
24 started to come down two or three days after they
25 announced the general lockdown shows that those
26 restrictions had nothing to do with the cases going

1 down, but I believe just due to the cyclical nature and
2 the natural path -- pathogenicity of the virus, so --
3 and then we've seen that since with subsequent waves
4 from what I can see.

5 Q So did Dr. Hu make a mistake when --

6 A Dr. Hu's entitled to his opinion. I don't know, I
7 can't speak to what he says. I can only tell you what
8 I believe, and I disagree with his assessment.

9 Q Okay. He was very clear on this, because I asked him
10 his position.

11 Is conflating causation and correlation, is that a
12 pretty big mistake?

13 A I believe so --

14 MR. MAXSTON: I'm sorry, I'm going to have
15 to comment again. I think you can ask your client
16 where he disagrees and why he disagrees, but that kind
17 of a question sort of presumes a response.

18 Q MR. KITCHEN: Dr. Dang, when it comes to
19 medicine and science, is it really important to not
20 conflate correlation and causation?

21 A Correct, the two do not always end up agreeing.
22 Correlation may be helpful to stimulate further
23 research and hypotheses, but the causation may turn out
24 to be something completely different.

25 Q Do you see any causal link, causal link between the
26 lockdown measures like mandatory masking and the COVID

1 numbers, be it cases, ICUs, or deaths; do you see any
2 causation between these lockdown measures like masking
3 and those COVID number?

4 A No, I don't see any conclusive evidence of that, and I
5 don't think anyone can say conclusively that the
6 lockdowns or these restrictions caused lower cases.

7 Q But that's what -- isn't that what Public Health says?

8 A Well, I can't speak for what Public Health says. I can
9 observe what I see and what the numbers are like in the
10 world and in our province throughout all this.

11 Q But you said, you know, I can't see how anyone could
12 say this, and yet isn't just about everybody saying it?

13 A I can only speak to myself and my own conscience and
14 the evidence that is presented to me that is available
15 to everyone else. I can't speak for anyone else. I
16 would say it's universal, but I agree that there are --
17 I think the majority of people do believe, at least at
18 this point, that these restrictions have had some
19 impact, but, again, I believe that is probably due a
20 lot to social political reasons as well.

21 Q Maybe you can't answer this and you tell me if you
22 can't, but why do you think it is that we are making
23 Public Health decisions based on social and political
24 concerns and not scientific concerns?

25 A Well, I think like everything else in civilization,
26 we're human beings, so we don't just deal with facts,

1 we deal with emotions too, and we deal with -- right
2 now we're dealing with fear and panic and paranoia,
3 et cetera, and I believe that each and every government
4 is trying to respond in, they think, the best way to
5 deal with that.

6 Q To deal with the fear?

7 A Correct, and to maintain, perhaps in their eyes, a
8 civil order and control perhaps, but that is my
9 opinion.

10 Q Well, and that's what you're here to give us.

11 Do you think the term "anti-mask" is pejorative?

12 A Correct, I do.

13 Q Do you think it is fair and accurate to label someone
14 as an anti-masker if they are opposed to mandatory
15 masking but not voluntary masking?

16 A I believe that is pejorative in that case, yes.

17 Q Do you think people should be free to mask if they want
18 to?

19 A Well, yes, in general, that I think was always an
20 option in the past in -- many jurisdictions did that;
21 for example, Japan, a lot of people wear masks for
22 other reasons, but, yes, I believe it should be a free
23 choice.

24 Q What does the phrase "informed consent" mean to you?

25 A Well, it generally means that you tell the patient what
26 can happen -- the procedure that you plan to do, the

1 risks and benefits of it, the evidence for or against
2 it, and then they make a decision after being informed
3 of all relative and important features about the
4 decision; they make a decision whether to go for it or
5 against it, and without any coercion or duress.

6 Q Do you think informed consent is obtained if only the
7 benefits are discussed but not the risks?

8 A Correct -- no, correct, I -- yes, you're -- I do not
9 think informed consent is obtained in that case. You
10 have to give the risks and benefits and all the
11 important salient features about whatever that decision
12 is before informed consent is obtained.

13 Q When it comes to masks, would you say that there are
14 both potential benefits and potential risks?

15 A Yes, I would.

16 Q So do you think mandatory masking is consistent with
17 informed consent?

18 A No, because there is no consent being sought. It is
19 just a rule being imposed. So by definition, that is
20 the complete opposite of informed consent.

21 Q What does the phrase, "First, do no harm" mean to you?

22 A That's one of the tenets of any physician, primum non
23 nocere in Latin, that we are taught, first, do no harm,
24 and the principle is whatever we suggest, we always
25 have to keep in mind that whatever we do, not cause
26 harm to the patient.

1 Q Do you think mandatory masking is consistent with,
2 first, do no harm?

3 A I do not.

4 MR. KITCHEN: Mr. Maxston, just to give you
5 an idea. I'm probably only about 20 minutes from being
6 done; 30 minutes at the very most. Yeah, I'm going to
7 say probably 20 minutes or less.

8 Q MR. KITCHEN: All right, Dr. Dang, with
9 that, I'm going to move into asking you some questions
10 about the harms of masking as you've discussed them in
11 your report.

12 A Okay.

13 Q You state near the bottom of the second page of your
14 report that wearing a mask is, quote, not harmless.
15 You go on to discuss how humans are designed to
16 breathe. Now, can you tell me, as a respirologist, how
17 are humans designed to breathe?

18 A Well, I can certainly tell you as a respirologist, but
19 I think anyone can tell, without respirology training,
20 that we're meant to breathe as we are, unobstructed,
21 freely through our mouth and nose, ideally good air of
22 course, clean air.

23 Q So even if we're breathing unobstructed, if we're
24 breathing bad air, what happens?

25 A Well, then we have to -- then, as I mention in the
26 report, in certain circumstances, we have to, of

1 course -- we can use protective measures if the
2 benefits outweigh the drawbacks of that.

3 So if you're -- obviously, if you were exposed to
4 mustard gas or something like that in World War I, then
5 you would have to wear a special gas mask to prevent
6 that. It would obstruct your breathing, and no one, I
7 think, would argue with that, but, for that temporary
8 purpose, that would be beneficial.

9 Q So given the choice between access to -- or decreased
10 access to oxygen and breathing mustard gas, which is
11 the better choice?

12 A Well, breathing the lower oxygen as long as it can
13 still sustain life for the shortest period of time
14 possible.

15 Q And forgive me, but is that because mustard gas is so
16 dangerous?

17 A Correct, I believe it is deadly in many cases.

18 Q If you're exposed to mustard gas, is your rate of
19 survivability less than 99 percent?

20 A I don't have the exact numbers, but I certainly
21 wouldn't want to be exposed to mustard gas under any
22 circumstances. Even the survivors have damage in terms
23 of pneumonitis and other chronic health problems too.

24 Q So we would never do a randomised control trial with
25 mustard gas?

26 A Not during these days. Maybe during World War I, they

1 might have, but, no, we wouldn't.

2 Q It's kind of like the parachute example?

3 A Correct.

4 Q Now, the types of masks that are mandated for COVID,
5 how do those types of masks interfere with the normal
6 breathing process as you've described it?

7 A Well, it could be something from very mild to very
8 significant, depending on the type of mask, how it is
9 worn, how much it has changed, et cetera, and also
10 their condition of the patient -- or the person who
11 wears the mask. If they have chronic lung disease,
12 they may be impacted more severely than others.

13 I can tell you just from personal -- I mentioned,
14 I run a pulmonary function lab, and just as kind of a
15 personal inquiry, I had some healthy testing whereby
16 just wearing a mask versus not wearing a mask and doing
17 a pulmonary function test, and these are completely
18 healthy people. The lung functioning drops about 15 to
19 20 percent. So it does play an impact, in my opinion.

20 Obviously, that's just my own anecdotal kind of
21 evidence, but I believe that any reasonable person
22 would agree that wearing anything that covers the mouth
23 and nose would, at least to some degree, obstruct your
24 airways and breathing. Whether it's clinically
25 significant or not is debatable though.

26 Q So this reduction in lung function, that's across the

1 board, the same for everybody?

2 A Well, it's rough -- because everyone's going to be
3 slightly different, but, yeah, in a healthy individual,
4 it seems to me, from what I've seen, roughly 15 to 20
5 percent.

6 Q But help me understand, is that really significant or
7 not really?

8 A It won't be noticeable if you're sitting still, doing
9 light stuff, but if you're exerting yourself or
10 exercising, you could definitely notice a difference,
11 and if you have some sort of lung health problem --
12 other health problems, it would probably be much more
13 noticeable.

14 Q So do you find it surprising that some people seem to
15 tolerate wearing these masks more than others?

16 A No because everyone has different lungs, shall we say,
17 and also everyone in the public wears masks differently
18 and the types of masks, so everyone will have a
19 different response.

20 Q You mentioned in your report self-contamination due to
21 moisture retention. Can you just describe, what is
22 this self-contamination due to moisture retention?

23 A Well, it's just simply when you breathe, of course,
24 you're breathing moist air, there's water in it,
25 et cetera, water vapour, and anything that it hits will
26 condense. I mean, you see that so when you wear

1 scarves or anything to cover your face.

2 So same thing with masks; if you wear a mask long
3 enough, you're going to collect moisture there, and
4 then that can, in turn, collect secretions, your own
5 secretions, or things that are exposed at -- or
6 contaminants around you, and then in the end, you're
7 going to be breathing that in again. So that's what I
8 mean by moisture contamination.

9 In fact, the appropriate way to wear a mask before
10 all this began, in a health care setting is that we had
11 to change our masks frequently. So, generally, I would
12 change it, if I had to -- first of all, I wouldn't wear
13 it any longer than I had to, but if you had to wear it
14 for an extended period of time, you should probably
15 change it every hour, and we're talking about
16 disposable, you know, surgical-type masks.

17 But that's simply not happening in the public.
18 You're having people wearing cloth masks or the same
19 surgical mask over and over again and touching them,
20 et cetera. So even the application of wearing them
21 safely is not -- is not done. I would say in 99.9
22 percent of the population in a community setting.

23 Q And what would some of these contaminants be?

24 A Well, it would be whatever is in your saliva basically.
25 So it could be bacteria, it could be viruses, and then
26 whatever you breathe around you, could be particulate

1 matter, could be anything from just smoke, dust,
2 vapours, allergens, could be viruses. I mean, if you
3 were exposed to someone coughing with COVID or any
4 other virus, it could go onto there, then you could
5 have breathing it in theoretically.

6 Q Hold on. So, theoretically, wearing a mask could
7 actually increase your chance of contracting COVID?

8 A Well, could increase your chance of getting any
9 infection, if you don't wear -- if you don't change the
10 masks and don't keep them clean, correct, yes.

11 Q Okay. In your practice or in the literature, either
12 one, what are some of the harms that you have observed
13 from continuous or prolonged mask wearing?

14 A Well, there's -- of course, there's psychological
15 damage that could be done, both to patients,
16 particularly in younger ones, kids for example. There
17 are things like severe allergic reactions.

18 I had one patient, a health care worker in the
19 hospital who couldn't wear a mask, because every time
20 the patient wore the mask, there would be a very severe
21 rash, and this is well-documented, she -- the patient
22 had pictures to prove it, and despite wearing several
23 types of masks of different material, they all produced
24 the same results.

25 And then, of course, there's people -- my
26 practice, of course, consists of mostly people who are

1 short of breath, so if they're extremely short of
2 breath, of their oxygen, et cetera, they are severely
3 impacted by wearing a mask.

4 Q Can you describe for me generally what lung disease is?

5 A Well, lung disease just means any disease that affects
6 the lung, but the most common ones that I see would be
7 chronic obstructive pulmonary disease, also known as
8 COPD or emphysema, and asthma --

9 Q Okay.

10 A -- those would probably be the two commonest chronic
11 lung disease seen in the community.

12 Q Are those people more negatively impacted by wearing a
13 mask than people who don't have those conditions?

14 A Many of them are because their lung functions are
15 already impaired to start off with.

16 Q So you have patients with asthma?

17 A I have many patients with asthma.

18 Q In your opinion, is asthma, you know, a valid medical
19 basis for having an exemption from wearing a mask?

20 A In some circumstances, depending on the severity of the
21 asthma or any lung disease, something that's very mild
22 and if the patient can tolerate wearing a mask, then it
23 may not be a problem that way, but other people are
24 severely impacted.

25 I believe Dr. Hu mentioned the Canadian Thoracic
26 Society saying that masks weren't harmful or were safe,

1 but if you look at the actual guidelines, and I have
2 them in front of me, it's a very short statement by the
3 way, and they reference old literature, for the most
4 part, but even within their context, they do leave room
5 for patients to remove masks if it causes them
6 shortness of breath. So they recognized -- and in
7 their own statement, they recognize that -- they say
8 that wearing a mask will obstruct breathing to some
9 extent, so ...

10 Q Well, Dr. Hu didn't give us the whole quote, but what
11 he said twice was that he said that the Thoracic
12 Society said that prolonged mask wearing does not
13 exasperate any underlying lung condition. Is that what
14 the Thoracic Society has said?

15 A Well, I have the argument here. This is quoting what
16 they say exactly. What they say is quite -- a little
17 bit different, they say: (as read)

18 There is no evidence that wearing a
19 mask/facial covering will lead to prolonged
20 symptoms or a flare-up of an underlying lung
21 condition.

22 They say there's no evidence; that's as far as they're
23 willing to go. I personally believe that statement is
24 still too strong, but that doesn't mean that there
25 isn't any harm; it just says that from what they can
26 see, there's no evidence.

1 However, in that same paragraph that I quote that
2 statement, at the very beginning, they say: (as read)
3 Breathing through a mask takes more effort,
4 and this may vary depending on whether one is
5 using a commercially produced mask, a mask
6 made at home, or a simple cloth covering.
7 For those with underlying lung diseases, the
8 effort required may cause a feeling of
9 shortness of breath while wearing the mask.
10 In such situations, we recommend that
11 individuals remove the face mask, and if
12 symptoms do not immediately settle, they
13 should follow the existing strategy for
14 relief of acute symptoms.

15 MR. KITCHEN: Mr. Maxston, how do you feel
16 about me providing you a copy of this statement and
17 then asking to have it entered as an exhibit?

18 MR. MAXSTON: I don't think I have a problem
19 with it, Mr. Kitchen, but I think, to the extent your
20 client is expressing an opinion different than
21 Dr. Hu's, the Tribunal is aware of that, and they're
22 going to have to make their determination. So I don't
23 think a great deal turns on it. Mr. Lawrence might
24 have some different views on that, but he's shaking his
25 head no. Frankly, if it will move us ahead, and you
26 think you don't have to go through the document in

1 detail, I'm happy to have it sent over, but I think
2 this is just another point the Tribunal is going to
3 have to dissect and decide on, Mr. Kitchen.

4 MR. KITCHEN: Okay, so here's what I'll do,
5 when we're done, I'm going to get a copy of this, it
6 should be easy, because it's the Thoracic Society of
7 Canada, I'll get a copy of it. I'll submit it to you,
8 and then you can let me know if you consent on it being
9 entered as an exhibit, and then we can provide it to
10 the Tribunal.

11 MR. MAXSTON: I think, Mr. Kitchen, I'd be
12 very reluctant to object to it being entered as an
13 exhibit. Your client has read from it. Again, I think
14 it's just something the Tribunal's going to have to
15 digest, so I think you can send it to --
16 Mr. Nelson's [sic] nodding his head -- you can send it
17 to Ms. Nelson, at some point, and it can be distributed
18 to the Tribunal.

19 MR. KITCHEN: Thank you.

20 THE CHAIR: And to our reporter too.

21 MR. KITCHEN: I don't know where we're at
22 for letters and numbers, so we'll figure that out after
23 the fact.

24 EXHIBIT H-8 - Excerpt from the Canadian
25 Thoracic Society guidelines (Document not
26 Provided to be Marked)

1 Q MR. KITCHEN: So, Dr. Hu -- Dr. Dang, I
2 apologize -- I've got Dr. Hu in front of me here -- the
3 Thoracic Society statement said there's no evidence for
4 masking impacting underlying lung conditions. Do you
5 disagree with that?

6 A Well, yes, I think there has been some evidence that it
7 does potentially show potential harm, but my point was
8 their statement was much more limited than what Dr. Hu
9 was saying. They're saying, in their statement, they
10 have found no evidence. That doesn't mean it's not
11 there; it just means that they look -- and if you look
12 at the reference, which I can certainly send you or you
13 can find yourself, it's a very short statement. It's
14 only I think two or three pages, and it has very few
15 references. So it's not like they did an expansive
16 literature review to look at this, nor, would I expect
17 there'd be a lot of research into this. I think
18 pre-COVID, it just made sense that wearing a mask when
19 you have severe lung disease, unless you actually have
20 to, was not something that would be done.

21 Q All right, so in your opinion, as a respirologist, are
22 there medically valid reasons for exemptions from being
23 required to wear a mask?

24 A Absolutely.

25 MR. KITCHEN: I think I'm just about there.
26 Just give me a second.

1 Q MR. KITCHEN: Dr. Dang, I'm just going to
2 ask you one more question -- and I'll give my learned
3 friend a chance to object, because he might -- there's
4 been a particular word used by both you and Dr. Hu and
5 others, but, particularly, you and Dr. Hu that I have
6 found very interesting, and that word is the word
7 "politicised". Dr. Hu has said that the masking issue
8 is politicised, and you have said the same thing, but
9 I'm not sure that we've really heard an explanation of
10 what the heck that means. When you say that the mask
11 issue is politicised, what do you mean by that?

12 A I mean, I think that the decisions on masking have not
13 been made based on the medical literature, medical
14 debate, or medical judgments mainly, but has been based
15 on what is happening with human interactions in society
16 and with the governments currently, and is made based
17 on a lot of emotional and nonmedical reasons.

18 Q Do you find that surprising?

19 A I actually don't. I think that in times when people
20 are calling for crisis or certainly the pandemic has
21 probably been the largest crisis we've ever dealt with
22 in a long time and certainly in terms of magnitude
23 extending around the globe, there's very little else to
24 compare within recent history, that when something like
25 that happens, and we are dealing with raw emotions,
26 especially when we're dealing with fear, paranoia, and

1 power, so we are dealing with, you know, the very
2 features of politics.

3 Q You said "power", so do you think power is part of
4 what's influencing the decisions on mandatory masking?

5 A I believe --

6 MR. MAXSTON: Mr. Kitchen, I think I'll
7 object to that. I think your last question was
8 debatable, I didn't object to it, but we're now --
9 "power", you tell me what that means, I think that
10 one's just a little too far. I would --
11 politicisation, correct, Dr. Hu weighed in on that, but
12 I think it might just be a little too far.

13 Q MR. KITCHEN: Dr. Dang, you're aware that
14 every health professional regulatory body has imposed
15 mandatory masking on their members; is that your
16 understanding?

17 A Well, more or less indirectly. I believe the
18 Government, that has done that, and then the regulatory
19 bodies have approved of it or have been either
20 explicitly or tacitly agreeing to it; they're certainly
21 not opposed to it.

22 Q Right, and my learned friend can stop me here, but
23 that's actually I think a fair description of what
24 happened with the College. We had a lot of evidence
25 from -- the College said, Well, when we constituted the
26 mask mandate, we had to because Dr. Deena Hinshaw said

1 that in order for our members to practice, we had to
2 have a mask mandate. So I think what you've just said
3 is not controversial.

4 Last question I'll ask you on this, you said you
5 didn't find it surprising; do you find it strange?

6 A About the masking pandemic worldwide or restrictions in
7 general?

8 Q Do you find it strange that politics is influencing
9 decisions on whether people wear masks or not?

10 A I disagree with those things profoundly, but I don't
11 find it strange that politics has done that, because it
12 has endeavoured to do that sort of thing throughout
13 history. I myself have fled from a communist country,
14 so I know what these things are.

15 MR. KITCHEN: Those are all my questions.

16 THE CHAIR: Okay, Mr. Maxston, did you
17 want a moment before you start? It's 2:30, and we've
18 been going for just about two hours, why don't we take
19 a 10-minute break.

20 MR. MAXSTON: Mr. Chair, I have a question
21 for Mr. Kitchen before I begin my cross-examination,
22 and I think it's something that Dr. Dang shouldn't be
23 present to hear, there's no magic in it, but it's about
24 my cross-examination. I'd like to ask him a question
25 on the record. Can we just take 5 minutes, if
26 Ms. Nelson can put Dr. Dang into a break-out room and

1 then break for -- I think it's good idea to have a
2 break. I won't be terribly long, but I think if we can
3 just deal with that one matter now, I'd like to do
4 that.

5 THE CHAIR: Okay, so we will move Dr. Dang
6 into a break-out room, and then you can put your
7 question on the record.

8 And so, Dr. Dang, we're going to transfer you to a
9 break-out room so you won't be participating in the
10 hearing, and we have a matter that we need to deal with
11 without your presence, and then we're going to take a
12 short break, then you can come back and have
13 Mr. Maxston conduct his cross-examination.

14 A Okay, that's fine, thank you.

15 THE CHAIR: Okay, thank you.

16 Discussion

17 MR. MAXSTON: So, Mr. Chair and Mr. Kitchen,
18 you know, pre-virtual hearings, when I was going to do
19 a cross-examination of a witness, and I wanted them to
20 look at a document, I'd walk across to my friend and
21 I'd give him the document, and I'd say, Do you want to
22 take a look at this. The document that I have that I
23 can potentially give to Mr. Kitchen and to you, but I
24 don't know if it's necessary, and that's why I raise
25 it, is the CPSA's COVID re-opening practice document,
26 and it essentially says -- and I'm happy to send it as

1 a courtesy, in any event, to Mr. Kitchen -- that masks
2 are required for physicians, and I'm going to ask
3 Dr. Dang, Are you aware of masking requirements for
4 your profession last year, are you aware of the AHS
5 mandate. I don't have to put that document in, unless
6 my friend's going to object and say, Oh, no, no, I take
7 issue with whether there were masking requirements for
8 the CPSA, that kind of thing.

9 So I don't want to sandbag my friend, I don't want
10 to sandbag the witness, but I don't know if I need to
11 send this document or not.

12 MR. KITCHEN: I have no issue. I mean, I
13 don't have it. I mean, Dr. Dang and I essentially
14 established that fact, so --

15 MR. MAXSTON: That's why I think it may not
16 be necessary. Some of the tail end of your questions,
17 Mr. Kitchen, were you're aware of imposing these. So I
18 think my question will be to Dr. Dang, You're aware of
19 your profession having one of these and requirements.

20 So if we can go on that basis, then I don't think
21 I need to provide this document to Mr. Kitchen, but I
22 didn't want to surprise him, of course.

23 MR. KITCHEN: No, I appreciate that.

24 THE CHAIR: Okay, just before we break,
25 Mr. Maxston, how long do you anticipate your cross will
26 be?

1 MR. MAXSTON: I'm hoping 20 minutes.

2 THE CHAIR: Okay, then let's take a
3 shorter rather than a longer break; let's just break
4 for 10 minutes and come back at, I don't know, 20 to 3,
5 and then maybe we can wrap up around 3. So a 10-minute
6 break for now, and we'll see you in 10.

7 (ADJOURNMENT)

8 THE CHAIR: Okay, it's Mr. Maxston's turn
9 for cross-examination of Dr. Dang, and just I'll
10 mention it now so I don't forget, we would like to
11 caucus with the Hearing Tribunal after Dr. Dang has
12 finished the cross-examination to see whether or not
13 the Panel has any questions of him.

14 Mr. Maxston.

15 Mr. Maxston Cross-examines the Witness

16 Q MR. MAXSTON: Good afternoon, Dr. Dang.

17 A Good afternoon, Mr. Maxston.

18 Q I'm going to take you through three or four questions
19 relating to the things you just talked about with my
20 friend, Mr. Kitchen.

21 I think you made a comment -- I think there was a
22 question, rather, from Mr. Kitchen, when it comes to
23 mandatory masks, are there potential risks and
24 potential benefits, and I think your answer was one
25 word "yes". Would you agree with me that Alberta
26 Health Services and the Chief Medical Officer of Health

1 and Health Canada, and the College of Chiropractors in
2 terms of its Pandemic Directive, which you've seen,
3 they're erring on the side of potential benefits?

4 A Yes, I agree that that is their intent.

5 Q We talked a little bit -- or you and Mr. Kitchen,
6 rather, talked a little bit about this concept of
7 informed consent. Would you agree with me that when
8 we're talking about that, it's typically, as you
9 mentioned, in the context of informed consent between a
10 caregiver and a patient?

11 A That's classically the case that I'm experienced with
12 anyways, yes.

13 Q And it really isn't a concept that applies to let's
14 say, for example, you and the CPSA; they don't come to
15 you and get your consent for a fee or something like
16 that, do they?

17 A Not in that manner, no, correct.

18 Q Okay. Towards the tail end of Mr. Kitchen's questions
19 with you, he asked you is asthma a valid exemption to
20 masking, and I think you answered to him that it may or
21 may not be depending on the person and the, I guess,
22 the nature of the asthma or maybe the severity of the
23 asthma --

24 A Correct.

25 Q -- would you agree with me -- oh, I'm sorry.

26 A Sorry, I was just agreeing with you; I said "correct",

1 yes.

2 Q Would you agree with me that it's appropriate to get a
3 physician to make a proper assessment and diagnosis of
4 whether asthma is a valid exemption for a particular
5 patient?

6 A I think, most of the time, that would be a reasonable
7 thing depending on access, of course.

8 Q You talked about with my friend, I think the question
9 was, as a respirologist, are there medically valid
10 exemptions from wearing a mask, and I think your answer
11 was, yes, absolutely. This will be a little redundant,
12 but, again, is the best course of action to get a
13 physician to properly assess any medical exemption?

14 A Generally speaking, that would be the usual route, yes.

15 Q Okay. I'm going to ask you some general questions.
16 Mr. Kitchen went through a great deal of your
17 background in your practice, but I just want to ask
18 you, you haven't had any experience working with the
19 Chief Medical Officer of Health on COVID-19 measures?

20 A No, I have not.

21 Q Okay. Would it be fair to say that your views in your
22 expert report are contrary to what AHS or the Chief
23 Medical Officer of Health or the Public Health Agency
24 of Canada say about requirements for masking?

25 A Yes, they are in opposition.

26 Q One of the reasons we're at this hearing is the Alberta

1 College and Association of Chiropractors Pandemic
2 Directive, which I assume you've had a chance to
3 review, and you stop me if I'm wrong, but I think it's
4 fair to say that, under that document when you get into
5 about page 9 or 10, that there's a requirement to wear
6 surgical or procedure masks. You're a member of the
7 CPSA; are you aware that they also have similar masking
8 requirements for you?

9 A I actually haven't read yours because I never received
10 it, but, yes, if you are -- I'll take your word for it,
11 but, yes, the CPSA also follows the law, I mean that is
12 a Provincial law, so I -- whether or not the College
13 has expressly stated it, I think they're obliged to
14 follow the law, so yes.

15 Q Yeah, the -- now, there is no great surprise here, but
16 during the break, the question I was asking of
17 Mr. Kitchen was, you know, I've got a CPSA document,
18 and it talks about mandatory masking, and you've just
19 confirmed that I didn't think that was an issue or that
20 I needed to present it to you, so I'm glad we're on the
21 same page.

22 This is a fairly direct question, I'm assuming you
23 comply with the CPSA's masking requirements?

24 A Yes, I have, and I've done whatever I legally can to
25 mitigate it, but, yes, I've been in full compliance
26 with the rules.

1 Q And it's sort of the flip-side of the same coin here,
2 but Alberta Health Services has some mandatory masking
3 requirements as well, and I'm assuming, when you're in
4 the Medicine Hat Regional Hospital, you comply with
5 those as well?

6 A I do certainly, yes. I obey the law. Doesn't mean I
7 have to agree with them though.

8 Q Yeah, fair enough, fair enough. As part of you obeying
9 the law -- I'm assuming you would say yes -- I'm
10 wearing a mask when I have to, and I'm observing social
11 distancing when I have to in my practice?

12 A Correct.

13 Q This applies to Dr. Wall, but I'll phrase it in the
14 context of you as a physician: There were requirements
15 for you to become a regulated member of the CPSA; is
16 that correct?

17 A Correct.

18 Q That would have been your initial registration, your
19 education, et cetera, correct?

20 A That's correct.

21 Q And would you also agree that there are ongoing
22 requirements that the CPSA has for you to maintain your
23 licence, like con ed or record retention or paying
24 those fees every year?

25 A Correct.

26 Q Would you agree with me that it's the responsibility of

1 a professional to follow those requirements of their
2 regulatory college?

3 A For the most part, as long as they do it within their
4 just limits, correct.

5 Q So is it your view that a member of a profession can
6 opt out of the requirements of their college or
7 regulatory body at their choosing?

8 A Again, generally, no, but it depends on what the -- as
9 long as they act within their just limits. I mean, the
10 College couldn't say you had to get a golf membership
11 to be -- remain a member, then I think you could justly
12 fight that or even oppose that. I'm just giving a
13 hyperbole example. But within your just limits, yes,
14 there are -- I bring that up because the CPSA had a
15 recent issue, which I think they acted -- where they
16 tried to act beyond their just limits, and they did
17 back down, so I just want to point that out.

18 Q Sure, well, you know, I'm not trying to be cagey here.
19 The mandatory masking requirement that the CPSA has,
20 even if you disagree with it, that's part of their just
21 limits, isn't it?

22 A Well, that's I say -- that -- the Province imposed
23 that; they didn't impose that; they just went along
24 with it. But, yes, so far, you know, I should stay in
25 practice, I have to agree to it -- or I'm following the
26 law.

1 Q And you followed your college?

2 A Yes.

3 Q Dr. Wall's testimony was, in part, that he had a
4 medical exemption that allowed him to not comply with
5 CMOH orders, and his medical exemption, and Mr. Kitchen
6 can correct me, but I believe it was two-fold, it was
7 anxiety and claustrophobia. Consistent with the
8 discussion I had with you a few minutes ago, I'm
9 assuming that you would expect someone would approach a
10 physician to have a clinical diagnosis of anxiety or
11 claustrophobia when they're seeking a medical exemption
12 for masking?

13 A That would be the usual case. I mean, there is
14 certainly individual circumstances, but that is
15 generally the case.

16 Q Would you want someone to self-diagnose, a nonphysician
17 to self-diagnose their own exemption for masking, their
18 medical exemption for masking?

19 A Am I okay to explain this a little bit more or --

20 Q I asked the question, so yeah.

21 A So in general, yes, I would agree with you. However,
22 as I mentioned before, it depends on access and the
23 situation. If I fill -- I fill out -- as you know or
24 you may not know, the Province has its specific mask
25 exemption form there to fill, and in it, I'm not --
26 because I've signed some of them -- it lists all the

1 different conditions, amongst them psychiatric, of
2 course, or anxiety and that sort of thing.

3 And, generally speaking, a patient comes, and I
4 assess them within my competence, which would be lung
5 disease, and if I agree with them, then I would fill
6 out the form, and it's basically just signing the form.

7 The form, because of patient confidentiality, does
8 not require you to tell anyone -- the patient's telling
9 anyone else what specific condition they have; they
10 just have to indicate they have a valid medical
11 condition from amongst a list of that, and one of them,
12 of course, is psychological or psychiatric.

13 I will say, however, the -- if a patient comes in
14 and tells me they are extremely short of breath, and
15 the mask makes it worse, I mean I can do a whole bunch
16 of testing, but at the end of the day, you have to
17 rely, to some degree, on the patient being truthful and
18 honest, right? Everyone -- we're not here -- we're not
19 a court of law, we're here to try to help our patient,
20 we assume they tell us what is true or not. So if a
21 patient comes in and says, This causes me severe
22 anxiety or whatever, and I cannot wear the mask and
23 function; well, what are you going to do, you're going
24 to agree to that, I think, because --

25 Q I think we're on the same page. Yeah, I think we're on
26 the same page. My comment to you is shouldn't the

1 person come to you as the physician or respirologist
2 and review that with you?

3 A Generally speaking, yes. I mean, I don't know the
4 circumstances of Dr. Wall honestly but -- in terms of
5 his medical exemption, but, yes, generally, that would
6 be the case.

7 MR. MAXSTON I'm going to ask Mr. Lawrence
8 if he thinks we need to caucus, but other than that, I
9 don't think I have any further questions for you. He's
10 saying no; he's shaking his head. So those are all my
11 questions, Dr. Dang. Thank you for your time today.

12 A Sure. Thank you.

13 THE CHAIR: Thank you, Mr. Maxston. The
14 Hearing Tribunal is going to caucus for just a couple
15 of minutes to see if we have any questions.

16 Yes, Mr. Kitchen, did you have anything in
17 redirect?

18 MR. KITCHEN: I've just got one question on
19 redirect.

20 THE CHAIR: Okay.

21 Mr. Kitchen Re-examines the Witness

22 Q MR. KITCHEN: Dr. Dang, you said -- you were
23 talking to Mr. Maxston, you said that you do wear a
24 mask when you legally have to. When you wear a mask
25 because you have to because of the CPSA or the CMOH
26 orders, are you doing it against your will?

1 A Well, I'm being coerced I believe, yes. If it were not
2 for that rule, I would not be wearing it.

3 Q So you're not wearing it willingly?

4 A Correct.

5 MR. KITCHEN: Thank you. That's it.

6 THE CHAIR: Okay, Dr. Dang, if you could
7 just bear with us for 2 or 3 minutes while we caucus to
8 see if the Hearing Tribunal has any further questions
9 of you, and we'll be right back.

10 A Okay.

11 THE CHAIR: Thank you.

12 (ADJOURNMENT)

13 THE CHAIR: We're back in session.

14 Dr. Dang, the Hearing Tribunal does not have any
15 further questions for you. We'd like to thank you for
16 taking the time to attend and to provide your
17 testimony. You are free to leave and with our good
18 wishes.

19 A All right, thank you, you as well, good night.

20 (WITNESS STANDS DOWN)

21 THE CHAIR: On that note, we will adjourn
22 the hearing for today. We've got dates set for I think
23 the end of January, if I remember. So unless either
24 party has something they wish to raise at this time.

25 MR. MAXSTON: I think, Mr. Chair,

26 Mr. Kitchen and I are to stay on to help out the court

1 reporter with a couple of questions, so I'd just ask
2 Amber to leave us in the room, and, otherwise, thank
3 you to everyone for their time today.

4 THE CHAIR: Okay, although it's still
5 November. Merry Christmas. We won't see you all;
6 enjoy the holidays, and we'll see you in January.

7 MR. KITCHEN: Thanks, you too.

8 THE CHAIR: Thanks, bye-bye.

9

10 PROCEEDINGS ADJOURNED

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1 CERTIFICATE OF TRANSCRIPT:

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3 I, Karoline Schumann, certify that the foregoing
4 pages are a complete and accurate transcript of the
5 proceedings, taken down by me in shorthand and
6 transcribed from my shorthand notes to the best of my
7 skill and ability.

8 Dated at the City of Calgary, Province of Alberta,
9 this 1st day of December, 2021.

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Karoline Schumann

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Karoline Schumann, CSR(A)

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Official Court Reporter

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IN THE MATTER OF A HEARING BEFORE THE HEARING
TRIBUNAL OF THE ALBERTA COLLEGE AND ASSOCIATION
OF CHIROPRACTORS ("ACAC") into the conduct of
Dr. Curtis Wall, a Regulated Member of ACAC, pursuant
to the Health Professions Act, R.S.A.2000, c. P-14

DISCIPLINARY HEARING
VOLUME 7
VIA VIDEOCONFERENCE

Edmonton, Alberta
January 28, 2022

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1 Proceedings taken via Videoconference for The Alberta
2 College and Association of Chiropractors, Edmonton,
3 Alberta

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5 January 28, 2022 Morning Session

6

7 HEARING TRIBUNAL

8 J. Lees Tribunal Chair

9 W. Pavlic Internal Legal Counsel

10 Dr. L. Aldcorn ACAC Registered Member

11 Dr. D. Martens ACAC Registered Member

12 D. Dawson Public Member

13 A. Nelson ACAC Hearings Director

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15 ALBERTA COLLEGE AND ASSOCIATION OF CHIROPRACTORS

16 B.E. Maxston, QC ACAC Legal Counsel

17

18 FOR DR. CURTIS WALL

19 J.S.M. Kitchen Legal Counsel

20

21 K. Schumann, CSR(A) Official Court Reporter

22

23

24

25

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1 (PROCEEDINGS COMMENCED AT 9:18 AM)

2 THE CHAIR: Good morning, everybody. This
3 is a continuation of the Hearing Tribunal for Dr. Wall,
4 and we are back in session today, and I believe we left
5 off on November 20th with witness testimony with
6 Mr. Kitchen's witnesses. So that's the point at which
7 we will pick up again.

8 I believe the transcript indicates that there's a
9 Dr. Bridle that will be testifying today; is that
10 correct, Mr. Kitchen?

11 MR. KITCHEN: Correct.

12 THE CHAIR: Okay, just a quick
13 housekeeping item, I'd ask everybody to mute your cell
14 phones. And good morning, Mr. Maxston, as well.
15 Perhaps we'll start with you, if you have any comments
16 you wish to make.

17 Discussion

18 MR. MAXSTON: Yes, thank you, Mr. Chair.
19 Before we hear Dr. Bridle's evidence, I'd like to make
20 some comments to you and your colleagues regarding
21 process and scheduling matters. This isn't a
22 preliminary application in the true sense, but to the
23 extent you feel comfortable, my client will be asking
24 for some advice and direction, for lack of a better
25 phrase, I've advised him of my intention to raise these
26 matters before the beginning of the hearing -- or

1 Dr. Bridle's evidence, and I understand he'll have a
2 response.

3 Specifically the Complaints Director has asked me
4 to make comments regarding the scheduling of the
5 closing argument phase of the hearing and next steps,
6 and this arises from Ms. Nelson's recent emails and
7 Doodle poll to everyone, attempting to secure April 4
8 as the date for closing submissions. And the comments
9 I'm making this morning also arise from the Complaints
10 Director's ongoing and very serious concerns about the
11 length of the hearing and the costs that continue to be
12 incurred, and, as you know, I previously raised this
13 with the Tribunal when we were objecting to
14 Mr. Schaefer being called as a fourth expert witness.

15 My client was very, very supportive of proceeding
16 on April 4 with closing submissions, given the
17 considerable amount of time that has been spent on this
18 hearing and I think our understanding that perhaps most
19 people were available that day.

20 And by way of background, and recognizing the
21 difficulties that can sometimes occur in terms of
22 scheduling hearing dates and scheduling witnesses, my
23 client remains concerned about the significant number
24 of witnesses that Dr. Wall has called in terms of the
25 lay witnesses and the expert witnesses. As you know,
26 we've taken the position that the lay witnesses really

1 can't offer anything in terms of this hearing; it's
2 about Dr. Wall's conduct and his regulator, and we've
3 also indicated that we felt four experts was
4 repetitious and was unnecessary.

5 The Complaints Director's concerns also arise from
6 the number of days that have been scheduled for the
7 hearing to receive Dr. Wall's evidence, and, in some
8 cases, days where we haven't been able to utilize the
9 full day, and that, in turn, has made the hearing that
10 much longer.

11 So this leads me to my primary point today, and
12 that is that the Complaints Director, again, is very
13 strongly of the view that closing submissions should
14 only need one day. They are a summary of the parties'
15 positions and evidence, and scheduling closing
16 submissions for one day should be more than sufficient,
17 and, more specifically, April 4 should be sufficient in
18 terms of the amount of time necessary to prepare.
19 There's a lot of time coming now -- or that will occur
20 between now and April 4.

21 So, again, my client is prepared to proceed with
22 closing arguments on April 4, would like that to occur.
23 I know Mr. Kitchen disagrees with that, but the -- and
24 he has some comments he'll make, but the Complaints
25 Director is asking for, again for lack of a better
26 phrase, some advice and direction from the Tribunal

1 about how we're going to proceed and whether we can
2 proceed on April 4, all with a view to maximizing the
3 efficiency of the hearing.

4 I understand again that Mr. Kitchen has some
5 comments in response.

6 THE CHAIR: Thank you, Mr. Maxston.

7 Mr. Kitchen?

8 MR. KITCHEN: Thank you. I have several
9 comments.

10 We've heard a few times about the costs, and
11 that's not relevant. I'm sure it is for the Complaints
12 Director obviously but not for this hearing, not for
13 the Tribunal. Quite frankly, if he doesn't like his
14 costs, there's a way to remedy that, right? We don't
15 have to keep going on this. Nobody is set in stone:
16 Thou shalt, must continue this hearing. So I don't
17 understand why we keep hearing that.

18 It's expensive to prosecute members of a
19 regulatory body when those members put up a legitimate
20 legal defence. Of course it is; that should come as no
21 surprise.

22 So I say that because that can't be considered as
23 a relevant component here. I mean, we could go down
24 the road on how much Dr. Wall has suffered financially
25 through all of this, you know, how much his family has
26 suffered. He's had to hire legal counsel, right?

1 Enormous resources have been spent on his side. I
2 haven't mentioned that because it's not relevant.

3 So a considerable amount of time, yeah, of course,
4 of course it does, yes. This is a significant,
5 significant issue, right? This is a scientific issue,
6 it's a professional conduct issue, it's a matter of
7 truth, it's a matter of integrity and professional
8 regulation, and it's going to take some time. We
9 haven't been at it for 20 days. It's not unusual for
10 trials in the court to go for 20 or 40 days. My friend
11 knows that. I think we've been at it for six or seven
12 days. My friend took three days with his witnesses. I
13 tried to utilize time as best I could. That's why I
14 tried to fit in Mr. Jarvis [sic], and then, of course,
15 we weren't able to continue that. I had witnesses
16 standing by while we went through all of the Complaints
17 Director's witnesses. I had no issue with that.

18 So again, it's not -- it's almost as if my
19 friend's trying to say that Dr. Wall is doing a
20 filibuster; that's not what's going on, okay? I didn't
21 call 16 of his patients; he could have, he didn't. You
22 know, I could call expert witness after expert witness
23 after expert witness, and I could go, you know, go
24 through all the more and -- arguments about why each
25 witness should be allowed in, because there is no rule
26 of court that applies here that caps the witnesses, but

1 I haven't done that. I've brought in four relevant
2 witnesses, expert witnesses, and we're getting through
3 them as fast as we can.

4 There is an enormous amount of evidence though,
5 nonetheless, as you've seen. That evidence has to be
6 synthesized, and it has to be discussed in closing
7 argument. I'm not going to read to you line by line
8 what Dr. Hu said or what Dr. Bridle says today out of
9 the transcripts, but I'm going to have to go through
10 the evidence, because the evidence is what matters.
11 This case is about following the evidence to where it
12 leads.

13 So -- and I've reviewed the evidence obviously for
14 today, and there's a large amount of it, and we're not
15 done yet, and part of the reason I submit there's a lot
16 of evidence is because Dr. Wall's right, he's
17 scientifically right, he's professionally right.
18 That's why there's so much evidence to show that. I'm
19 not going to ask this Tribunal, at the end of all this,
20 to rule in his favour on a scant amount of evidence;
21 I'm going to ask them to rule on his favour on a large
22 amount of evidence. So I'm going to have to go through
23 that evidence, and I'm not going to take four days to
24 do it, but I'm not going to take 4 minutes to do it
25 either.

26 And then I have to get into the legal argument,

1 which is complex, it's long, and this Tribunal deserves
2 and Dr. Wall deserves for the Tribunal to hear a full
3 explanation of how statutory human rights works, of how
4 the Canadian Charter of Human Rights works, of how it
5 applies to the College, of how Section 1 works, of how
6 it's possible to justify these rights infringements. I
7 have to go through a long list of rights infringements,
8 because I have to establish that; it's Dr. Wall's
9 burden.

10 This is not something that's going to be done in a
11 couple hours. It's going to legitimately take me
12 several hours to go through this, and then, of course,
13 you may have questions, and we may have delays, like we
14 had this morning, we started 20 minutes late. It's
15 patently unreasonable to say we're going to get through
16 it in one day.

17 Now, I understand that, you know, the Complaints
18 Director is not a lawyer; I get that, I get that. But
19 I think my friend, because my learned friend, because
20 he is so reasonable, I think he can agree with me, that
21 we're not going to get through a closing argument in
22 five or six hours, which is typically what we have in
23 one day. I could be the entire day before I get
24 through mine, and then he deserves an opportunity to
25 respond, and he might have a lot to respond to. Then
26 I, of course, have an opportunity to rebut, and then we

1 have questions.

2 So it's not unreasonable, in any sense, to say
3 there's got to be two days, and it's not unreasonable
4 to say it's got to be two days in a row. We've broken
5 up the evidence; that's fine. It's not ideal, but
6 that's fine. But closing argument needs to be two
7 days, two consecutive days in a row. And it's not fair
8 to my friend, to be quite frank, if I go the whole day,
9 and then he has to wait four weeks before he gets to
10 respond to it because we've split it up.

11 The last thing I'll say is this: My client and I
12 were available for days in February and March. It just
13 so happens that the only day when everybody else was
14 available is April 4th, and there's no option for April
15 5th, notwithstanding the fact that I have a trial I
16 have to travel to for April 6th. I would have been
17 willing to do April 4th and 5th if it had've been
18 available. If we had've done those two days in a row,
19 I would have done that, because we might only need a
20 day-and-a-half, we might get through on the 5th, and
21 then I could travel that evening. I don't like that,
22 but I would have been willing to do that, but that
23 option wasn't even presented --

24 THE CHAIR: Mr. Kitchen --

25 MR. KITCHEN: -- for whatever reason --

26 THE CHAIR: -- I'm --

1 MR. KITCHEN: Go ahead.

2 THE CHAIR: -- committed to another
3 hearing with another college on the 5th.

4 MR. KITCHEN: No, and there we go. Now we
5 know -- yeah, I understand that. So I don't -- but I
6 don't know why it was always ever presented to Dr. Wall
7 for only one day. I've made my position clear. I've
8 explained to Ms. Nelson that the defence requires two
9 days. So I don't know why it was only presented as one
10 day; it should have been presented as two days, because
11 that's our position.

12 So I can see why my friend is asking for direction
13 here, because right now, as it is, we have a problem,
14 because the Hearings Director is looking for one day
15 when the defence has made it very clear there needs to
16 be two days, which is perfectly reasonable, and he has
17 a right to full answer in defence.

18 So I'm going to keep my calendar as open as I
19 possibly can. I'm open all through May, I'm open
20 almost all of June, I'm open all of July, so is my
21 client. As soon as -- the soonest that everybody else
22 can get two consecutive days, I'm going to be there,
23 unless it happens to fall on the one or two days in May
24 or June or July that I don't have available. So
25 Dr. Wall is obviously not trying to delay this, okay?

26 I'll remind you that the initial delay was the

1 College's -- I won't say fault -- it was due to the
2 College, okay? Dr. Wall filed his expert reports in
3 April 2021, almost a year ago now, and we were gearing
4 up, ready to go, and the College had to say, No, we're
5 not ready.

6 And so here we are, you know, over a year later,
7 after all this happened. That's not on Dr. Wall. He's
8 keen to see this go through, he's ready to see it go
9 through, but he has a right to full answer in the
10 defence, and he's going to assert that, and he's going
11 to require two days for closing argument. Those are my
12 submissions.

13 THE CHAIR: I think before we caucus to
14 consider a response, I will say that I can't speak for
15 the two regulated members on the Panel, but I can speak
16 for myself, and I think I can -- it's probably the same
17 situation for Doug -- we're under significant demands
18 these days. I'm booking 10 to 15 days a month for
19 hearings, so it's difficult to find these periods of
20 time. I know everybody has demands on their calendar.

21 We all just had a month off at -- some weeks off
22 at Christmas, but fair enough, Mr. Kitchen, we will --
23 the Hearing Tribunal will caucus with counsel, and
24 we'll take a -- and I hate to start doing this, but
25 we'll take as short a break as possible, we'll be back
26 in 10 minutes. If not, we'll let Amber know, and she

1 can advise everybody, and then hopefully we can move
2 forward. So if you could -- thank you, Amber.

3 (ADJOURNMENT)

4 THE CHAIR: Well, the Hearing Tribunal and
5 our counsel have considered the information we were
6 presented with. I think our conclusion is that
7 expecting to conclude final arguments and deliberations
8 on the same day is probably not realistic. We also
9 need time, and we also do not want a break following
10 closing arguments until we're able to meet and
11 deliberate on this matter. So I think it's realistic
12 to ask for two days and to find two days that are
13 consecutive. I'm not going to ask people to look at
14 calenders now. Perhaps we can do that over lunch or at
15 the end of the day.

16 I think we should get back on track and get this
17 witness in, but I will say that the Hearing Tribunal
18 has confirmed that they would be willing to meet on
19 April 3rd. We're meeting on Saturday, tomorrow, so if
20 Sunday, April 3rd, is an option, that could be two days
21 in a row. Otherwise, Ms. Nelson will be back in the
22 position of asking people if they could -- perhaps
23 there's been changes to people's calenders, but,
24 anyway, try and find two consecutive days.

25 It is a big -- I appreciate Mr. Kitchen's
26 comments, there is a lot of evidence to cover, there's

1 also some complex legal arguments to be made, and I'm
2 sure Mr. Maxston will have significant submissions to
3 make as well, so we will try to find two days. I'm not
4 going to cancel April 4th at the moment until we've
5 found an option, but we will ask Amber to focus on
6 doing that as soon as possible.

7 I understand that there's costs. These hearings
8 are not cheap. That's the cost of doing justice, and
9 that will be -- potentially it could be part and parcel
10 of any final decision on this, but, in any event, we do
11 not want to be in a position of telling either party,
12 the College or Dr. Wall, how to present their final
13 arguments. So we will look for two days. Hopefully
14 everybody will be able to find something in their
15 calendar that works without us incurring a further
16 undue delay.

17 On that note, Mr. Maxston?

18 MR. MAXSTON: Yeah, Mr. Chair, I just had
19 two comments, and I don't want to belabour this, I,
20 unfortunately, am out of town for that weekend, so the
21 3rd would not work for me, and my second thought was I
22 would suggest that we simply ask Ms. Nelson to send out
23 a Doodle poll as soon as possible, that we not try not
24 to compare schedules. I find that sometimes gets a
25 little cumbersome, as everybody's flipping back and
26 forth. Perhaps we could ask her to send out a Doodle

1 poll, you know, quite quickly with a two-day block.

2 The other comment I wanted to make was to my
3 friend, Mr. Kitchen, and it might assist him in terms
4 of Dr. Bridle, I've spoken with my client, and in terms
5 of the qualification process and your questions,
6 Mr. Kitchen, for Dr. Bridle; my client is prepared,
7 subject to hearing from you in terms of, you know, the
8 basis on which you're tendering your expert, my client
9 is prepared to accept him as an expert witness without
10 you having to go through, in any kind of detail, his
11 qualifications, making again the same -- or submitting
12 the same caveats we have before, that these issues are,
13 you know, compliance issues and not scientific masking
14 issues.

15 I don't know if that will assist you, Mr. Kitchen,
16 or if you want to go through, I'll call it, a typical
17 qualification process, but it might save you some time.
18 I anticipate your -- the basis on which you're going to
19 be tendering your expert witness is going to be, you
20 know, fairly similar to what you've done before, and
21 I -- if we can save some time that way, we're prepared
22 to do that. I'll leave that with you.

23 MR. KITCHEN: Well, thank you, I appreciate
24 that. I think that is probably an approach that I'll
25 take for Dr. Warren tomorrow, and I will send you a
26 proposed qualification today so that, you know, you

1 have notice about it tomorrow, and you can let me know
2 if there's any issues.

3 Today I am going to run through qualification with
4 Dr. Bridle, even though I don't anticipate a lot of
5 objections, and it will be similar to what I've asked
6 with Dr. Dang, but it's slightly different, and so I am
7 going to establish the record for that.

8 THE CHAIR: Okay, well, thank you both.
9 It's 8 minutes to 10, let's just take a quick break,
10 and then we can plow through until lunch. We'll start
11 at 10:00 with Dr. Bridle, okay?

12 MR. KITCHEN: Ms. Nelson, could you just --
13 because I haven't been able to communicate with
14 Dr. Bridle. Could you just let him know that we're
15 going to start at 10 so he has a heads-up?

16 MS. NELSON: Yes, I can do that for you.

17 MR. KITCHEN: Okay, thank you.

18 THE CHAIR: Thank you. And then, just to
19 confirm, April 3rd is off the table.

20 (ADJOURNMENT)

21 THE CHAIR: We're back in session. Just
22 two very quick items before I turn the floor over to
23 Mr. Kitchen. I wanted to ask, Mr. Kitchen, do you have
24 any documents that you plan to share with -- today or
25 table?

26 MR. KITCHEN: No. Dr. Bridle's report and

1 his cv are part of the record, so you should have
2 access to them.

3 THE CHAIR: Okay.

4 MR. KITCHEN: Please let us know if you
5 don't, and that's all I intend. So I mean that could
6 change if my friend brings something in, and then I
7 need to bring something in in -- I don't anticipate
8 that, but certainly for my direct, no documents.

9 THE CHAIR: Okay. And I just would like
10 to tell people that during our first break to discuss
11 your opening comments, one option we did look at very
12 briefly and discarded was the option of having written
13 closing arguments, and we decided that that was not an
14 attractive option for this case, but we did -- we were
15 trying to look at all options, and that was one that
16 was brought up.

17 So with that note, I'll ask Mr. Kitchen to call
18 your witness, and we can continue.

19 MR. KITCHEN: Sure, Ms. Nelson, if you could
20 bring him in, and then we'll -- and then, Karoline, if
21 you can swear him in.

22 (DISCUSSION OFF THE RECORD)

23 DR. BYRAM BRIDLE, Sworn, Examined by Mr. Kitchen

24 (Qualification)

25 Q MR. KITCHEN: So, Dr. Bridle, just to make
26 sure that you know where we're going, I'm going to be

1 asking you what we call qualification questions, and
2 then I'm going to be offering to the Tribunal the
3 qualification I'm going to qualify you as, they'll make
4 a ruling on that, my friend will have a chance to give
5 some comments, and then I'll get into questioning you
6 on substance, but this shouldn't take too long.

7 So to start with, Dr. Bridle, are you a doctor
8 because you have a Ph.D.?

9 A Yes, that is correct.

10 Q What's your Ph.D. in?

11 A It's -- okay, so my training is -- well, I guess is
12 to -- for -- to have a full understanding, I have a --
13 first, I obtained a Bachelor of Science degree in
14 biomedical sciences, then a Masters of Science degree
15 in immunology, and then a Ph.D. in immunology, and then
16 I did a six-year post-doctoral fellowship to become
17 certified as a viral immunologist, and I now hold, in a
18 faculty position, as an associate professor of viral
19 immunology at the University of Guelph.

20 Q Thank you. Your Ph.D., when did you get that and from
21 what university?

22 A So it was from the University of Guelph, and I guess I
23 would refer everybody to my cv, I -- it's been so long,
24 I can't even recall the exact date.

25 Q That's okay. Are you a professor now currently?

26 A Yes, I'm an associate professor.

1 So just so everybody understands what that
2 entails, the initial appointment for people for
3 academics in a university setting is as an assistant
4 professor. And then if we have progressed
5 satisfactorily in our development as a faculty member,
6 we then undergo usually about within, on average, about
7 six years -- no, sorry, five, five to six years after
8 being appointed as an assistant professor, we have to
9 be -- we undergo a very rigorous review process where
10 our performance is assessed independently by at least
11 three world-renowned experts in the field.

12 And if our progress is deemed to have been
13 satisfactory, then typically what happens is we are
14 awarded tenure and promoted to the position of
15 assistant professor.

16 And then the final stage would be full
17 professorship, and that usually is about eight years
18 later with a similar process involved.

19 So right now I am an associate professor of viral
20 immunology.

21 Q Thank you. Have you received any awards or
22 recognitions within the last two years?

23 A Yes. So you want to just limit it to the last two
24 specifically --

25 Q Yes.

26 A -- or last --

1 Q Otherwise, we'd be here for a while.

2 A Okay. So, yes, so I've won several teaching awards.
3 So one of the awards that I received was the equivalent
4 of teacher-of-the-year within my college. It's the
5 most -- like it's a prestigious award that's awarded
6 within -- for, you know, the college that I -- for the
7 college -- among the colleges that I'm involved in
8 teaching in.

9 And what that entails is -- entails -- so I'm
10 involved specifically with training or teaching
11 veterinary students and -- in the field of immunology,
12 general immunology. And so what happens is that, just
13 like an M.D. program, it's a four-year -- it's four
14 years of classes, four-year program.

15 And so for that award, what happens is all of the
16 students in the second, third, and fourth year of the
17 program vote on who they felt the top -- who the top
18 professor is in that program. So that's one of the
19 awards that I won recently.

20 Also what happens at the end of every academic
21 year, the -- these professional students then vote on
22 who they felt the top professor was for that given
23 academic year, but I received that recognition, and
24 that's -- so we get voted in basically as an honorary
25 class president for that class.

26 I also recently received a research award for

1 outstanding research.

2 And I'm just trying to think, I think those are
3 probably key highlights, you know, to highlight my --
4 yeah, the fact that I have been objectively assessed in
5 terms of my teaching ability and research ability and
6 have been recognized in those ways as being above
7 average.

8 Q Thank you. Just give me one second, my phone was off,
9 but my answering machine is on; I'm just going to turn
10 it off.

11 THE CHAIR: I'll just mention,
12 Mr. Kitchen, for everybody, Dr. Bridle's cv and other
13 related information is in Folder E, and it's package
14 number 5.

15 MR. KITCHEN: Yes, thank you.

16 Q MR. KITCHEN: Dr. Bridle, have you -- are
17 you currently performing or overseeing research
18 projects?

19 A Yes, a large number. So I'm known as what's called a
20 research-intensive faculty member. So as faculty
21 members at any university across Canada, our work is
22 divided into three areas, and we all have -- we
23 dealt [sic] on to have unique what we call
24 distributions of effort.

25 So our work is divided among, again, three areas
26 of focus, one is research, one is teaching, and one is

1 service. And so in my case, my distribution of effort
2 is divided as such: 65 percent devoted to research, 25
3 percent devoted to teaching, and 15 percent devoted to
4 service.

5 And just so there's some perspective with that,
6 the sort of average dedication to research, like for
7 the average faculty member across Canada, would be more
8 in the range of 40 percent. So, therefore, I'm
9 considered a research-intensive faculty member, and so
10 that's an emphasis. And as such, I do have a fairly
11 extensive research program and research team that I
12 manage.

13 And so right now, active within my lab, there's
14 sort of three areas of research that I'm focusing on.
15 I do a lot of basic fundamental viral immunology
16 research in which we look at the post-immune response
17 to viruses and, you know, how we protect ourselves from
18 viruses following infection.

19 And then the -- and then there's two more
20 translational/applied areas of research. One is -- in
21 both cases, they're using what we call immunotherapy,
22 and the most common immunotherapy that I do research on
23 are vaccines. And -- and for two purposes: So one arm
24 of this program is focused on trying -- developing
25 vaccines for the prevention of infectious diseases, and
26 then the other one is for developing immunotherapies

1 for the treatment of cancers. Similar technologies can
2 potentially apply to both, certainly scientific, the
3 principles are fairly -- you know, overlap between the
4 two. So I have those three areas of research is my
5 emphasis right now.

6 And I guess I also, for full disclosure, just
7 because it's probably most relevant to what's being
8 discussed today, I did receive two grants to support my
9 research program, infectious diseases, one from the
10 Ontario Government and one from the Federal Government,
11 and those are a specifically to conduct pre-clinical
12 research in the area of SARS-Coronavirus-2 vaccines.

13 Q Thank you, you've answered some other questions I have.

14 And forgive me if this is not the right way to ask
15 this, but are you currently a reviewer or an editor of
16 any academic journals?

17 A I recently served as the guest editor for a special
18 issue of a journal for -- and the journal is known as
19 Vaccines, and that issue is now complete.

20 I do serve -- I'm active as a reviewer for many
21 scientific journals, so that's a regular part of my
22 job, and that comes under the service component that I
23 was talking about. So that service component not only
24 involves service to my institution, but it involves
25 service to the -- well, to the public, but especially
26 service to the larger scientific community.

1 And part of that is I serve as a reviewer on
2 multiple grant review panels, including grant review
3 panels for the Federal Government, and our -- that's
4 our primary source of academic funding in Canada for
5 medical research. So that organization is known as
6 C-I-H-R for short or the Canadian Institutes of Health
7 Research.

8 For that, I have served on multiple committees,
9 including one that looks at grants that are being
10 applied for in an area of cancer research, but probably
11 my most -- definitely my most substantial contributions
12 to that grant review agency has been serving on their
13 virology and viral pathogenesis panel. In fact, I am
14 currently serving a three-year term, invited term, as a
15 reviewer.

16 And I guess, not that I usually like to tout, you
17 know, things like accolades and awards, but, again, I
18 understand that it's important to also -- you're trying
19 to make considerations in this case about my potential
20 to serve as an expert witness, so I'd have to point out
21 that I have received three consecutive citations
22 from -- and so I guess I forgot to mention this when
23 you were asking about awards, because this is within
24 the last two years -- and my service on the
25 virology/viral pathogenesis panel, in which we
26 determined which Canadian research -- researchers get

1 funding in that area. I have received three
2 citations -- consecutive citations from CHR as being
3 one of their most elite reviewers, which is an award
4 given after the -- end of review competition, the
5 chairs of the review panels, and the CHR staff that
6 attended those panels identify the top 15 percent of
7 reviewers for that particular review cycle across all
8 of their panels, and then those top 15 percent receive
9 these citations and try to set that standard for what
10 the other reviewers should try and achieve in terms of
11 the quality of the reviews that they provide.

12 And so as part of my job as well, yes, I routinely
13 provide reviews, it can be to any scientific journal,
14 and I do it for a large number of scientific journals.
15 There's no limitation on that. Any scientific journal,
16 if they feel that a faculty member anywhere in the
17 world possesses expertise relevant to what that paper
18 is about, then they can contact us and ask us if we
19 would like to review. That's done on a voluntary
20 basis; we're not required to do it, but it's done on a
21 voluntary basis. And that is the foundation, the
22 underpinning of how we establish the most rigorous
23 scientific data.

24 So the top scientific data in the world of science
25 is what we refer to as peer-reviewed scientific
26 publications, and so those are -- that's scientific

1 data that has been compiled into what we call a
2 manuscript, and that manuscript goes to what we call
3 peer reviewers, that would be somebody like myself,
4 who -- and we can have no conflict of interest, no
5 connection with the authors of that paper. So that's
6 important to make sure it's fully objective. And
7 then -- in many phases, it's not even disclosed who
8 the -- now with a lot of journals, not even disclosed
9 who the authors are, to ensure that there can be no
10 biases.

11 And then we give our feedback, either we recommend
12 that the paper be rejected because the science is not
13 of a sufficient quality, or we can recommend that it be
14 accepted with different amounts of revision required to
15 try and increase the quality of the science. And so,
16 ultimately, if accepted, that means that -- so what
17 we're talking about when we're talking about
18 peer-reviewed scientific literature, that's the process
19 that's followed. And so, yes, I participate in that
20 and have done so for a large number of journals, and I
21 do it on a regular basis and have throughout the
22 duration of my independent academic career.

23 Q Thank you. When you do your research, you obviously do
24 a lot of it, do you sometimes work with other
25 scientists?

26 A Yes. Yes, my research team is highly collaborative.

1 So, again, if anybody would like to refer to my cv,
2 you'll find that -- so the way authorship works in --
3 certainly in the area that I work in and so the
4 academic realm, there is typically -- and it varies
5 from research area to research area, there's sort of
6 different conventions in the authorship of what
7 typically happens. When you're looking at these
8 papers, you'll often see a large number of names
9 listed, and so those are all the people who contributed
10 in some way to the sciences in that manuscript.

11 And the names that are at the beginning -- so this
12 is the case for sure with all of my citations, the way
13 it works, all the names at the beginning are typically
14 the trainees that did most of the hands-on laboratory
15 work, and then the names that are in the latter half of
16 the authorship are what we call the senior authors.
17 They're the ones that got the funding for the research,
18 that often design the research project, and they
19 oversee the management of the trainees that are working
20 on that and provide feedback and troubleshooting,
21 et cetera.

22 So -- and so when you're looking at sort of the
23 level of collaborative-ness, you want to know who the
24 senior authors are. And one of the -- and immediate
25 ways to identify that is -- I mean, so, obviously, when
26 I'm publishing something, my trainees are readily

1 identifiable typically because they're going to be from
2 my institution. Although with that said, I have many
3 trainees actually who have collaborated with mine from
4 other institutions.

5 But so when you look at that latter part of the
6 list, when you see people, especially from other
7 institutions -- and I mean if there are any other
8 faculty members as senior scientists, those are
9 collaborators, official collaborators.

10 And so, yes, I've collaborated extensively.
11 There's no way I could go through all of them, but I
12 collaborate with researchers from around the world. I
13 guess I can give you an example. So, for example, with
14 a recent publication that we had on SARS-Coronavirus-2
15 vaccines, for example, that was a strategic
16 collaboration with the National Microbiology
17 Laboratory, which is part of the Public Health Agency
18 of Canada, where they conducted part of our research.
19 There were three separate research groups at the
20 University of Guelph where -- that we came together
21 strategically to do this work. So that's one type of
22 example. So, yes, so I've collaborated with scientists
23 in the Government and lots of scientists from other
24 academic institutions, including others around the
25 world.

26 So, yeah, my research team is highly

1 collaborative, so every one of my publications
2 represents some type of formal scientific
3 collaboration.

4 Q Thank you. Have you published any peer-reviewed
5 articles or any other type of publications in the last
6 two years either on your own or collaboratively with
7 others?

8 A Yes. So I'm actually quite proud of that fact
9 honestly, and this is why: So just to understand the
10 setting, what happens is because of the lockdowns
11 related to COVID-19 policy, a lot of research programs
12 had to shut down and for substantial periods of time.
13 And, indeed, my research was declared nonessential, and
14 so the worst shutdown that we were facing originally
15 was a -- it turned out to be six months of interruption
16 to research, really nonessential research.

17 However, again, like I mentioned because I do --
18 because -- so this problem of COVID-19, specifically
19 SARS-Coronavirus-2, the virus that causes COVID-19,
20 because that's in my area of expertise and so many of
21 the -- so much of the research and research tools that
22 I work with were applicable, my group pivoted very
23 rapidly to focus on COVID research, and like I said, we
24 were successful in getting grants available to pursue
25 that.

26 So we have continued our cancer research, we've

1 continued our basic virology research throughout this,
2 but those two aspects have -- you know, we have
3 experienced substantial interruptions to those
4 components and -- but we focused our efforts on
5 infectious diseases on the SARS-Coronavirus-2.

6 And so as a consequence, in fact, the last two
7 years, remarkably despite that -- those, you know,
8 impediments to research, the last two years have
9 actually been my most productive in terms of
10 publications. I -- again, you'd have to look at my cv
11 to get the exact number. I -- what I can tell you,
12 yeah, well -- oh, yeah, so, actually, I do have a
13 fairly accurately grasp. We actually have so many
14 papers that are currently under review that have been
15 submitted that, you know --

16 What I can say for sure is that by the end -- by
17 Christmas of last year, over the last two years, I had
18 published 29 paper -- 29 peer-reviewed, scientific
19 papers in scientific journals that are indexed in all
20 the common databases and -- so 29 publications. And
21 since then, I have had two or three more published. I
22 have had two more accepted, and I have two or three
23 more that are currently under review.

24 So, yeah, so it's been quite productive, and so
25 the reality is -- so, for example, my institution,
26 again, that has garnered attention because the average

1 publication record for faculty, in fact, dropped off
2 substantially, to the point -- in fact, I should point
3 out -- we actually normally have a performance review
4 every two years, and because of this impact, our
5 actual -- first performance review was supposed to
6 occur very early on during the declared pandemic but
7 was cancelled because of this impact at that time. And
8 then we were supposed to have our last review very
9 recently because this has been going on for two years
10 now, and that's been cancelled.

11 So the next time we're going to have a review
12 actually is going to have been -- at this point, it's
13 going to have been a six-year gap, and that is to
14 recognize the fact that it was unfair to evaluate the
15 performance of faculty members who had had such massive
16 interruptions to their research programs and their
17 ability to be productive.

18 So, in fact, you can't expect the review
19 committees to review six years of progress from every
20 faculty member, so what's happening -- so, in fact,
21 it's just been assumed that everybody -- at my
22 institution, that everybody has performed reasonably
23 well, because it actually gets linked to pay bonuses at
24 the end of that two-year period, and so everybody will
25 get the same pay bonus. And then when we have our next
26 review, which will have been a six-year gap, it will --

1 we'll be starting from scratch again in terms of a
2 review.

3 So, yeah, that's where I'm at with the publication
4 record that I am particularly proud of, that my
5 research team has been so incredibly productive
6 throughout all of this, so that's kudos to them.

7 Q Thank you. And just to clarify some of those
8 publications have been related to SARS-CoV-2 and/or
9 COVID-19?

10 A Yes, that's true, yes, we have several peer-reviewed
11 publications dealing with SARS-Coronavirus-2.

12 Q Have you been an expert witness in legal proceedings
13 before today?

14 A I have. So, yeah, to disclose my involvement with
15 those, I was in one that was ultimately not heard -- I
16 was -- I -- so -- and the first one that I was involved
17 with related to Corona -- SARS-Coronavirus-2. I served
18 as an expert witness, was involved with various aspects
19 of that case for many months leading up to it. I was
20 cross-examined for 5 hours and 15 minutes for that
21 case, but, ultimately, that case was thrown out. So
22 I'm not a legal expert, but my understanding,
23 therefore, is that I was not officially qualified as an
24 expert in that case because the case ultimately was not
25 heard, and my understanding is that's a requirement to
26 be considered qualified, but I served as an expert

1 witness in that case.

2 I have -- I've served in an unofficial capacity
3 for hearings that were run like court hearings for --
4 the most recent one was for a physician in Ottawa, an
5 ear, nose, and throat specialist, who was -- and this
6 was due to the vaccine mandates and whether or not
7 they're privileged to serve into hospitals in Ottawa
8 should be taken away because of not accepting, you
9 know, the two jabs in that case, but that was not an
10 official court proceeding, but it was run by lawyers.

11 And then I was also involved in a court case
12 dealing with vaccine mandates that were -- that was --
13 this was for hospital workers in Toronto, and now that
14 one is more complicated honestly. Again, I don't have
15 the legal expertise, but it was my understanding and
16 the understanding of the legal team that had recruited
17 me to provide expert evidence to the people hearing the
18 case that I had to qualify as an expert.

19 What I can tell you is that the -- one of the two
20 experts on the -- serving on the other side, they
21 were -- one was dismissed before the court hearing,
22 their expert report, and then the other one was
23 dismissed during the court hearing. Mine was
24 discussed, and the lawyers accepted my expertise, and
25 my report, my understanding was, had been admitted into
26 court. There was a court hearing. My report was

1 discussed.

2 But then in the final report, what confused
3 everybody is a -- the ruling ultimately was -- left
4 only my report on the table, because the other two had
5 been removed, and so, ultimately, the ruling was based
6 on wording that the lawyers had used to, I guess,
7 develop their case and not on the expert evidence. So
8 the expert evidence ultimately was not considered in
9 the ruling.

10 So, again -- so I was left with I had been told,
11 on one hand, that I was qualified as an expert in that
12 case, and then on the other hand, I was told that maybe
13 not because the expert evidence, ultimately, was not
14 considered. So that's just for full disclosure.

15 Because one of the things that I've got -- that
16 I -- that was brought up is anytime I -- I didn't know
17 from the first case, and I know it has to be disclosed,
18 and I didn't want to get in trouble, so I disclosed
19 that I was qualified as an expert witness in that --
20 the first case, and then I was accused of lying, but I
21 just didn't know because I'm not a legal expert, and so
22 that's been clarified.

23 So that's why, for your full disclosure, I want
24 you to know what's happened. So in that last case,
25 whether or not I was officially qualified, I'm actually
26 uncertain of, but certainly my -- in both cases, nobody

1 disputed my -- the ability to serve as an expert. And
2 in the last one, my expert report was actively
3 discussed in court. That's for full disclosure.

4 Q Thank you. Now, Dr. Bridle, do you know Dr. Curtis
5 Wall personally?

6 A I don't know him at all, no, and I -- so all I know is
7 the name, and, in fact, I still know very little about
8 him.

9 Q Do you have any financial interest in the outcome of
10 this case?

11 A No.

12 Q Do you understand your duty to provide this Tribunal
13 with your expert knowledge and opinions in an objective
14 and neutral manner?

15 A Yes, yeah, and that's -- as a scientist, that's what I
16 am expected to practice on a regular basis as I
17 mentioned, otherwise, the entire peer-review process
18 will be compromised, and I will endeavour to do that
19 today as well.

20 Q Thank you.

21 MR. KITCHEN: Well, those are my
22 qualification questions. Chair, I want to have
23 Dr. Bridle qualified as the following -- I can read
24 this a couple times -- but I want him to be qualified
25 as an expert in the area of viral immunology and, in
26 particular, SARS-CoV-2, COVID-19, and the efficacy of

1 masking, physical distancing, and other restrictions
2 intended to prevent the transmission of SARS-CoV-2.

3 THE CHAIR: Mr. Maxston?

4 MR. MAXSTON: Mr. Kitchen, I'm going to ask
5 you to read that back, I got part of it or most of it,
6 but I just need to hear all of it again, if you could
7 do that.

8 MR. KITCHEN: Yeah, no problem. I'd like to
9 have Dr. Bridle qualified as an expert in the area of
10 viral immunology and, in particular, SARS-CoV-2,
11 COVID-19, and the efficacy of masking, physical
12 distancing, and other restrictions intended to prevent
13 the transmission of SARS-CoV-2.

14 MR. MAXSTON: Thank you, Mr. Kitchen.

15 Mr. Kitchen, I don't want to -- I may have a
16 question or two for Dr. Bridle at this point, but can
17 you clarify what other restrictions you're referring
18 to? I don't want to be too difficult here, but that's
19 a little bit open-ended; I just wonder if you can
20 comment on that.

21 MR. KITCHEN: Sure. I'm going to ask Dr. --
22 what I anticipate asking Dr. Bridle specifically about
23 specific other restrictions, right. I've identified
24 masking and physical distance as specific restrictions,
25 right? But the reality is, and I -- you know, I think
26 we often hear this from the public health people is

1 that, Look, it's a whole, right? You can't talk about
2 these things very well isolated; they need to be talked
3 about as a whole. That's one reason I have that in
4 there is I'm going to have generalized questions, and
5 Dr. Bridle's going to have generalized answers, I
6 anticipate, about COVID restrictions globally or
7 generally. That's one.

8 And two, I'm following along the same lines that
9 you established with Dr. Hu, which I didn't take issue
10 with; you know, you had the catch-all other measures.
11 You know, I figured that was appropriate, so I didn't
12 object, and so I'm following along in the same vein so
13 that we don't get into issues of, well, you know, you
14 can only talk about masking or physical distancing.
15 That doesn't really make any sense. It wouldn't make
16 any sense for Dr. Hu, it wouldn't make any sense for
17 Dr. Dang, it wouldn't make any sense for Dr. Bridle, so
18 that's why I'm putting that in there; not because I'm
19 going to go to specific other restrictions, but because
20 I want to talk about them generally.

21 MR. MAXSTON: Okay, thank you for that. I
22 just have a couple of quick question for Dr. Bridle.

23 Mr. Maxston Cross-examines the Witness (Qualification)

24 Q MR. MAXSTON: Good morning, Dr. Bridle. I
25 wonder if you can answer a couple of quick things for
26 me. You had a discussion with Mr. Kitchen about the

1 fact that you have your Ph.D., I think you're a viral
2 immunologist. Is it correct that you're not a medical
3 doctor then? I just want to be clear about that.

4 A Yes, that is correct. I do not hold an M.D. degree,
5 nor a D.V.M. or any type of medical -- professional
6 medical degree. I'm not a professional --

7 Q And similar to that --

8 A -- (INDISCERNIBLE) --

9 Q -- are you now a member of a regulated profession
10 under, you know, the Ontario regulated Health
11 Professions Act or something similar?

12 A No.

13 Q So you're not a member of a regulatory college like the
14 College of Chiropractors of Alberta, for example, if
15 you were in Alberta?

16 A That is correct.

17 Q Have you ever been a member of a regulatory college?

18 A No.

19 Q I think you touched on this with Mr. Kitchen, but have
20 you advised any public health bodies concerning
21 COVID-19; have you been asked to consult with them?

22 A Yes. So I have -- so, for example, I've had numerous
23 interactions with the National Advisory Committee on
24 Immunization, lots of back-and-forth emails, so, yeah,
25 so that's a great question.

26 So I focus on research. I tend to focus more on

1 the pre-clinical side, feeding into the translational
2 research arm. I have had some of my research go into
3 clinical -- human clinical trials, but that gets passed
4 off to those who work on the clinical research side.

5 So the type of research that I do helps inform
6 public policy --

7 Q Yeah, I --

8 A -- public health policies but --

9 Q I think I --

10 MR. KITCHEN: Mr. Maxston, you need to let
11 my witness finish.

12 MR. MAXSTON: Yeah, sorry, sorry.

13 Q MR. MAXSTON: I just wanted to -- I didn't
14 want you to go down a certain road. I was more
15 interested in whether you, for example, worked with the
16 Ontario Chief Medical Officer of Health or anything
17 along those lines.

18 MR. KITCHEN: And he'll --

19 A No, I haven't worked directly -- sorry.

20 MR. KITCHEN: Obviously, he's going to
21 answer that question, but, Dr. Bridle, you are
22 permitted to finish your answer to my friend's two
23 questions ago.

24 A Okay, sure, yes. Yeah, so when it comes to public
25 health, the type of research that I do and the science
26 that I publish is what is used to inform public health

1 policy. So things like, for example, we've heard a lot
2 about the epidemiological modelling, so what -- so --
3 and what happens is when these epidemiological models
4 are made, there's a lot of assumptions that are plugged
5 into those.

6 And so, for example, the type of research that I
7 do would be important in terms of what kind of data
8 gets plugged into these models when it comes to
9 assumptions like naturally acquired immunity, for
10 example, or vaccine-related efficacy, right, these
11 assumptions that dictate how some of the measures right
12 now are performing, and that then influences the
13 output, which is when we're trying to predict what
14 cases and severe outcomes like hospitalizations and
15 intensive care unit admissions, for example, I get
16 into, just so that the -- everybody has an
17 understanding of sort of where I stand on that
18 spectrum. So my data feeds into that, you know, basic
19 science aspect that informs then these models and how
20 they're run.

21 But to directly answer your question, Mr. Maxston,
22 I have not worked directly with the medical -- with
23 Ontario's Medical Officer of Health. With that said, I
24 have provided letters to them, you know, with my input,
25 but I have not been formally recruited by them to
26 discuss, you know, scientific matters.

1 MR. MAXSTON: Thank you, Dr. Bridle, those
2 are all my questions.

3 Mr. Kitchen, I don't have any concerns with the
4 manner in which you're tendering this witness. I think
5 you've told me you wanted to have a little flexibility
6 in terms of the other restrictions phrased, and I'll
7 object if I need to, but I don't anticipate I would
8 have to do that.

9 MR. KITCHEN: Thank you. Well, Mr. Chair,
10 it's over to you then to let us know if you accept that
11 qualification. I can read it again --

12 THE CHAIR: Yeah, no, that's okay. I
13 think we all got it. Do we need to caucus, Mr. Pavlic?

14 MR. KITCHEN: You're muted.

15 MR. PAVLIC: My apologies, I had a little
16 bubble over my mute button. Yeah, maybe we should just
17 take a very brief minute.

18 THE CHAIR: Okay.

19 MR. PAVLIC: Yeah.

20 THE CHAIR: Thank you.

21 MR. PAVLIC: Thank you.

22 (ADJOURNMENT)

23 Ruling (Qualification)

24 THE CHAIR: We're back in session, and,
25 Mr. Kitchen, the Hearing Tribunal has no objection to
26 your qualifying this witness as an expert in his stated

1 field.

2 MR. KITCHEN: Thank you. Well, then I
3 propose we continue on with questioning, and then if we
4 need to take a break, then I'm sure somebody will put
5 their hand up.

6 DR. BYRAM BRIDLE, Previously sworn, examined by
7 Mr. Kitchen

8 Q MR. KITCHEN: Dr. Bridle, you can hear us,
9 right?

10 A Yes, I can.

11 Q Excellent, all right, well, I'm going to jump right in.
12 First, I want to start with a few basic questions,
13 I know you touched on this in the qualification, but
14 just to clarify, what is the virus that causes the
15 disease of COVID-19?

16 A Yeah, so just to be clear, the virus in question here
17 is known as the Severe Acute Respiratory
18 Syndrome-Coronavirus-2. It's specifically been given
19 that designation 2, because about 18, 19 years ago,
20 there was an outbreak, including in Canada, of the
21 original Severe Acute Respiratory Coronavirus, which is
22 now either just called SARS-CoV or sometimes now
23 referred to as SARS-CoV-1.

24 So this is dealing with the Severe Acute
25 Respiratory Syndrome-Coronavirus-2, which was first
26 identified and that information made public in the year

1 2019 now, late in the year 2019, and this is where we
2 get this term "COVID-19" from. So what COVID-19 is,
3 that's the Coronavirus disease, and then the 19 part
4 refers to that was initially identified in 2019.

5 And, again, yeah, to differentiate -- and this is
6 an important distinction for people to make --
7 SARS-Coronavirus-2 is the virus. COVID-19
8 is the disease. Being infected with the virus doesn't
9 equate with having a disease. To have a disease, one
10 must have signs for -- and/or symptoms of illness. So
11 there's a clinical part to that diagnosis. So, again,
12 one can be infected with the virus but not necessarily
13 have disease, and, in fact, scientific literature right
14 now shows that there's a much larger than previously
15 anticipated and still unknown proportion of the
16 population that has been or can be infected with
17 SARS-Coronavirus-2 and not get COVID-19, the disease.

18 And so a way to kind of make sure that everybody
19 understands that properly, we are all, all of us right
20 now, I can guarantee, are infected, infected with all
21 kinds of microorganisms, including lots of viruses. We
22 think -- we hear a lot about our microbiome, and we
23 often think about the bacteria that coat the outside
24 and inside of our linings specifically, like the
25 mucosal membranes throughout our body or gut, our
26 respiratory tract, reproductive tracts, et cetera, and

1 then, of, of course, our skin.

2 But part of that microbiome is also what we know
3 as the virome, so we actually have probably more
4 viruses in and on our body than we actually do
5 bacteria, and, interestingly, a lot of those viruses
6 are actually -- have infected the bacteria that are in
7 or on our body, and these are known as bacteriophage.

8 So I mean this just highlights that we can be
9 infected with an agent but not have disease, and so
10 that's the distinction here. SARS-CoV-2 is the virus
11 that, in some people, can cause the disease known as
12 COVID-19.

13 Q Thank you. Now, when it comes to the virus and the
14 disease and everything that's been going on in the last
15 two years, what would you say is the most important
16 difference or some of the most important differences
17 between scientists such as yourself and public health
18 doctors such as Dr. Hu?

19 A Yeah, so I can't comment specifically on Dr. Hu, but I
20 can provide some generic feedback, because, again --
21 so, for example, individuals like myself, again, so we
22 train -- we train medical professionals. In my
23 specific case, I've chosen to work with the University
24 of Guelph. I've been offered a position at the
25 University of Ottawa where I would have been teaching
26 students in the M.D. program, but because I felt I

1 could do more sophisticated research at the University
2 of Guelph, because there's more animal models available
3 and the type of research I do, I teach students in the
4 doctor veterinary program.

5 However with that said, I've also had many of my
6 undergraduate and graduate students that I've trained
7 and mentored have gone to medical school as well.

8 And so as a consequence because of this teaching,
9 I'm routinely involved with communicating, for example,
10 I've chaired for many years our department's seminar
11 series committee, and so through that, I host other
12 scientists through my collaborative network. I've been
13 in contact with all kinds of faculty members who teach
14 in these types of programs.

15 So what's important to note is when one has an
16 advanced degree, so, for example, a Master -- so that
17 would be like a Master's degree and especially a Ph.D.,
18 a Ph.D. takes it to a far greater extreme. What one is
19 being educated in in that area is a very deep
20 understanding of a particular area of expertise. So in
21 my case, I have spent years studying in incredible
22 detail the areas of virology and immunology, and
23 although not relevant to today, but also cancer
24 biology.

25 And so the key difference, what people have to
26 understand -- and, again, this -- I mean no offence by

1 this in any way, but it's just to encourage
2 understanding -- is if somebody holds an M.D., and the
3 same would be for a D.V.M., any of these professional
4 medical degrees, what you have to understand is when it
5 comes to the medical doctorate programs, these are
6 undergraduate programs -- they're undergraduate
7 professional programs, right? So people when they get
8 these degrees, they are declared professionals, but
9 they are undergraduate degrees. So that is why, for
10 example, if you see somebody who holds a graduate
11 degree, the graduate degree will always, even if it's a
12 Masters degree, it will always be listed after the
13 undergraduate medical degree, and that's to recognize
14 the fact that one is training at the undergraduate
15 level, whereas the other one is more in-depth training
16 at a graduate level. So literally -- so that's what
17 you'll typically see. So if I were to list my
18 credentials, I would be required to list my Bachelors
19 of Science first, my Masters of Science second, and my
20 Ph.D. last, and what we usually do is we just simply
21 list the Ph.D. because it essentially trumps the
22 others. So that's why you'll typically see -- not
23 people won't list the Bachelors or Masters, and I don't
24 like to do that because, you know, it's not about
25 trying to garner, you know, praise from others, it's
26 simply to recognize that, you know, ultimately we have

1 achieved -- we have -- we've got a Ph.D.

2 So that's why you see -- so the order in which
3 degrees are listed actually is important in the
4 scientific and medical community to recognize these
5 distinctions, and so at the -- so, in other words,
6 individuals like myself, who have deep expertise in
7 immunology and virology, so I would teach in these
8 programs in those areas that are under my expertise and
9 try and get as much of that expertise conveyed to the
10 people who are earning these undergraduate medical
11 degrees.

12 One of the universal concerns actually -- so when
13 I start my teaching -- and I mention this because it's
14 important to understand the full scope of your
15 question -- I -- so I -- one of the things I take pride
16 in, as far as I know to date within the D.V.M. program,
17 doctor veterinary medicine program that I teach, as far
18 as we know to date, it involves the most extensive
19 training in immunology in North America. I can't say
20 for sure, because I don't know what every medical
21 college in North America, what their programs entail,
22 but so far, and has been recognized by my
23 administration, we haven't seen one that's more
24 intensive.

25 And by that I mean, we teach -- I have 30 lecture
26 slots with my students to talk about -- you know, to

1 lecture them about immunology. Included with that is
2 we have what we call independent learning sessions,
3 where they also do some learning on their own about
4 immunology. We also have -- I've incorporated what I
5 call interactive learning sessions where we use a
6 technology called iClickers, where I can put up
7 questions and have the students then provide their
8 feedback so I can gauge how well they are or are not
9 understanding concepts, plus we have review sessions
10 where they can openly ask me any questions that they
11 want.

12 And then the other thing that we have is I run --
13 the class, because it's large, gets split into two, so
14 I run two laboratories split across two halves of the
15 class, so four laboratory sessions in total. So each
16 student gets six hours of laboratory exposure to
17 immunology, so hands-on learning.

18 So I just say that to put in perspective, because
19 in Canada, in the M.D. program, the average M.D.
20 program in Canada provides in the ballpark of ten
21 lectures, only lectures and none of these other
22 aspects, no laboratory, you know, hands-on learning,
23 ten lectures on average in the first year of the M.D.
24 program and less than that for virology.

25 So on the extreme end would be McMaster
26 University. I have had several of my students go to

1 McMaster University and of course to collaborate -- I
2 mean, I did my post-doctoral fellowship there, so I --
3 and I collaborate and still collaborate with people
4 from McMaster, so I know this very well. They're on
5 the extreme low end in Canada actually with five
6 lectures in immunology in the first year of the
7 program.

8 So I say that because when it comes to things like
9 immunology and virology, therefore, if it's just an
10 M.D., then somebody who just holds an M.D. and who has
11 not taken advanced training in these areas would have
12 only the most superficial understanding of these areas
13 of science. And at an extreme, it is possible to get
14 into these programs without completing an undergraduate
15 program. I'd like to point that out because their
16 undergraduate immunology training, for example, the
17 University of Guelph involves about 35 lectures in
18 immunology, so -- but those tend to be in third and
19 fourth year. People can get admitted into medical --
20 and they're not often prerequisites as well. So even
21 an undergraduate student with a Bachelor of Science
22 degree who has taken an undergraduate immunology
23 course, for example, from the University of Guelph
24 would have a much more comprehensive understanding of
25 immunology and virology than the average person at the
26 point of completing their medical doctorate.

1 Q Thank you. Okay, now I've got some questions about
2 your report. In Section 3 of your report, and just for
3 those following along, that's page 2 of 18. So in
4 Section 3, Dr. Bridle, you refer to the SARS-CoV-2
5 virus --

6 A Sorry, Mr. Kitchen, may I just ask a question; am I
7 allowed to bring up my report to refer to it?

8 Q Yes, yes, you are.

9 A Okay, I'm going to be looking -- I'm going to bring it
10 up on my -- I have a second screen here and that is
11 what I'm looking at. So, sorry, which page?

12 Q So I'm on page 2 and 3 of 18 pages, and this is Section
13 3, where you say: (as read)

14 SARS-CoV-2 is not a problem of pandemic
15 proportions.

16 A Okay, just let me get there, page 2. Yes, okay, I'm
17 there.

18 Q You discuss infection fatality rates in this. Well,
19 let's start here: Could you just briefly explain for
20 us, so we know, what is the infection fatality rate?

21 A Okay, yeah, so what -- infection fatality rate, what
22 that tells you is if you have a population and you can
23 confirm that an infection has occurred and how that --
24 and I want to point out how that is determined, what
25 method is used is important, because if techniques are
26 used improperly, one might be erroneously identified as

1 being infected. But so what infection fatality rate is
2 supposed to be is if somebody is genuinely infected, it
3 gives you an indication of what the chances are that
4 that is going to be fatal for that individual.

5 So the best way to understand it is, again,
6 because we're talking about percentages, it's best to
7 put it, give the example of how having a population of
8 100 people, so if you know what -- if you have a group
9 of people that you know for sure are infected with a
10 pathogen, then the infection fatality rate would tell
11 us how many, what proportion of those 100 people would
12 be expected to die as a result of that infection.

13 Q Could you please describe the relative danger of
14 SARS-CoV-2? And I say "relative" because, you know,
15 obviously we're not working in a vacuum here. So if
16 you could tell us the relative danger of SARS-CoV-2.

17 A Yes. So what I'd like to point out just before I start
18 giving the full answer, and I'll come back to this at
19 the end, there is -- what I want to point out is in my
20 report -- just, again, to put it in perspective, my
21 report was submitted I can't remember the exact date,
22 but it was, you know, well -- it was quite some time
23 back in 2021. So I'm going to talk about, because this
24 has been admitted as evidence, I want to talk about
25 what was available to me at that time, but it's
26 important to note that things have also changed quite a

1 bit in the context of the Omicron variant, so I'd like
2 to touch on that at the end.

3 So in terms of what I have in the report, what
4 you'll see is that ultimately I cite a scientific
5 paper, again, a peer-reviewed published paper that
6 estimates -- that estimated at that time that the
7 infection fatality rate for SARS-Coronavirus-2 was
8 likely in the ballpark of 0.15 percent. So, again, to
9 put that in perspective, if a hundred people were
10 infected with SARS-Coronavirus-2, you'd expect 0.15
11 percent of them to die.

12 Now, this is important because when the pandemic
13 was declared, many of us might recall or certainly you
14 can look up the, you know, the headlines, it was
15 declared -- there were concerns at the beginning,
16 because we didn't know a lot about this virus at the
17 very beginning, so what I'm referring to there is
18 towards the end of 2019 when this virus was first
19 identified, we didn't know, you know, what exactly the
20 outcome of infection would be, and there were serious
21 concerns that we might be looking at infection fatality
22 rates as high as 10 percent. So that was stated by
23 many health professionals including Anthony Fauci and
24 many others.

25 Then as time progressed, and we started to realize
26 that it was a relatively limited demographic that was

1 at high risk from this virus, that was rephrased, and
2 the concerns were then that this might be in the
3 ballpark of -- infection fatality rate might be in the
4 ballpark of about 1 percent, and that would be serious
5 if it was at 1 percent, definitely with 10 percent,
6 also at 1 percent. I would argue as an expert in this
7 area, a 1 percent infection fatality rate, that
8 declaration of a pandemic would likely -- would be
9 warranted at a 1 percent infection fatality rate.

10 But this is where it's important is what we soon
11 realized because of the way that the testing was being
12 done, and there'd certainly be flaws with the testing
13 as it's been performed in Canada, what I'm referring to
14 there are the reverse transcript-ase PCR tests or what
15 we often refer to as just the PCR test. "PCR" meaning
16 polymerase chain reaction test, which are -- the way
17 we're using them, they're notorious for identifying a
18 lot of false positives. So that's why you have to keep
19 sort of mentioning and when I'm giving these statements
20 that a lot of -- at its root is when you know
21 somebody's infected.

22 So what we know is that there have been a lot of
23 people who have been infected who never got sick, and
24 so initially our estimates of infection fatality rate
25 were based on people who actively had COVID. Now,
26 we -- again -- so, again, we recognize now that

1 there -- that there -- a lot of people can be infected
2 but for whom this is not even a pathogen. And what I
3 mean by that is because it does not count as disease in
4 those individuals.

5 For example, that's very common in children, and
6 one of the reasons for that is children simply have
7 physically expressed many fewer of the receptors the
8 virus uses to grab onto our cells and infect it. So
9 there's many children who get infected, but the
10 infection is -- never becomes productive enough to
11 cause disease.

12 And so as we've appreciated that, the way this is
13 calculated is, like I said, you have to have -- in
14 order to calculate infection fatality rate, you have to
15 know the number of deaths, and you divide that by the
16 denominator, which is the number of people who are
17 infected. So early on in this pandemic, we -- the way
18 this was being calculated, of course, we've always had
19 quite accurate numbers of deaths, because that's -- I
20 mean, you know, unfortunately, that is a very easy
21 outcome to define and identify and document, and
22 there's really -- there's no controversy about that
23 outcome, that a death is black or white, either
24 somebody's died or they have not. So we have very
25 accurate data about deaths.

26 The problem is we still don't have fully accurate

1 data for the denominator, which is how many people have
2 been infected. But as we have expanded the testing and
3 looking for evidence of -- and, again, it's not even
4 the virus but evidence that the virus is present in
5 somebody's body by detecting portions of the genetic
6 material that this virus would have, what we've been
7 able to appreciate is that the denominator -- the
8 denominators kept growing, in other words, right? We
9 have found that more and more people have been
10 infected.

11 So, for example, there's the great study that was
12 published, actually a Canadian study, a high -- that
13 was published in a very high-impact scientific journal,
14 and it was a clinical trial that was being run out of
15 British Columbia looking -- actually looking at healthy
16 people for evidence of immunity acquired against
17 SARS-Coronavirus-2, so, again, knowing that this was a
18 novel virus. And what it found is that a majority of
19 people who were not sick had evidence of having
20 acquired, especially as time has gone on, so a year
21 after the declaration of the pandemic, a large number
22 of people who were unaware that they were sick with
23 SARS-Coronavirus-2, you know, there was no sickness
24 that they could identify, had evidence of what we call
25 seroconversion, so the immune system having responded
26 to the virus and produced antibodies against it.

1 So what this publication that I cited here did is
2 it accounted for this ever increasing denominator, and
3 so it corrected for the early massive overestimations
4 of the infection fatality rate and came up with one
5 that they felt at that time was more reasonable. And,
6 again, I point out that this publication is from
7 earlier in 2021, much earlier in 2021. And they
8 estimated that the overall infection fatality rate was
9 0.15 percent.

10 So to put that into perspective for people, and
11 this is largely agreed upon, I mean people like
12 Dr. Fauci, for example, have publicly declared themselves
13 that, you know, the flu is often associated -- the
14 annual flu is often associated with an infection
15 fatality rate in the ballpark of 0.1 percent. So an
16 infection fatality rate of 0.15 percent would be like a
17 particularly bad flu season.

18 And the other thing to point out is when one looks
19 at this publication, that's the overall infection
20 fatality rate for the entire population. And in this
21 case, we know that this virus is much more dangerous
22 for a much more restricted subset of individuals,
23 specifically the frail elderly and those who are
24 immunosuppressed. And then we've come to identify some
25 very key predictors of dangerous outcomes of infection:
26 Obesity at the moment is the number one risk factor

1 associated with fatal outcomes, and alongside that are
2 multiple comorbidities. So the average person who has
3 died with SARS-Coronavirus-2 -- with the
4 SARS-Coronavirus-2 infection has had, on average, more
5 than three other comorbidities, meaning other
6 illnesses, other health problems in addition to
7 infection with the SARS-Coronavirus-2.

8 So why this is important is because if you were to
9 remove those individuals from this analysis, you end up
10 with an infection fatality rate for the rest of the
11 population that is well below 0.1 percent, with the
12 extreme being when you go into children. So if we go
13 to the under 18-year-old demographic, the infection
14 fatality rate would be well, well below 0.1 percent,
15 and our own public health data show that, that there
16 have been extremely few deaths. So, yeah, very few in
17 that young demographic. So -- but this is the thing,
18 so that's what I have in the report.

19 Now, what's important to note is that was dealing
20 with data where we were dealing with the original
21 variant and some of the variants that started to
22 emerge, so, for example, the Alpha variant. Those
23 variants we now know, certainly relative to the current
24 Omicron variant -- and I think this is important
25 because presumably I mean with this hearing happening
26 today, I guess we're talking about the relevance of

1 certain COVID-19 policies as it exists today. If we
2 ask somebody today to implement a certain policy,
3 what's relevant is what the situation looks like today.

4 So the Omicron variant is far more infectious than
5 the original variants -- actually I should restate
6 that. It's more infectious than the original variants.
7 The Delta variant was particularly infectious, that's
8 when we first saw a change in the virus towards one
9 that is more infectious and that can spread, therefore,
10 easier, and this seems to have continued with the
11 Omicron variant.

12 And this is very typical of viruses. What I'd
13 like to highlight is -- and so this leads to what we
14 call cases, right? Cases -- and, again, what I'd like
15 to point out is the cases that we are identifying in
16 our public health data are not actually cases of
17 COVID-19; they're cases that were called -- although we
18 often equate them to cases of COVID-19, what they are
19 in reality is they are positive test results, again,
20 for the presence of portions of the virus's genetic
21 material in an individual. So people tested positive
22 by the PCR test for -- and that provides some evidence
23 that they may be infected with a potentially infectious
24 form of SARS-Coronavirus-2. So that's important.

25 And what I'd like to point out is cases in and of
26 themselves are not dangerous. So if somebody were to

1 acquire any of the respiratory pathogens and develop
2 mild to moderate signs or symptoms of illness like
3 other common cold-causing viruses, including other
4 types of cold-causing Coronaviruses, like Norwalk
5 virus, like respiratory syncytial virus, and like
6 influenza viruses as examples, they would be cases of
7 respiratory illness. So that -- and all those cases,
8 those viruses are highly transmissible, but in most
9 cases do not cause -- well, I should -- I'll talk about
10 the cold-causing viruses, in most cases do not cause
11 severe disease.

12 So if we think about the common cold, highly
13 contagious. I mean, we've all seen this, especially
14 anybody who's been in -- volunteered in a school,
15 worked in a school, or has children in school, and in
16 also workplaces, schools especially, I mean, a cold
17 will spread rampantly throughout the school population
18 and in all the homes connected with the school. So the
19 ability to spread rapidly is not in itself a concern if
20 it's only causing, in most people, mild to moderate
21 disease. The reason why I focused on cold viruses is
22 they excluded things like respiratory syncytial virus
23 and influenza viruses, for example, because they
24 actually can be particularly dangerous, not only the
25 same demographics that we're talking about with
26 SARS-Coronavirus-2 but especially in young children,

1 which are quite -- actually protected because of that
2 unique physical, you know, lack of expression of the
3 receptor the virus uses to grab onto our cells that --
4 and it's not confined to SARS-Coronavirus-2, it's
5 unique in that our very young are not susceptible in
6 this case. But all these people are susceptible to
7 potentially severe and fatal outcomes with influenza
8 viruses and the young for sure with respiratory
9 syncytial virus.

10 And so that -- so that's why -- so, yes, so I want
11 people to understand Omicron is more -- because this
12 relates to the infection fatality rate, -- it can
13 spread easier, but it is definitely much less dangerous
14 than any of the previous variants. That is clear.
15 We're seeing that everywhere. I want to -- so what's
16 important to understand this -- is because of the
17 public health messaging, right, that's been out there,
18 and personally as an expert -- I have contentions with
19 this, but I'm just putting out what the public health
20 messaging is right at the moment -- is that the
21 vaccines being used for SARS-Coronavirus-2 have been
22 purported to be -- I mean, originally, they purported
23 to be very protective and protect people from infection
24 and disease and very good at preventing transmission.
25 That certainly has been downgraded, and I would argue
26 that current data suggests that they are not reducing

1 the spread of the disease at all.

2 In fact, the remarkable phenomenon and of concern
3 to me is that we're actually seeing cases occurring
4 predominantly among the fully vaccinated, which might
5 actually be evidence of vaccine-enhanced disease. But
6 I raise this because in vaccinated individuals, this is
7 the messaging, that it's supposed to be, supposed to be
8 reducing their chances of getting infected and their
9 chance of transmitting the virus to others. And yet in
10 all of our school and work environments where it's
11 almost completely people who are vaccinated, so there
12 should be reduced transmission and they're masking, the
13 viruses are still spreading rampantly. So this is the
14 nature of Omicron.

15 But our data also show that while the cases of
16 Omicron have skyrocketed across all of Canada,
17 including Alberta, the most serious outcomes have
18 steadily declined. So there's been a -- there's been,
19 over time, a complete uncoupling of cases and the most
20 severe outcomes. So as we've continued to have
21 these -- and, remember, the first wave early on in the
22 pandemic has been dwarfed by multiples -- recent waves,
23 including the most recent with Omicron, has completely
24 dwarfed the previous wave if you look on the graphs and
25 the number of cases that are occurring. Yet, we have
26 progressively gotten -- gone closer and closer to

1 baseline when it comes to hospitalizations and ICU
2 admissions and deaths, and so that's clear evidence
3 that Omicron is less dangerous.

4 Also biologically, I can explain why this is, and
5 it -- there's two phenomenon that explain why Omicron
6 now is much less dangerous than the previous variants.
7 So -- and this goes hand-in-hand actually with the
8 vaccines. The vaccines, unfortunately, we've delivered
9 them into the muscle, which is called a parenteral
10 route. That tricks the body, the immune system into
11 thinking that there's a systemic infection, not a
12 mucosal infection. Remember, the natural infection is
13 through the airways. And so when the body thinks that
14 there's a systemic infection, what it wants to do is it
15 protects all of the key entry points into the body to
16 protect from future systemic infections.

17 So when it comes to respiratory tract, the only
18 place that these vaccines confer some protection is in
19 the very lower airways, and that's because if a virus
20 gets into our lower airways, there's not much
21 physically to prevent that virus from getting into the
22 blood, and that's because of gas exchange, right?
23 We -- so in the alveolar space, we have blood vessels
24 that come very, very close to the alveolar space to
25 allow the gas exchange, oxygen to go into the blood and
26 carbon dioxide to be released. So that also means that

1 if a virus gets there, there's only the ever so tiniest
2 physical barrier to prevent it from getting into the
3 blood. So our body produces antibodies in the lower
4 airways.

5 So this is the thing -- and I say that because
6 this is important -- the most severe outcomes of
7 infection with SARS-Coronavirus-2 is when the virus
8 goes down into the lungs. When it's in the upper
9 airways, it's not particularly dangerous. When it gets
10 dangerous is when it gets down into the lungs, and it
11 causes a severe pneumonia, then you start getting
12 inflammation in the lower lungs, and that can interfere
13 with things like gas exchange, and it can cause a lot
14 of damage to the physical architecture of the lower
15 airways, which is where all the gas exchange has to
16 occur.

17 And when it gets into those lower -- in the lower
18 lungs, that's where the real problems are when the
19 virus then starts entering the bloodstream, and we get
20 what's called viraemia, and that means the virus can
21 distribute all throughout the body using the blood, our
22 blood, as highways of all the places -- all kinds of
23 different places in our body. So that's where the
24 severe outcome occurs.

25 And that's also why the vaccines with earlier
26 variants were doing, you know, a somewhat decent job at

1 dampening the most severe aspects of the disease. But,
2 as we've now recognized, they weren't preventing
3 infection, and they weren't preventing transmission.
4 And this is why they're having no impact on Omicron,
5 the spread of Omicron, is because -- this is the other
6 key biology you have to understand -- so if the virus
7 doesn't go deep in the lungs, you tend not -- you're
8 going to tend not to get severe disease. It's the
9 difference between bronchitis and pneumonia, and many
10 of us will know that pneumonia is -- has a much more
11 severe prognosis than bronchitis, which is the upper
12 airways. Pneumonia being in the lower airways.

13 So the interesting thing is Omicron now has
14 accumulated a lot of mutations, a lot of mutations, and
15 it has changed how this virus behaves. In one -- so
16 one way it changed it is has become more infectious,
17 but it's also become much less dangerous, because when
18 we talk about viruses, we refer to something that's
19 called tropism. Tropism is a scientific term that
20 means where the virus likes to go in our body. So the
21 original variants like to infect our upper airways and
22 then migrate into our lower airways, and that's where
23 they were dangerous.

24 The Omicron variant also infects through the nasal
25 passages and the mouth and infects our upper airways,
26 but it does not migrate down into the -- deeper into

1 the lower respiratory tract. It now has the more
2 restrictive tropism, meaning it likes to stay in the
3 upper airways. So this explains why the vaccines are
4 now largely irrelevant in the context of the Omicron
5 variant because the protection is in the lower airways
6 and not in the upper airways. And so somebody -- and
7 that also explains why the virus -- whether you have
8 immunity or not is not particularly dangerous because
9 it's restricted to the upper airways.

10 It also explains why everybody can equally
11 transmit the virus, because nobody -- well, sorry,
12 sorry, I -- that's untrue. I'm going with sort of the
13 public messaging that's out there. So I'll tell you
14 what the exception is to that. But it's thought right
15 now that everybody, whether or not they have been
16 vaccinated or not, can transmit at least the same
17 quantity of the virus because it's in the upper
18 respiratory tract.

19 But the reason why I want to point that out is I'm
20 an immunologist and have found it profoundly
21 frustrating that it's not recognized that our immune
22 system actually does its job and functions naturally.
23 The purpose of a vaccine is to simulate a natural
24 infection, try and do the best that we can to simulate
25 an actual infection as accurately as we can to confer
26 immunity. As I mentioned that these -- we've made a --

1 you know, the vaccines going parenterally actually
2 trick your immune system into thinking it's a systemic
3 infection, so we're not getting proper protection of
4 our airways.

5 Somebody who has been naturally infected will have
6 mounted an immune response, and their immune response
7 is going to be far more relevant, especially to the
8 Omicron variant, because they've been infected the
9 natural -- by the natural route. Our immune system
10 when infected by the respiratory tract makes sure that
11 it provides infector mechanisms that can protect all,
12 all areas of the respiratory tract, upper and lower.
13 So I want to point that out.

14 So we don't know a lot about natural immunity
15 because we haven't been looking for it, but somebody
16 who has natural immunity, we can't make any assumptions
17 about their health status without knowing, because if
18 somebody has natural immunity, they're actually going
19 to be the most protected in the context of Omicron, and
20 they're going to be the ones that spread the
21 SARS-Coronavirus-2 to the least of anybody in Canada
22 right now.

23 So I know that's a lot, but it's -- it's a lot of
24 science, again, to understand the importance of the
25 infection fatality rate, what it means, and why we have
26 been seeing it declining, and why we can conclude that

1 the danger of SARS-Coronavirus-2 even more recently has
2 continued to decline.

3 So, again, I'd just like to finish by, again,
4 saying SARS-Coronavirus-2 with the dominant -- the
5 variants out there right now, by far the dominant one
6 is Omicron. It is more transmissible right now and
7 much less dangerous right now.

8 And just to understand as well from the virology
9 perspective, that's typical for a virus. Any
10 pathogen -- so, again, you think about -- so if we
11 think about viruses as organisms, right, if we just
12 take that very like objective approach, and we think
13 about this from the perspective of an organism and an
14 organism trying to survive; it is never to an advantage
15 to any microorganism to cause severe harm or kill its
16 host, because if it does, it's going to render itself
17 extinct.

18 So what happens over time is, arguably -- so we --
19 we often forget about this, as I mentioned, our bodies
20 are loaded with viruses that causes no harm. The vast
21 majority of viruses that we're exposed to in the world
22 do not cause disease. That is where viruses want to
23 get to and for the reason of survival. Because, again,
24 like I said, if they were to infect the host and kill
25 that host, they're rendering themselves extinct.

26 So the natural progression for a virus is to

1 become -- so think about it, if you want to maximize
2 survival, if you want to maximize the number of your
3 kind, right, you can think about any organism, what you
4 want to do is maximize your ability to propagate and
5 minimize your ability to harm your host and especially
6 not kill them. And so that's why viruses over time
7 will naturally progress to ones that are more
8 infectious, because the more hosts they can infect, the
9 more they propagate, right, and the larger their
10 numbers become, but they simultaneously become less
11 dangerous, because if they were to kill all those
12 hosts, they're going to render themselves extinct.

13 So that's what this virus is doing, has been
14 doing. We have the evidence of this. This is the --
15 so this is a natural progression for this type of
16 virus: It's reaching -- starting to approach a more
17 ideal way to live with us by, you know, spread readily
18 among people but not cause substantial harm to people,
19 and it would probably -- likely continue to progress
20 this way ideally, and so that's very important to
21 understand.

22 So, again, just to highlight, being more
23 infectious does not equal more dangerous. Again, I'd
24 like to highlight the common cold is highly infectious,
25 but for most people not dangerous. That seems to be
26 where the Omicron variant is right now.

1 Sorry, Mr. Kitchen, it looks like you're muted.

2 Q Sorry, I muted, because I didn't want to cause any
3 noise to interrupt you.

4 Okay, if I understand you correctly then, we have
5 an infection fatality rate that has changed over time,
6 so I want to ask you a couple of questions about that.

7 You've said it's much less dangerous now. Can you
8 give me a rough number of what the IFR rate is now or
9 in the last few months? And I understand that might be
10 several decimal points, but if you could give us some
11 idea just so we have a number.

12 A Well, actually I haven't seen a good, reliable
13 peer-reviewed publication on that actually, and that's
14 because the Omicron variant, you know, has -- it's
15 quite recent, and, again, that would be the most
16 relevant data. So all I can tell you is that, again,
17 based on what I described for -- relative to the data
18 that I highlighted -- that was highlighted in my
19 report, which is dealing with older variants that
20 unquestionably were more dangerous to the high-risk
21 demographics, the Omicron is much less dangerous. So
22 all I can say with certainty is that it would be well
23 below the previously documented 0.15 percent, but I
24 don't have a specific number that I could give you
25 right now upon which I -- for which I could lean on a
26 legitimate peer-reviewed scientific paper.

1 Q Let me ask you this: Is the survivability rate sort of
2 the other side of the coin of the infectious fatality
3 rate?

4 A Yes.

5 Q Okay, so, you know, the 99 percent --

6 A So sorry, could I just clarify that, Mr. Kitchen?

7 Q Go ahead.

8 A So, yeah, so, in other words, just to make sure that
9 it's clear, yes, absolutely, infection fatality rate, I
10 mean, so if you take the inverse of that, that's the
11 survivability rate. So that infection fatality rate
12 that was updated early in 2021 of 0.15 percent, the
13 other way to put that is that 99.85 percent of those
14 deemed to have been infected with the virus would be
15 expected to survive, and, again, that was with the
16 older, more dangerous variants.

17 Q Okay, so just to clarify, 99.85 survivability rate,
18 that would have been the number in 2020?

19 A So, again, this is -- that publication was -- that I
20 cited was in 2021. It would have taken into account
21 data up until very early in 2021.

22 Q Okay, okay. So the survivability rate being 99.85 in
23 2020, that's gone up since 2020?

24 A Absolutely, yes, in the context of the Omicron variant.
25 So like I said, so in terms of that data, yeah. What
26 I've looking at, in particular, is the public health

1 data. And so, again, there -- so anybody can go to
2 public health websites to see this for themselves. But,
3 for example, I'm in Ontario, but Ontario, I mean,
4 there's nothing particularly unique about our
5 demographic relative to most of the other provinces,
6 especially Alberta, so a lot of our data are very
7 similar.

8 So, for example, like I mentioned public health
9 data, so I'm talking about this is not looking at
10 anybody else's interpretation of the data; this is the
11 public health data, the raw public health data that's
12 available to every Canadian. So you could go right now
13 onto the Public Health Ontario website or Public Health
14 Alberta website and see these data to confirm.

15 This phenomenon, which I get has caused some of us
16 to be worried about, that the vaccines in context of
17 the Omicron variant have actually set up the immune
18 system to respond suboptimally, meaning that there
19 might actually be enhanced potential for infection of
20 those who are vaccinated, right? What we see in terms
21 of public health data is that the cases right now have
22 been occurring for the past month. This happened --
23 this crossover happened at about -- at about -- well,
24 in Ontario it happened on Christmas Eve. In Alberta,
25 for example, the crossover happened a little bit later,
26 up to a week later. But now the -- for the last month,

1 the -- with the Omicron wave, the number of cases have
2 been occurring disproportionately among
3 double-vaccinators.

4 So that then -- so that's the public health data
5 that I'm relying on. So the same public health data,
6 when you look at it -- and so because I know the -- I
7 can -- I know the numbers much better off the top of my
8 head for Ontario, that's what I'll use as my example.
9 So keeping that in mind, simultaneously, the public
10 health data has been looking at the most severe
11 outcomes, and that includes data on hospitalizations.
12 So the way in Ontario we show it is hospitalizations
13 but not including admissions to ICU units, and then we
14 also look at the proportion of people that are in --
15 have been to the ICU unit, and then we also have data
16 on deaths. And so when we look at these outcomes, so
17 as we've seen this huge spike in the -- massive spike
18 in the cases of, again, I don't want to say COVID-19
19 but certainly infection, evidence of infection from
20 SARS-Coronavirus-2, of which a proportion of those
21 would have COVID-19, we have simultaneously seen,
22 again, an uncoupling of the most severe outcome. The
23 number of people admitted into the ICUs and hospitals
24 has been lower, so despite record cases, it's been
25 lower than the previous waves. All the more -- most
26 severe outcomes have been reduced. Again, so I

1 highlight this shows an uncoupling of this idea of
2 infectivity and the most severe outcomes of the
3 disease.

4 And this is important as well because -- well,
5 yeah, I guess I'll leave it at that, yeah. So using
6 public health data, so, again, I can't use that to give
7 you a specific infection fatality rate, current update
8 of one, but all I -- what I can tell you is the same
9 public health data that existed when this 0.15 percent
10 infection fatality rate was estimated, right, compared
11 to the public health data available now, the public
12 health data is clearly showing this is less dangerous.
13 So, again, I highlight that it -- the current rate
14 would be less than .15 percent, but I can't
15 definitively state what it would be.

16 Q I want to make sure we understand this, because I don't
17 think any of us are mathematicians, with a 99.85
18 survivability rate, if 1,000 people were actually
19 infected, statistically, how many of those would die?

20 A The -- so you're saying 1,000?

21 Q 1,000, yes.

22 A Okay, and this is with the assumption of .15 percent of
23 infection fatality rate? Is that what you're --

24 Q Yeah, exactly.

25 A -- wanting me to do? So that would be -- so 1.5 [sic],
26 and based on basic math, if we round up at a decimal

1 point of .52, two people. So I guess the more accurate
2 number, therefore, would be you would have -- because
3 rounding up actually has a substantial -- you're
4 increasing the outcome by -- what is that -- by a
5 third, so 2,000 people infected. In fact, in early
6 2021, you would have expected 1 to die.

7 Q Okay so if 10,000 people are known to be infected,
8 statistically, 15 of those would be expected to die?

9 A Yes -- back in 2021, early 2021. Not --

10 Q Okay --

11 A -- now, not now. It would be -- it would be --

12 Q Right.

13 A -- likely be much lower, but how much lower I can't say
14 definitively.

15 Q Now, you obviously touched on this, but the next thing
16 I wanted to ask you is about the issue of endemic,
17 because you touched on this in your report. Now, I'm
18 now in Section 6 of your report. I'm not necessarily
19 going chronologically through your report, but the
20 issue of endemic, first, can you help us understand --
21 because I know you used that term -- can you help us
22 understand what "endemic" actually means comparative
23 to, let's say, "pandemic" or "epidemic"?

24 A Yeah, obviously with the timing. So an epidemic and a
25 pandemic, you're dealing with an acute scenario,
26 meaning short time frame, where an infection is

1 occurring and spreading, and the difference between an
2 epidemic and a pandemic is the scope, the scope of the
3 problem.

4 So with an epidemic, the scope is much -- on
5 a much smaller geographical scale. So, for example,
6 with the SARS -- the original SARS, Severe Acute
7 Respiratory Syndrome by Coronavirus that caused the
8 disease SARS, which we called, you know, at that time,
9 the Severe Acute Respiratory Syndrome was the disease,
10 that was -- because it was much more limited scope,
11 that was declared in Canada to be an epidemic.

12 So a pandemic is all dealing with the scope. So
13 if it's on a much broader scale, and in this case, you
14 know, if that -- it's on a global scale, then it gets
15 declared as a pandemic. If the dangerous, right, the
16 most dangerous outcome -- because, again, I have to
17 highlight, so, for example, if you have a common
18 microbe that's part of the human microbiota, that's
19 something that can readily be transmitted potentially
20 around the globe, but if it has no dangers associated
21 with it, although it has that same scale, it's not
22 going to be defined as a pandemic.

23 So that's the two things, there has -- there's two
24 things for -- to declare something a pandemic: There
25 has -- it has to meet a certain threshold of danger and
26 a scope, a very large scope of the problem. But, yeah,

1 so that's dealing with things in the acute or
2 short-term.

3 When we talk about something being endemic, we're
4 talking about something long-term. So the -- most of
5 the Coronaviruses that we're used to, the ones that
6 cause the common cold, like I would argue the Omicron
7 variant is likely one that -- and the way it's behaving
8 is starting to fit largely into this category. They're
9 what we would call endemic; they're always with us,
10 right? We're always interacting with them. They're
11 always causing some form of mild disease.

12 So in that context, you know, we would not
13 declare -- so a cold definitely, even in terms of the
14 scope of a cold or the flu -- and the flu is a good
15 example. The reason why the flu sometimes meets this
16 threshold of an epidemic or pandemic is because the flu
17 can be very dangerous, right? So we've heard of flu
18 epidemics, and we -- you know, we -- many of us now
19 have probably heard, in one form or another, of the
20 Spanish flu outbreak in the early 1900s, right, which
21 was declared a pandemic. And we have had a pandemic
22 flu also declared as swine flu in the 2000s, back
23 around 2009. So, you know, that's because they can
24 spread on a large scale. But the flu gets called an
25 epidemic or a pandemic because it is also associated
26 with high fatality rates in those cases.

1 Now, when it comes to the common cold, again to
2 differentiate, the common cold spreads at least as
3 readily as the flu. So in terms of scope, it would fit
4 into the definition of an epidemic or a pandemic, but
5 it's never going to be declared as such because it
6 never reached the threshold of danger.

7 So these viruses -- so what "endemic" means is if
8 it is -- essentially in layman's terms, it would mean
9 these are viruses that we basically have to learn to
10 live with over the long term. So SARS-Coronavirus-2,
11 we can see we've tried -- we've tried all kinds of
12 things to stop it for two years. Not only have we
13 failed, it's -- I mean, it's spread among people better
14 than it ever has in the two years in the form of the
15 Omicron variant, right? And that, we just have to show
16 the number of cases. So that -- the virus has been
17 very successful in bypassing all of our attempts to
18 stop it.

19 The ideal, the ideal outcome, if you're dealing
20 with something that causes disease and you identify it
21 at the epidemic or pandemic stage, meaning short-term,
22 the ideal outcome, right, and the goal that we would
23 always have would be to eradicate that pathogen so we
24 never have to deal with any risk of illness from it,
25 again.

26 But an endemic agent is one in which we have

1 failed to eradicate it, and the virus now is able to
2 bypass any and all the barriers that we put up to try
3 and stop it. So there's no question, no question, in
4 my professional opinion, this virus has all of the
5 characteristics of an endemic pathogen now, including
6 the fact that we can already define it as being with --
7 having been with us for long term, right? It has now
8 existed, and we don't know how long it existed before
9 it was identified, but if we go with the starting point
10 being when it was first identified, it's now been with
11 us for over two years. That alone suggests it's
12 endemic.

13 The fact that our most recent wave was just
14 completely out of control in terms of cases, not in
15 terms of danger, again, show this is going to be
16 endemic, and the reason -- there's several biological
17 reasons. These are viruses that are amenable to
18 mutation. The Coronaviruses will just constantly
19 mutate. That's why we keep getting the cold.

20 Corona -- and to explain this, the reason is in
21 order for a virus to propagate, it has to copy itself.
22 When these viruses copy themselves, they actually -- so
23 you think about this as -- literally if somebody is --
24 if you want to photocopy -- the way I like to explain
25 this, say you have a report, a very large report of
26 hundreds of pages that you want to copy, if you put it

1 on a modern state-of-the-art photocopier, almost all
2 the time, you are going to get a complete, you know,
3 100 percent accurate replication of that document,
4 right, the copy that you pull up; you're going to have
5 all the pages copied. Many of us had familiarity with
6 some of the, as we were developing this technology, of
7 not having to put one page at a time on top of the
8 glass and copy, many of us have had the experience of
9 the early versions of doing the fully automated
10 copying, and it would be very frustrating, because you
11 would end up with, at the end, you would find out, as
12 you take the document back to your office and you start
13 going through it, you're missing page 7, and you're
14 missing page 132, there was a paper jam, you know, that
15 occurred or something.

16 So that's what these viruses are like, when they
17 copy their genetic materials, they actually have built
18 in to -- and this is a survival mechanism -- they have
19 built in, so that copying process, and it's an
20 error-prone process, intentionally error-prone. It
21 incorporates mistakes into the copying the genome, and
22 that's so you end up with different versions of the
23 virus that can probe the environment that it's in, and
24 if that change confers an advantage to the survival of
25 the virus, that subspecies of the virus will start to
26 dominate. That's how this happens. And so that's why

1 we're always going to -- we're never going to be able
2 to stop these viruses from mutating, and that's why
3 they become endemic.

4 So for the flu, for example, the flu is actually
5 way better than Coronaviruses, including
6 SARS-Coronavirus-2, at mutating. It mutates much more
7 rapidly. That is why our flu vaccines are so
8 ineffective from year-to-year, because if we were
9 dealing with the same strains that we were dealing with
10 the previous year, our vaccines would actually be much
11 more effective, because they're based on last year's
12 strains. The problem is we're using last year's strain
13 to educate our immune system to deal with a much
14 different-looking current strain.

15 So it's not as extreme as that with the
16 Coronaviruses, but they do the same, just a -- slower,
17 slower. And so that means that, almost certainly, we
18 are going to be, whether vaccinated or not, no matter
19 what we do, I can pretty much guarantee, and no matter
20 whether we have been naturally infected or not, I
21 pretty much guarantee we are all going to be infected,
22 for the rest of our lifetimes, with the
23 SARS-Coronavirus-2 repeatedly. It won't be as often as
24 the flu, because, again, it takes longer to mutate, so
25 I -- but we will all be infected and reinfected.

26 But, again, based on the course that it's been

1 following, that if it's like these other pathogens,
2 they will be relatively mild to moderate infections,
3 just like all of the other endemic respiratory
4 pathogens.

5 And what we'll have to be diligent about is, like
6 all these other respiratory pathogens, we will have to
7 be diligent to look after the very high risk but
8 limited demographics. So, for example, even the common
9 cold can potentially be dangerous, for example, in
10 babies and the frail elderly, right? So that's what we
11 mean by endemic.

12 And in my professional opinion, this virus is now
13 endemic, and it's going to be with us likely for the
14 rest of our lives. I don't see how now we can possibly
15 render it extinct from the globe.

16 Q So does that mean all of our measures right now to
17 attempt to prevent the spread of SARS-CoV-2 are
18 completely futile?

19 A There's one thing -- well, so I can tell you, the most
20 dominant benefit -- beneficial, you know, strategy that
21 anybody can use with any respiratory pathogen,
22 including SARS-Coronavirus-2, is stay home when you're
23 sick. That applies to any of the respiratory pathogens
24 that we have, and so we -- well, that's the one thing
25 that I really, really, really, really hope the global
26 population will have learned from this declared

1 pandemic is just what I call is basic social hygiene.
2 This has been the most frustrating thing for somebody
3 who has expertise in this area.

4 I see it in my workplace, and, I will admit, I'm
5 guilty as charged at times. As a faculty member, there
6 are certain deadlines that we absolutely -- I mean, we
7 can't push them off. So, for example, I have to get
8 grants in order to pay my research team and run the
9 research that I do. So if there is a grant deadline, a
10 submission deadline, and I say, I'm sick, I'm -- so,
11 therefore, I'm not going to go into work, and I'm not
12 going to submit this grant; the granting agency is
13 never going to give me an extension. I lose the
14 ability to get that funding.

15 So there are times -- and some households, maybe
16 both parents work, so it's very inconvenient if you
17 wake up on a given morning and your child is quite
18 sick. As long as I -- you know, I don't think most
19 parents aren't going to send their kids in if they
20 think it's literally going to be detrimental to their
21 physical wellbeing, they're -- you know, they're going
22 to collapse or something. But if they wake up sick,
23 clearly sick with signs or symptoms, it can be very --
24 very difficult to -- you know, very inconvenient to try
25 and find childcare or cancel your own work schedule so
26 that you can stay home.

1 And so many of us have gone into the public with
2 these -- with all of these pathogens that we're talking
3 about, the flu and everything else. One of the reasons
4 why it spreads so rapidly in all of our populations and
5 workplaces and schools is because we don't acknowledge
6 the fact that we are actively sick, that we're sneezing
7 and coughing, or that we have our kids that are
8 sneezing, coughing, and we send them into these areas,
9 and, of course, that's going to spread the pathogens.
10 Sick people spread pathogens. That's how it works.

11 So what I like to highlight as an immunologist is,
12 for some reason, we've gotten into this mindset that
13 somehow asystematic people are doing this, spreading.
14 And this is there the -- I would say this is where the
15 biggest disagreement -- this is the crux of the whole
16 problem when it comes to some earlier interventions,
17 like masking, is what is actually happening with
18 asymptomatic individuals -- I can explain that, if you
19 want, at another time, because it's not -- just so
20 you're not -- directly relevant to this question, but
21 keep that in mind, because prior to two years ago, the
22 term that we used instead of asymptomatic is we used
23 the term "healthy people". Right, if somebody didn't
24 have signs or symptoms of illness, I mean, if you go --
25 so, you could be asymptomatic with anything, if you go
26 to a physician and you're asymptomatic, and they say,

1 Okay, what are your signs, you know, what are your
2 symptoms. And I mean, so they can assess signs, as
3 what we mean by signs. Signs is something somebody
4 else can see that provides evidence that you're sick.
5 Symptoms are things that you feel that can provide
6 indications that you're sick. So signs and symptoms
7 are used.

8 So a physician cannot see a lot of your symptoms,
9 you have to describe them. So, for example, if you're
10 feeling pain, unless it's severe pain, a physician
11 isn't going to be able to see that you're in pain,
12 unless it's severe, and then we might need facial
13 grimacing that let's them know. Otherwise, you can
14 have a pain that they have no idea, they have no idea,
15 you have to tell them that.

16 So that's why -- if you were traditionally to go
17 to a physician and say, I have no symptoms, they're not
18 going to investigate you for a disease, right, because,
19 again, I'd like to highlight, people who are
20 asymptomatic are healthy.

21 So what I would -- so this is the interesting
22 thing, what I would say is the number one thing that we
23 have done to prevent this has been to not allow sick
24 people to go around others. So the one thing I would
25 say has worked very well is the screening, the
26 screening that ultimately got implemented, which

1 basically is asking, Are you sick, right? And if
2 you're sick, don't go into work.

3 So I would agree, scientifically, rock solid data,
4 because if you're not -- if you're coughing and
5 sneezing, of course, you're going to be spreading a
6 pathogen, and if you're not, you can likely go in -- go
7 in to work.

8 So that's the only thing, that stay at home if
9 you're sick that I would say -- and I would say this is
10 going to be effective all over the place. What people
11 don't realize is, this is fascinating, I would --
12 because I think most of you are in Alberta, so go to
13 your Alberta public health website and start looking at
14 the SARS-Coronavirus-2, look at the -- on the
15 SARS-Coronavirus-2 data page, they actually have a
16 link, the influenza page, go there, and I encourage you
17 to look at the cases.

18 What you will see is huge waves of the flu. They
19 only have the last five years currently showing
20 publicly on your web page. 5, 4, and 3 years ago, they
21 show the classic huge waves of the flu coming through
22 Alberta. And you know what's happened in the last two
23 years? No flu, no cases of the flu. It's not because
24 the flu disappeared; it's because we have told people,
25 If you're sick, stay home. Right? Because we have
26 always left the flu, for some reason, and encouraged

1 people to go to work and go to school, or at least not
2 discouraged them enough when they're sick, and the flu
3 kills people, and the flu is dangerous.

4 So to me, I hope and pray that when this is all
5 done, the people will remember, You know what, if
6 nothing else, if I'm sick, don't go around other
7 people. That is the simple -- that is the -- that is
8 going to help public health enormously moving forward
9 with all infectious agents that we've ever been living
10 with. So, yeah, that's the number one thing.

11 And I know that those of you who are here today
12 specifically are most interested in masking, so let me
13 comment on the masking specifically. I am -- masks do
14 quite a good job at preventing the spread of infectious
15 diseases under a certain circumstance, when people are
16 sick.

17 And (INDISCERNIBLE) so -- (INDISCERNIBLE) -- so I
18 told you, I have to admit, myself, I am guilty as
19 charged about going in to work sometimes when I'm sick.
20 One of the things I try and do is I do try and isolate
21 myself in my office. I do tell people, if they come to
22 my office, I do tell people -- if they come to my
23 office and knock on my door, I tell them, You might
24 want to chat through the door, I'm sick. You know, and
25 when I do have to go around people, I will wear a mask.
26 I have done that, when I've gone in to sick -- and to

1 work sick previously, because these masks are
2 reasonably well-designed to capture the large water
3 droplets that come out of our respiratory system when
4 we cough and sneeze.

5 The only way -- so if somebody's not sick, that
6 means they're not coughing and sneezing, so the only
7 theoretical way that a virus then could come out of our
8 respiratory tract is through what we call aerosols,
9 which are super tiny droplets that the cloth masks and
10 surgical masks that we have been using, they're not
11 designed to filter that out, and so this is an
12 intuitively -- like we even know this intuitively.

13 If you've ever been really sick, so I know this
14 because I have been respectful of those around me, and
15 if I'm actively coughing and sneezing, I will wear a
16 mask if I feel that I have had to go around people
17 because I don't want to miss a critical deadline. And
18 I'll also tell you from my own experience, those things
19 end up slimy and disgusting inside the mask if you are
20 doing a lot of coughing and sneezing. Why? Because
21 they're very good at capturing those large water
22 droplets, and so you have to change the mask quite
23 quickly. I will also tell you that if I'm not coughing
24 and sneezing, they don't get wet and slimy; they're not
25 capturing robust amounts of the moisture that's coming
26 out of our lungs.

1 There's a huge amount of moisture that comes out
2 of our lungs during regular breathing throughout the
3 day. We know -- just that's what happens. So in
4 Alberta, you'll notice like in Ontario, especially
5 during the winter, one of the phenomena are the
6 humidity goes way down, right? Cold air humidity tends
7 to be very low, and so if you don't have a humidifier
8 in your home, typically what happens during the winter
9 is you'll notice that when you wake up in the morning,
10 you will tend to have a much dryer throat than at any
11 other time of the year, and that's because there's so
12 much moisture that's given off, and all night long,
13 it's the air is wicking moisture as you breathe it out,
14 and your body's actually having trouble replenishing
15 it. You end up much more dehydrated in the morning
16 than -- and during the winter than you do at any --
17 during any other seasons. So there's a lot of
18 moisture, and the fact that it's not getting soaking
19 wet tells you that. So, again, a long answer, but I
20 want you to fully understand.

21 So to summarize, in terms of what's been
22 implemented, I think the number one effective strategy
23 has been keeping sick people away from others, and
24 hopefully that continues, and the masking. So if
25 people were to have to go around other people when they
26 have SARS-Coronavirus-2, masks would definitely help

1 prevent the spread of SARS-Coronavirus-2.

2 But in healthy people, I have never been able to
3 recommend masking of people who are not actively
4 coughing, sneezing, you know, who are not sick. So, in
5 other words, if you pass the screening that you're
6 supposed to do every morning before you go in, in my
7 professional opinion, there's nothing a mask is going
8 to do to protect yourself or others around you at that
9 point, because you are not -- you are not and nor are
10 those around you expelling the type of
11 infection-spreading water particles that spread
12 disease.

13 Q So symptomatic masking is rational and effective?

14 A 100 percent. I believe -- again, I hope that that will
15 be highly encouraged for everybody around the world
16 moving forward, that if they are going to make the
17 decision to send their child to school when sick or if
18 they're going to go in to work when sick, for the
19 respect of the health of others, yes, put on a mask,
20 100 percent.

21 Q But is asymptomatic irrational and ineffective?

22 A Yes, for the reasons that I said, because then you're
23 not spreading those large droplets that masks are
24 designed to stop.

25 Like -- so a lot of people don't realize, like
26 when you think about even a surgical mask and you think

1 about a surgeon, right, there's been studies that have
2 looked at this, this context, what people don't realize
3 is what those surgical masks are designed to do. It
4 doesn't sterilize your breath in any way, right? What
5 it does is it stops any large droplets. When a surgeon
6 is working over a surgical area, an open wound, it's
7 making sure that -- now, this is the other thing, any
8 surgeon who is doing surgery ideally should not be
9 doing the surgery if they are sick. But literally what
10 they're there for is to stop large water droplets.

11 It would be to -- and literally, for example, one
12 of the reasons for wearing the mask is drops, spittle.
13 Hey, we've all experienced that embarrassing time where
14 we're talking, and then, all of a sudden, a little bit
15 of spit comes out, and we're like, oh, I hope nobody
16 saw that, right? That's literally one of the reasons
17 why they wear the mask, to make sure large water
18 droplets, including spittle, don't drop out into the
19 surgical wound. So they're not designed, like I said,
20 again to filter out with any kind of efficiency the
21 aerosols, which are these super tiny water droplets
22 that are far tinier than the pore sizes in these masks.

23 And so, again, to highlight this, there's
24 something else that's important, because, again, this
25 comes back to the idea of symptomatic versus
26 asymptomatic or what I would call healthy people. Now,

1 what happens is in order for somebody to get sick, they
2 have to initially be infected. As I pointed out, the
3 infection does not necessarily equal sickness or
4 disease. And the other thing that's important to note
5 is infection certainly does not mean immediate disease.
6 Because you have a pathogen in your body, so you might
7 be -- so when people get sick, this is what happens,
8 when we do get sick, this is the sequence of events:
9 We have to be exposed to a certain threshold of the
10 pathogen, which is not once. Our bodies, we have
11 innate -- like we have physical barriers that
12 immediately protect us from infection. For example,
13 one of the things we have in our airways, our airways
14 are lined with mucous. That's one of the reasons why I
15 just said we have so much moisture coming out of them,
16 we're constantly covering all of the membranes
17 throughout our respiratory tract with mucous.

18 So if we have a pathogen come into our body, for
19 example, one of the immediate lines of defence is that
20 mucous, it will get buried in the mucous, and that
21 mucous constantly gets removed from the body. Even if
22 you're healthy, if you never clear your throat, you're
23 eventually going to have to clear your throat because
24 our airway is full of -- or your cells with these
25 specialized hairs on them, we call them cilia, and
26 their job is literally to, like fingers, to move this

1 mucous up. Because if you think about it, since our
2 airways are constantly producing mucous, if we didn't
3 have any way of getting that mucous out of the body,
4 under gravity, the force of gravity that would migrate
5 down into our lower airspaces, and we would literally
6 drown. They would fill up our lower airways, and we
7 would no longer be able to facilitate gas exchange. So
8 these little hairs push the mucous up and out of our
9 body. That's why, you know, it may end up getting --
10 accumulating in our throat so we can cough it out, or
11 if it's in our nose, we'll end up, you know, with the
12 mucous accumulating where you've got to blow it out of
13 our nose.

14 Now, if it's a pathogen that has been able to
15 bypass those barriers, our immune system has set up
16 what are called sentinel cells. These are cells that
17 are strategically located at critical entry points for
18 pathogens into the body, so they're distributed all
19 throughout our airways underneath the mucosal surface,
20 below that -- you know, the mucous that's on the
21 surface of our cells. And if a pathogen can get by
22 that, these sentinel cells very quickly identify that
23 there's a pathogen and start our immune response to
24 start clearing this.

25 Now, there's two parts to an immune response. One
26 is we call it the innate response. So, first of all,

1 we have to understand, actually there's three
2 technically in terms of timing. The one is physical
3 barriers that I just talked about like the mucous or
4 cell barriers, right, that a virus would have to get by
5 to get into the body. Those are always present. There
6 is no immune response that has to be mounted. That's
7 why, for example, burn victims, that they lose a large
8 amount of their skin, are highly prone to infections
9 because they've lost that physical barrier.

10 Now -- so in the lungs, these sentinel cells, if
11 the pathogen gets past these initial physical barriers,
12 and so that's why you have to have a certain threshold.
13 One viral will not cause disease; you have to bombard
14 these natural barriers with high numbers of the virus,
15 so you have to have it delivered to you, you have to
16 inhale a threshold dose, and that changes depending on
17 the infectivity of the virus.

18 But so you have to -- if you get that threshold
19 dose and your physical barriers can't deal with it, you
20 have those sentinel cells that will immediately start
21 detecting that virus and starts penetrating in -- and
22 starts infecting cells past those physical barriers,
23 and that they will start -- and trigger a whole series
24 of events that lead to what we call innate immune
25 responses, so those are very rapid, short-term
26 responses. And then if they fail to clear the

1 pathogen, then we mount the types of responses that
2 we're trying to get with these vaccines.

3 We call them acquired or adaptive immune
4 responses, and the key effector mechanisms there, the
5 key weapons are T cells, which could kill off
6 virus-infected cells so they can't serve as virus
7 replication factories and antibodies, which can block
8 viruses from getting into other cells. Now, those
9 latter things can take up to -- it takes about two
10 weeks for those T cell and antibody responses to peak,
11 so the innate response is very fast.

12 And so if you have an infection of the lungs, one
13 of the first things these sentinel cells start to do in
14 terms of communicating is they get these cells to
15 produce the mucous, to start producing lots of it,
16 because it -- we've got a virus that's bypassing this
17 barrier, so let's make this barrier even more rigorous,
18 a thicker mucous layer. And so that's why when we get
19 an infection, as the virus starts replicating -- this
20 is important -- so, in other words, early on in
21 infection, yes, so if we were to take somebody who was
22 infected early on, would we be able to detect the
23 virus? Yes. Is that virus a replication-competent
24 virus particle? Yes. Is it going to be able to infect
25 and cause disease in other people? No, for two
26 reasons: (a), a person has to reach a threshold level

1 in your own body such that you're delivering such a
2 large enough quantity of the virus for another person
3 to inhale that threshold dose to get them sick. The
4 second reason is you could even have potentially a
5 large amount of the virus in your body, but if you're
6 not sending it out of your body, you're not going to be
7 able to infect anybody else, and so this is the thing.

8 So our immune system -- so viruses take advantage
9 of this early immune response for the transmission
10 process. So because what happens is this mucous
11 secretion starts increasing, and so that means we have
12 a lot more mucous being brought up into our throat and
13 into our -- and our nasal passages, right, producing a
14 lot more of this. And so the body, to try -- you know,
15 what it wants to do is get rid of as much of the viral
16 particles as it can, because the fewer virus particles
17 it has left in the body, the more easily it's going to
18 be able to clear that infection.

19 And so the way our immune system gets it out of
20 the body is it causes us to cough out all this mucous
21 that's accumulating, all the liquid that's full of
22 these viral particles, and we sneeze it out of our
23 nose. That's literally -- we're trying to dump as much
24 of the viral particles out of our body as we can. That
25 is when we become an infection hazard to other people.
26 And that's why I say these masks are awesome at

1 stopping the transmission when this transmission is --
2 when there's the high risk of this transmission, and
3 that's when people are actively coughing and sneezing.
4 As long as you have the virus contained in your own
5 respiratory tract, you know, you're not doing that.

6 So in theory, you can -- so this is actually kind
7 of interesting. Much more so than viruses like the
8 influenza viruses that we live with, the
9 SARS-Coronavirus-2, there's been a lot of literature
10 suggesting, therefore, that one of the ways the virus
11 might spread is through aerosols, right? And so
12 that's -- because if you're not coughing, and you're
13 not sneezing, then the only way the virus theoretically
14 can get out of your body is being carried on the small
15 water droplets that come out of our -- come out with
16 our breath, right, with every exhalation we give.

17 So then that means that the masking, therefore, if
18 somebody is not symptomatic, the only thing that it
19 could potentially have to stop in terms of the virus
20 leaving the body would be these aerosols. And like I
21 said, while -- you know, I've got lots of figures and
22 pictures to show that, you know, the pore sizes of
23 these masks are not designed, they're not nearly small
24 enough to stop these viral particles from getting
25 through, that the water droplets that could potentially
26 have the virus on them, the pores are way, way, way too

1 big to stop that.

2 Now, granted, so, for example, I noticed in
3 Dr. Hu's report that he mentioned that -- actually
4 maybe it wasn't even his report, but some have pointed
5 out that it -- and I agree, it's not like it's one
6 pore, if the virus gets past one pore, it's out of the
7 mask. So, example, the surgical masks actually have
8 three layers. So what it is more like is it's having
9 pores all offset from one another. There's a whole
10 bunch of pores that the virus would have to navigate.
11 It would be like going through a maze.

12 So what these masks can do with aerosols is it can
13 slow down the transit time it takes to navigate this
14 maze of large pores that are all offset before it
15 leaves the mask, but it doesn't stop it from leaving
16 the mask. And, in fact, what ends up happening, this
17 is the predominant thing, this is also in my figures is
18 because it has to navigate this sort of complex maze to
19 get through all the open doorways, that provides
20 resistance, and any gas will follow the path of least
21 resistance. And that's exactly why when we wear our
22 masks, the vast majority of what we exhale never even,
23 unfortunately, gets through the filtering material,
24 again, which isn't designed to filter out these
25 aerosols, but rather bypasses it.

26 And we've all seen that phenomenon; I mean, you

1 know, I wear glasses, especially now is not a great
2 time, so I encourage anybody, put on a mask with
3 their -- so what's especially -- what I especially
4 recommend, if you -- so I have this every time I go to
5 the grocery store, go outside for a little bit, let
6 your glasses, you know, accommodate to the temperature
7 around, right, so they get nice and cold; then go into
8 a store, go into a warm location and put on your mask,
9 right, put on your mask and step through the door into
10 a warm location. Now your glasses are such that any
11 moisture that's coming out is going to readily
12 condense. I find it so frustrating because I can
13 hardly shop. It takes me about 10 minutes before I can
14 start shopping because I'm constantly taking my glasses
15 off and wiping them because of all the fogginess
16 happening. That's the aerosols, and that's, of course,
17 because of the mask. Even with the pinch piece, if you
18 have a good mask, a surgical mask that have the middle
19 pinch piece, very difficult to get a seal properly
20 around your nose. And so when you exhale, because
21 we're slowing down the progress of the air through the
22 filtering material, it'll just simply exit alongside
23 the nose; that's where we see the fogging.

24 Now, the other place a lot of people don't realize
25 is even the surgical masks are not designed to fit
26 properly around -- by -- in front of the ears, and so

1 you almost always have these large, relatively large,
2 triangular gaps at the back of the mask where it loops
3 over the ears. And so literally when we exhale with
4 these masks, the vast majority, when we exhale, fires
5 up past the nose and out past the ears, and so there is
6 no filter. And then, like I said, the limited amount
7 that does come through the filter, it's not designed to
8 stop these aerosols.

9 Like I said, if it did -- like, again, I can take
10 off my glasses right now, and, for example, watch
11 (UNREPORTABLE SOUND), I just breathed on my glasses,
12 and you can probably see it's fogged quite a bit
13 compared to my other lens, right? That's one exhale.
14 So you can imagine if I was wearing a -- had been
15 wearing a mask and go -- in some cases, I've had to,
16 you know, because of these requirements, if I'm wearing
17 a mask, there's not much aerosol coming out in just one
18 breath. You can imagine how much liquid would
19 accumulate in your mask if it is, in fact, filtering
20 that out. If it's filtering it, it means it has to
21 stop them from getting out in the air, from going
22 through. If it's not getting into the air, then it's
23 staying in the mask, the masking material. But I can
24 wear these masks, if I'm not coughing and sneezing, I
25 can wear them, and my mask will not get wet.

26 So, again, it's just intuitive to the point

1 where -- I like to use -- I'll just finish with this,
2 an example which I think is helpful to consider this.
3 Early on in the pandemic, in fact, every time I went to
4 get my hair cut, and thankfully I was able to, you
5 know, after quite some time, because my hair was
6 horrible, like many of us, for the longest time, but,
7 you know, when I actually first went and understanding
8 this, out of respect for the hairdressers, I tried to
9 explain this to them and actually asked them if they
10 wanted me to take my mask off, because if they were
11 worried about aerosolized transmission, right, the mask
12 for filtering this stuff, I tried to point out to them,
13 If it's my breath that you're worried about, do you
14 want me to take my mask off. Because they always cut
15 my hair from behind, right, and that way, if they're
16 afraid of my breath, I'm directing it away from them.
17 And they -- you know, but, no, because of the policy,
18 said no, no, no, no, everybody has to be masked to
19 keep -- you know, to keep us safe, and I tried to
20 explain.

21 And so the best way is -- again, to envision this,
22 again, if you go out in the winter time, cold air, and
23 you put your mask on, you'll see exactly what I'm
24 saying -- I put a picture of this in my report --
25 you'll -- because you can see these aerosols, because
26 these tiny water droplets, when it's really cold, will

1 condense, right? Again, if water -- the gaseous water
2 as -- when it's cool, it will turn into liquid. And so
3 winter time is a great time because you can see the
4 aerosols condensing in the cold air around you. And so
5 when you breathe out in the winter, you'll see the --
6 it blasts up, you see this fog essentially as the
7 aerosols are condensing, blasting up past your nose and
8 out past your ears just like I said.

9 And I've shown people, if you're a hairdresser,
10 what it does is it encases your head in this huge cloud
11 of aerosol, all right. I've tried to point this out to
12 my hairdressers is that if you are genuinely afraid of
13 my breath, you know, as an asymptomatic individual, do
14 you not realize that the whole time your hands are
15 immersed in my aerosols by you forcing me to blow them
16 around my hair instead of away from you.

17 So I'd just like to highlight that, because,
18 again, that's kind of science meeting the reality that
19 we currently have and how the two just simply don't
20 align. So I'll --

21 THE CHAIR: Dr. --

22 A -- just stop there.

23 THE CHAIR: -- yeah, Dr. Bridle, I think
24 it's now 10 after 12, Mr. Kitchen. I think it's time
25 for a break.

26 MR. KITCHEN: Yes, I agree, however, I do

1 want to ask one question.

2 Q MR. KITCHEN: And, Dr. Bridle, I invite you
3 to answer this in 5 minutes or less, and we can come
4 back to it after the break, but I want to ask this
5 question, because it's connected to the conversation
6 we've had. Dr. Bridle, so you've said now that where
7 we're really at is endemic, but I think the burning
8 question we all have is was SARS-CoV-2 ever actually a
9 pandemic? Right? You said declared pandemic, and you
10 said that there was a (INDISCERNIBLE) severity for it
11 to actually be really a scientifically a pandemic. So
12 was SARS-CoV-2 ever a pandemic, and if so, when did it
13 cease being a pandemic scientifically?

14 A Okay, yeah, that's an interesting question, but I can
15 keep this short, yes. Sorry about that, you're getting
16 the typical, you know, scientific, we like to make sure
17 that all the details are relayed. But in this case,
18 so -- this is -- the pandemic was declared again,
19 assuming that the -- sorry, Karoline --

20 (AUDIO/VIDEO LOST)

21 MR. LAWRENCE: Sorry, can we just -- sorry to
22 interrupt, Dr. Bridle -- I think we've lost a Tribunal
23 Member --

24 A Oh, okay.

25 MR. LAWRENCE: -- Dr. Martens, I don't see
26 her. Could we just --

1 MR. KITCHEN: Well --

2 MR. LAWRENCE: -- (INDISCERNIBLE) for a
3 minute. Oh.

4 MR. KITCHEN: Dr. Martens, if you need us to
5 break, we can, you know, we --

6 THE CHAIR: Dr. Martens is here.

7 DR. MARTENS: No, yeah, I came back, yeah,
8 sorry.

9 A Okay, great --

10 THE CHAIR: Thank you, Mr. --

11 A -- I don't think I said anything --

12 THE CHAIR: -- Lawrence.

13 A -- that you missed, Dr. Martens. Did -- what was it --
14 yeah, I think I was just starting to answer, so I'll
15 just start again --

16 THE CHAIR: Sure.

17 DR. MARTENS: Yeah, just when you were going
18 to answer the question, yeah.

19 A Oh, okay, great.

20 DR. MARTENS: Thank you.

21 A Yeah, so this pandemic was declared with, again, on the
22 initial concern that the infection fatality rate might
23 be as high as 10 percent, and, again, as I've said, an
24 infection fatality rate certainly between 1 and 10
25 percent. I don't think there's very many scientists
26 around the world that would agree that that would be a

1 pandemic situation provided the pathogen is genuinely
2 dangerous, because then you're, you know, talking
3 about -- well, the infection fatality rate, that is an
4 indication that it's going to be dangerous to far too
5 many people.

6 But the reality is, just like I said, as we have
7 come to appreciate the size of that denominator, which
8 we didn't know at the beginning, we now know that
9 the -- the real infection fatality rate is in the --
10 was in early 2021 in the ballpark -- and we're not even
11 sure it's the full estimate because we don't have a
12 full understanding of how big the denominator was. But
13 at that time, it was estimated to be about .15 percent.

14 So to put that in perspective again, that was
15 dealing with the earlier variants, which is when the
16 pandemic was declared, in that context. And, again, at
17 .15 percent, that is not a problem of pandemic
18 proportions. It is -- it just simply is -- that's a
19 fact.

20 And so it's not a case -- and then, again, that's
21 for the entire population. And if we go to the
22 demographics that we know, which is the vast majority
23 of the people that are in the -- and the lower-risk
24 demographics, it would be much lower. Again, I can't
25 say exactly how much, but it would be lower.

26 So, again, to put that in perspective of .15

1 percent, that is in the same realm as a bad flu season
2 and -- for which we never declare that to be a
3 pandemic, despite the fact that, you know, the flu
4 spreads around the world, nor is it declared an
5 epidemic, even though it certainly meets that
6 definition in terms of its spread throughout Canada.

7 Now -- so the thing to understand -- and now, as I
8 point out, as far as Omicron, it would be even lower,
9 but that's because there's been some biological changes
10 as well to the virus, right, that's made it less
11 deadly. So if I was going at .15 percent, because
12 that's dealing with the earlier variants where -- which
13 were relevant when the pandemic was declared, just to
14 clarify, it's not that we went from an infection
15 fatality rate of 1 to 10 percent to .15 percent, right,
16 because that would require some kind of biological
17 change or effective intervention that's completely
18 stopping those deaths. And, no, it's the initial
19 estimate was, the initial concern was that it was that
20 high.

21 So what happened is the mathematics became more
22 accurate by the time this paper was published. That
23 same math applied to the beginning of the pandemic.
24 So, in other words, if we knew by early 2021, you know,
25 what the accurate -- if we had those same accurate
26 numbers at the beginning of the pandemic, the pandemic

1 would not have been declared; it would not have been a
2 problem of pandemic proportions. As I've pointed out,
3 the flu is -- equals this, a bad flu season.

4 So, in my opinion, and based on our own policy,
5 health policies in Canada, this would not have
6 qualified as a pandemic. It qualified as a pandemic
7 because we thought the infection fatality rate was much
8 higher than what it really has been and what it has
9 proven to be.

10 And the point that I'd like to make as well is,
11 because a lot of people have probably heard of this
12 term with the emergency use authorization in Canada for
13 the vaccines, in Canada, we called it the authorization
14 for interim use, but it means the same thing.

15 And the reason why that's important is because
16 that's something -- and this whole -- actually, this
17 whole concept actually we have right now of overriding
18 constitutional freedoms, and we're hearing about this
19 all the time, what a lot of people don't realize is,
20 you know, this imposition where the Government can
21 start dictating things and overriding potential
22 individual, you know, constitutional policy rights is
23 often -- is based on the perception -- like the impact
24 of something on Canada. Technically it has to
25 incapacitate the ability for Canada to operate in a
26 certain way.

1 So a classic example would be if we were at war.
2 At war, that's where you can have overriding executive
3 decisions, right, and if Canada is at risk of being
4 destroyed, being overtaken, right, being taken over.

5 So at a 10 percent or even 1 percent, that would
6 have a dramatic impact on Canada, you know, death rate;
7 that would have a dramatic impact on Canada to be able
8 to function as a country. But at 0.15 percent, we've
9 never done -- like I said, we have that for the flu
10 routinely.

11 So, again, I hope that helps put it in some
12 perspective. So, again, based on the science, the
13 publications, my, you know, summarized answer to you,
14 Mr. Kitchen, is that, with the math corrected, this has
15 not been an issue of pandemic proportions, true
16 pandemic proportions.

17 MR. KITCHEN: Thank you. We'll leave it
18 there for lunch.

19 Mr. Lees, I'm fine if you want 45 minutes or an
20 hour, an hour-and-15, I'm fine either way. As much
21 as -- we'll definitely finish today. I think we're
22 going to be a while yet, but we will finish today.

23 THE CHAIR: Okay. Let's take an hour;
24 let's come back at 1:15. I think we all -- we went
25 straight through from 10:00, so I think an hour is
26 fine, and we'll see everybody at 1:15.

1 And do we need to caution the witness in any
2 respect, Mr. Pavlic?

3 MR. KITCHEN: You're muted.

4 MR. PAVLIC: I've got it now.

5 Other than --

6 THE CHAIR: Okay.

7 MR. PAVLIC: -- he's not supposed to
8 discuss his evidence with his counsel or anyone else --

9 THE CHAIR: Yeah.

10 MR. PAVLIC: And I'm sure --

11 THE CHAIR: Thank you.

12 MR. PAVLIC: -- Mr. Kitchen has given that
13 warning in advance.

14 THE CHAIR: Okay, we'll see everybody at
15 1:15. Thank you.

16

17 PROCEEDINGS ADJOURNED UNTIL 1:15 PM

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24

25

26

1 still under oath.

2 A I understand, thank you.

3 THE CHAIR: Okay. All right, Mr. Kitchen.

4 DR. BYRAM BRIDLE, Previously sworn, Examined by

5 Mr. Kitchen

6 MR. KITCHEN: Thank you. And, Chair, I'll
7 try to be mindful of the time. If we get an hour or so
8 into it, and we're still going, I'll try to find a good
9 time for a break.

10 Q MR. KITCHEN: Dr. Bridle, thank you so much
11 for all that information prior to the lunch break, but
12 to continue where we left off, the question I had is we
13 talked -- you talked about how isolation works, masking
14 for asymptomatic doesn't work, and then we didn't get
15 into any other restrictions yet, but I'm very curious,
16 if isolation at home does work, and you said,
17 intuitively, it does, can you give some insight as to
18 why Omicron is still spreading the way it is unabated?

19 A Yeah, so, first of all, just to clarify, meaning
20 isolating at home when symptomatic, right, when
21 actually sick. I don't recommend that people have to
22 stay away from others if they're not sick.

23 So, yeah, in terms of the Omicron, you know, so
24 it's a multi-faceted answer, I guess. And so, first
25 of all, I guess I'll start off with the, you know, the
26 related topic of the vaccines, because that was

1 purported to be -- you know, we were hoping that was
2 going to be the number one strategy for stopping the
3 spread of this. And then the idea being, you know, the
4 concept was that only those who were vaccinated would
5 not be capable of transmitting the virus, and those who
6 were unvaccinated would be capable of transmitting the
7 virus, and, hence, you know, the isolation, kind of
8 segregation that's been occurring in society.

9 But so one needs to understand a little bit about
10 vaccines to understand that aspect because that's
11 critical, because, again, like I said, that was
12 supposed to be the number one strategy for stopping
13 transmission.

14 So these COVID-19 vaccines -- so, again, I mean,
15 I'd like to highlight and my record shows for itself,
16 being a publication record, that I've been actively
17 publishing in the area of vaccinology during the
18 declared pandemic. I am a vaccinologist. So, again,
19 you know, my expertise is in viral immunology, and
20 specifically I focus heavily on vaccinology.

21 So I am actually strongly in support of the
22 concept of vaccine mandates, but these COVID -- current
23 COVID-19 injections look nothing like and they perform
24 nothing like any historically mandated vaccines. And
25 that helps to understand a large part of the question
26 you're asking.

1 So what I mean by that is we're all probably
2 familiar with the vaccines that are mandated during
3 childhood, so the childhood -- what we call the
4 childhood series of vaccines. So that's things like --
5 things like the mumps, measles, and Rubella vaccines,
6 the ones we -- you know, we get for tetanus that get
7 updated every 10 years and so on, chicken pox as of
8 2010.

9 And so all of these previously mandated vaccines
10 have a quality that we refer to, as immunologists, as
11 conferring sterilizing or near sterilizing immunity.
12 And what that means is technically if somebody's
13 vaccinated, they can still get infected because
14 infected means you the get the pathogen in your body.
15 But what sterilizing and non-sterilizing --

16 THE CHAIR: Dr. Bridle, Dr. Bridle --

17 A Yes.

18 THE CHAIR: -- you're frozen.

19 MR. KITCHEN: He's not frozen.

20 THE CHAIR: Yeah, he's back now.

21 A Okay, do I need to repeat anything?

22 THE CHAIR: Just the last sentence.

23 A Oh, okay, thanks. So previously mandated vaccines
24 confer what we call sterilizing or near-sterilizing
25 immunity. And so sterilizing immunity means like, in
26 all cases, a pathogen can still get in your body. So a

1 respiratory pathogen like SARS-Coronavirus-2, obviously
2 we can still inhale it. If we had sterilizing
3 immunity, it would mean that we have the appropriate
4 type and quantity of antibodies in our upper
5 respiratory tract to be able to fully neutralize that
6 virus, meaning the antibodies would bind to the virus.

7 And that's one of the reasons why we've been
8 targeting the spike protein. The spike protein is the
9 thing that sticks up on the surface of the virus that
10 grabs onto the receptor on our cells, the same receptor
11 I was telling you about earlier that children express
12 at much lower concentrations, which is why they're
13 inherently protected.

14 So if you have an antibody that binds to the spike
15 protein, then that spike protein can't grab onto our
16 cells. And if the virus can't get into our cells,
17 there can be no replication whatsoever and, therefore,
18 no risk of disease and no risk of transmission. That
19 would be sterilizing immunity.

20 Near-sterilizing immunity means that the virus,
21 probably there would be a lot of neutralization of the
22 virus, but the virus might still be able to infect a
23 limited number of cells that we would have sufficient
24 additional immunological mechanisms to clear that virus
25 from the infected cells, things like T cells, which are
26 very good at this, and it would clear the virus again

1 before it would replicate to that -- to a quantity that
2 would reach what I referred to previously as the
3 threshold dose required to infect somebody else. So
4 that would be what we call near-sterilizing immunity,
5 meaning you can get some infection yourselves, limited
6 replication, but you're not going to get sick because
7 there hasn't been enough replication to cause illness,
8 and you're not going to transmit, because, again, you
9 haven't reached that threshold dose that needs to be
10 delivered. So that's what all our historical mandated
11 vaccines look like; they do this.

12 Oh, and the other thing they do is they -- they
13 not only confer this type of immunity but for very long
14 periods of time. So when you think about it, once we
15 are done our childhood vaccination series, except for
16 the, you know, update every 10 years for things like
17 diphtheria and -- for example, the -- and tetanus, we
18 never have to be vaccinated again, we don't have to get
19 boosters. So we call that robust or long-lasting
20 immunity. So that's the nature.

21 Now, we're all probably seeing -- you know, we're
22 already, in Canada, rolling out -- well on our way to
23 rolling out third doses. We've actually been
24 implementing fourth doses in some long-term care
25 facilities where there's been a complete inability to
26 control the spread of the Omicron variant. Israel, you

1 know, of course, is large -- most of their population
2 has got four doses.

3 So this highlights something, this is three to
4 four doses in well under a year. So that -- so,
5 clearly, they don't -- they don't have the duration of
6 immunity; they don't provide the, you know -- a
7 reasonable length of protection. That alone means
8 these vaccines will never be able to stop the
9 transmission of this virus, because there's no way we
10 can get the whole world vaccinated and under three
11 months, such that the people, you know, no longer -- we
12 haven't reached the point where people have lost
13 protection. Otherwise, if you get only -- if it's only
14 through part of the population by three months, by the
15 time you're vaccinating new people, the people who were
16 vaccinated at the beginning are going to be susceptible
17 again. So that's one of the problems.

18 The other problem is that -- I already explained
19 this, that the immunity is -- just really protects the
20 lower airways. And the Omicron variant, we're talking
21 about a version of the virus now that preferentially
22 stays in the upper airways, so there isn't that --
23 those aren't those neutralizing antibodies in the upper
24 airways conferred by this vaccine that would confer
25 that sterilizing protection.

26 So on that basis -- oh, and the other thing is

1 that there's been so many mutations in the spike
2 protein of the Omicron variant that the immunity
3 conferred by this, which is spike-protein specific, is
4 largely irrelevant. A lot of those antibodies can't
5 even physically bind to the spike protein anymore
6 because it's changed too much.

7 So for all those reasons, that's one of the
8 reasons why we're seeing the vaccine [sic] circulate
9 freely, because it's largely then the unvaccinated that
10 have been -- that have been -- or have continued to be
11 asked to isolate and have been basically -- you know,
12 segregated from society. So they are, you know, stay
13 at home, not being able to go into the workplaces and
14 so on.

15 So the fact -- and like I said, I've said this
16 before as well, some of the -- for those in school
17 settings or work locations, we're talking about people
18 where almost everybody is vaccinated, but the virus --
19 like I said, despite that, we had this record peak for
20 cases with the Omicron variant. So that's one of the
21 reasons, because the vaccines, unfortunately, have
22 failed to meet their goal.

23 If these conferred long-lasting sterilized or
24 near-sterilizing immunity, I may have had to have
25 retracted my earlier statement about this becoming
26 endemic. We may actually have had a chance of

1 eradicating this virus. But, you know, because of
2 these weaknesses in what an ideal vaccine should be --
3 I should even point out that even the very definition
4 of a vaccine was altered about a year ago to
5 accommodate these inoculations that we're providing,
6 because, again, the definition of a vaccine was one
7 that conferred sterilizing or near-sterilizing
8 immunity. They were originally designed to not blunt
9 the most severe forms of disease but actually prevent
10 disease and prevent transmission to others. So that's
11 why -- that's a primary reason why we're seeing this
12 virus continue to circulate.

13 So now when you think about that, it's annoying
14 that the vaccines are now largely irrelevant in terms
15 of their ability to stop transmission; at the same
16 time, we have kept -- we have remained -- keeping the
17 vaccinated individuals from workplaces, we continue to
18 require them to wear masks and do the physical
19 distancing. So -- and, again, the fact that we've been
20 doing this all along, but the waves of cases just keep
21 getting progressively higher, although, like I said,
22 the virus is progressively less -- that's the good news
23 in all this. As that happens, the virus becomes -- has
24 become less dangerous. So despite the spread, there is
25 less potential harm to people. So I always want to
26 remind people I don't want to be instilling unnecessary

1 fear.

2 But nevertheless ever increasing cases, and since
3 the focus is on cases, that means that we've been
4 trying to stop our cases. And, again, I won't say
5 cases of COVID-19, that is what we ultimately want to
6 prevent, but what we're actually measuring, again, are
7 positive test results for potential infection with
8 SARS-Coronavirus-2.

9 So what it tells us is that the masks and the
10 physical distancing, despite the fact that we have not
11 only maintained that all the way through but actually
12 removed the vast majority of people from the population
13 who are unvaccinated tells us that that combination of
14 those critical three, which are supposed to be the
15 three things to -- to end this pandemic, the
16 vaccination, the masking, and the physical distancing,
17 you know, that's real world evidence, you know, that
18 we've all seen that really we can't -- argue doesn't
19 exist, right, because we see it in our workplaces and
20 schools. It clearly shows those aren't working. They
21 can't be working while we're actually having, during
22 this process of maintaining those three strategies,
23 while removing most of those who are unvaccinated from
24 those scenarios, when you actually see ever-increasing
25 peaks in the, you know, recent waves, that clearly
26 suggests that these are not working efficiently, right?

1 They're not -- they're certainly not efficient
2 solutions to resolve the problem as we have it.

3 That's why many people are working right now on
4 trying to develop vaccine strategies that ideally would
5 be sterilizing or near-sterilizing because that would
6 provide, potentially, an ideal way to prevent this.
7 But then one even argues whether it's necessary if the
8 virus isn't dangerous enough because -- this is
9 something I teach my students -- one of the questions I
10 get asked all the time, with all the vaccine
11 technologies that we have, why don't we have a vaccine
12 for the common cold. Well, the reason is simple, no
13 medical intervention, no medical intervention comes
14 with zero risk. So you always do a risk-benefit
15 analysis.

16 And so the primary reason why we have never
17 developed a vaccine against the cold that we try and
18 implement is the cold in the vast majority of people
19 again is not a major issue. And so if people aren't at
20 substantial risk of harm from a pathogen, we're not
21 going to introduce an unknown potential amount of harm
22 from a novel medical intervention, and so that's why
23 we'll never have vaccines for the common cold.

24 But, nevertheless, I just wanted to bring that up
25 there, that that might be a viable strategy, if needed,
26 if we were to get a future version of the -- you know,

1 future variant or strain of the virus that were to
2 attain more dangerous characteristics again. But with
3 the current tools that we have, we have seen the
4 Omicron variant, the spread, the transmission go
5 completely out of control. So, yeah, I'll end it
6 there.

7 Q MR. KITCHEN: Well, thank you. But let's
8 talk about prevaccine, let's talk about 2020. My
9 understanding is, you know, the vaccine really didn't
10 start to get up to -- until January of 2021, so about a
11 year ago, you know, and the time that's really
12 relevant, of course, for this case is, you know, from
13 May 2020 till December 2020. That's when the
14 chiropractors were allowed to work, that's when
15 Dr. Wall was working, and that's when there was a
16 mandatory mask requirement in place by the College.

17 So let's talk -- and as far as I can see, that's
18 prevaccine. So let's talk back then. What's your take
19 on why these measures, no vaccine, why measures like
20 physical distancing and masking didn't work back then?

21 A Okay, so this leans heavily on what I already
22 explained. So pathogens are a spread, there's risk of
23 spreading it to somebody else when we're actively
24 releasing large enough quantities from our body to meet
25 the threshold dose needed to infect, bypass the initial
26 physical barriers, and initiate disease -- or initiate,

1 sorry, what we would call a productive infection that
2 would result in disease, because, again, disease is
3 when there's the onset of signs and symptoms.

4 And so the reason why these largely haven't
5 been -- weren't effective there, so outside of the
6 scope of vaccines, is because we were keeping people
7 out of the workplace who weren't sick. Again, I keep
8 emphasizing that. If you're not around sick people,
9 you tend not -- you're going to tend not to get sick.

10 And again -- so, again, these masks do a
11 reasonable job at preventing the spread of illness when
12 somebody's coughing and sneezing. That's what they're
13 really designed to do, that's what the pore size is
14 designed for in these masks.

15 And, otherwise, if -- so then the only argument
16 that remains then for why these masks attempt to
17 restrain the virus if somebody's not symptomatic would
18 be, again, the concept that they have -- the assumption
19 that they have a high enough dose of the virus in their
20 respiratory tract but are not yet sick because of it
21 and, therefore, exhaling large enough quantities, a
22 threshold dose, through aerosols, right? That's the
23 only physical way that a healthy person could,
24 therefore, be spreading this, and as I've explained
25 because of the pore size. And, more importantly, the
26 pore -- really, the pore size is irrelevant if you

1 don't have a proper fitting mask, such as the vast
2 majority is exiting the body unfiltered. You know, the
3 virus isn't going to respect the masking, nor --

4 And then when it comes to the physical distancing,
5 this is a complex process because some physical
6 distancing theory can help if you can control, if you
7 can control, because this is the thing, physical
8 distancing was primarily implemented -- and, in fact,
9 it's largely -- one can even argue what should be the
10 appropriate distance. Many studies would suggest that
11 an appropriate distance would only be 1 metre rather
12 than 2. So it's a rather -- beyond 1 metre becomes
13 rather arbitrary if you can -- if you pick a number
14 beyond that.

15 But what people need to understand is that the
16 reason this physical distancing was also selected was,
17 in the context of sick people who were actively
18 transmitting the virus by coughing and sneezing, it's
19 this idea of large water droplets again. And the
20 reason why 1 metre has always been recommended as the
21 minimum distance to try and minimize your chance of
22 getting infected -- so I would definitely recommend if
23 somebody is around somebody who is coughing and
24 sneezing, I would never recommend that you -- if you
25 want to keep yourself healthy, I would recommend that
26 you never go within 1 metre of their personal space,

1 and the further away you are, the less risk there is.
2 And that's because people -- you know, when we cough
3 and sneeze, the large droplets that we dispel land on
4 the ground approximately a metre away from us, up to a
5 metre away, so that's where that came from. But,
6 again, that's for people who are symptomatic and
7 meaning they're actively coughing and sneezing and
8 projecting these large water droplets.

9 Otherwise, we're talking about aerosols. And when
10 we're talking about aerosols, aerosols can travel very
11 large distances, massive distances, in fact, depending
12 on the environment. So, for example, there's very few
13 indoor places anymore, like work environments, that
14 have modern -- and even houses, you'll notice, most of
15 the -- most modern buildings now have air circulating
16 all the time, and so that creates currents, air
17 currents, all the time in our homes. We're often
18 unaware of these, but, you know, you know that you can
19 get the test kits to look at smoke detectors or even
20 smoke. If you ever put the smoke in a room, for
21 example, in air vents and so on, you can often see that
22 there are these air currents that are circulating. So
23 we can't see that, so where these aerosols go is going
24 to be dictated by the air currents that are around us.

25 So as an extreme example, and I've pointed this
26 out to people, you know, kind of in a half-joking way,

1 only half-joking because it is actually serious, so,
2 you know, I, from time to time, I've used -- you know,
3 I use a bus. I've got a bus stop not far from my home,
4 and again the best time -- the best time to see this,
5 there's two ways to actually visualize this, one is
6 observing smokers and the other one is observing people
7 breathing but in the winter time, where you -- again,
8 you can see the aerosols because of the condensation in
9 the cold air.

10 And so one of the things that I always, always do,
11 because I'm a nonsmoker myself, is if somebody's
12 smoking, I always stand upwind from them, right? There
13 is no defined distance at which smoke dissipates to --
14 and which it's safe, if there's a wind. If you can be
15 5 metres downwind of somebody at a bus stop, and you're
16 going to be inhaling their smoke if the wind's taking
17 it that way, because, yes, these aerosols dissipate,
18 but if you have a wind that's moving quickly, you're
19 going to be inhaling, you know, a reasonable amount of
20 smoke, secondhand smoke. So many of us recognize that,
21 and so if we don't want to inhale the smoke, we stay
22 upwind, and that's what I'm talking about with these
23 aerosols and air currents carrying this.

24 And so it's the same thing, if you have somebody
25 that's, for example, let's say, unmasked and breathe
26 out, if you -- if there's -- if the air is what we call

1 stale, is not moving, you're going to see a cloud that
2 forms in front of their mouth, and it's going to
3 dissipate as it moves out. In that case, the aerosol's
4 probably going to dissipate, pretty low concentrations,
5 right, per volume of air space at not too far a
6 distance. But, again, if you're standing, you know, 3
7 metres downwind of the person and, you know there's a
8 reasonable breeze, those vapours, you can see them
9 coming right by, right by your face. And so you're
10 actually inhaling, you know, reasonable concentrations
11 of the air being expelled by that individual. So
12 that's how, you know, is -- that's a good way to look
13 at it.

14 And so it's the same thing, so -- and worse, this
15 is the other thing, so I point out again that, in
16 fact -- so you combine that, we're talking about
17 aerosols with the masking, and the very frustrating
18 thing there is -- again, I try to point out -- if I'm
19 standing at a bus stop, and there's people sort of
20 downwind of me, and I want -- and if I were to feel
21 that I had to protect them from an aerosol, I would
22 actually rather have to take my mask off so I'm
23 projecting the aerosol ahead when then maybe it gets
24 dissipated, you know, down in front of the crowd of
25 people. By putting on the mask, I'm actually making
26 sure that I'm blowing lots of unfiltered air out past

1 my ear and actually firing it basically in the
2 direction of the people, right, or right beside me. So
3 that's what I mean.

4 So this is the problem, this is the problem when
5 it comes to the mask. We're not properly control --
6 and, in fact, it -- when you think about it, it's --
7 it's not logical, we don't think logically, because we
8 think about -- we've all seen our breath in cold air,
9 so we think if we're going to control our breath -- I'm
10 going to use the example, bad breath. If you want to
11 avoid somebody detecting bad breath, one of the things
12 you do you don't breathe on them, right? So you find a
13 way of making sure the breath goes some other way.
14 Even if you're looking at them, some people will sort
15 of breathe out the side of their mouth, change the
16 shape so it kind of directs it away from the person.
17 And this is inherently because we know that we can't
18 alter the direction that it goes, but so we're always
19 thinking of breath coming out from our mouths.

20 And so what the interesting thing is what people
21 often do, out of reflex, is in order to -- when they
22 have the masks on, in order to avoid having any of
23 these aerosols hit them or their breath hit them, they
24 tend to look away from them. And as I pointed out,
25 because of the -- what the direction -- the air -- the
26 air actually coming out, you know, by the ears, by

1 looking away from somebody, you actually redirect the
2 unfiltered air in their direction.

3 So an example, in my workplace, we were actually
4 told -- because it turns out that our hallways are less
5 than 2 metres, so we were actually -- what we were
6 actually asked to do was if we passed one another in
7 the hallways, we'd go belly to belly or chest against
8 the wall, like kind of inch our past one another with
9 our backs turned. And all time we're do -- all I --
10 you know, all I'm doing by doing that is, you know, at
11 least if I have the mask on and I'm looking at the
12 person, I'm directing the air away from them. As soon
13 as I turn my back on them, again, I'm directing air
14 toward -- in their general direction.

15 So this is the problem, and this is why we've had
16 trouble with the masking and controlling the spread of
17 aerosols, and why distancing, why distancing is quite
18 arbitrary in the context of aerosols. So, again, there
19 have -- there was a published scientific study in a
20 peer-reviewed journal that clearly showed with these
21 aerosols, they can travel -- they can travel, again
22 with the air currents, up to 30 metres, you know, if
23 they're carried on an air current that's swift enough
24 and going in a certain direction rather than swirling
25 air.

26 So it's all dependent on air currents, it's

1 dependent on the direction that the unfiltered air is
2 going. So we're talking about -- again, again, I would
3 say -- you know, I saw Dr. Hu's report, I agree 100
4 percent with him on the efficacy of masking with
5 symptomatic individuals, you know. But we're talking
6 about -- but, again, what you asked is people who are
7 going into the workplace who are asymptomatic, masking
8 to prevent the spread of aerosols and control the
9 direction in which they're going is not -- does not do
10 the job, not in the context of aerosols. So that's why
11 this virus has been spreading.

12 And I'd like to point out again, if you -- if
13 we -- if that is true, if the masks -- if the virus, it
14 could potentially spread on aerosols, and there's
15 some -- lots of studies have suggested that maybe it
16 can and -- but masks were doing their job, then we
17 would expect that people would have been protected.
18 But like I said, the actual -- in the study that was
19 published looking at immunity in healthy individuals,
20 people who never had any evidence that they were
21 infected or knew they were infected with the
22 SARS-Coronavirus-2, showed many healthy adults
23 acquiring immunity for the virus, and so that's been
24 occurring despite the masking.

25 Q Well, I need to ask you a couple questions about
26 asymptomatic transmission, because -- and symptomatic

1 transmission for that matter. Let me ask you this: Of
2 all the transmission of SARS-Coronavirus-2 or
3 SARS-Coronavirus-2, roughly how much comes from
4 asymptomatic people and roughly how much comes from
5 symptomatic people?

6 A So the subtotal of scientific literature would suggest
7 very little comes from asymptomatic individuals. It is
8 not zero. There is some asymptomatic transmission that
9 can occur.

10 One of the studies that often gets highlighted was
11 a -- again, it was a peer-reviewed scientific paper
12 published in an high-impact journal. It was actually
13 studied in a huge population in China, about 10 million
14 people, and the conclusion from that study was among a
15 sample size of 10 million people. They found no
16 substantial evidence of asymptomatic transmission.

17 And, again, it's not surprising, because, again,
18 for all the reasons I already explained, so I won't go
19 into them again in any detail, but just very quickly,
20 you have to have the virus in your lungs at a
21 sufficient quantity to be -- such that your body is
22 releasing enough to exceed that threshold dose needed
23 to cause illness in somebody else, and that almost
24 always requires active expelling of the virus from the
25 body through coughing and sneezing, but not always.

26 There is the theoretical scenario where you could

1 have somebody who's still not actively coughing and
2 sneezing, so they don't know that they're sick, it
3 might be a little bit threshold dose. When it comes to
4 biology, anything is possible. I'll never say anything
5 is impossible. So it is certainly theoretically
6 possible, and, in fact, I would argue it is a real --
7 real thing, but it would be high -- it's highly
8 improbable, meaning a rare event.

9 And there has been like a lot of agreement,
10 generally speaking, including among major public health
11 bodies, like the World Health Organization, there's
12 many organizations that, after a while into the
13 pandemic, we're starting to recommend just end the
14 testing, testing for evidence of SARS-Coronavirus-2 and
15 asymptomatic people for this very reason, because, you
16 know, again, we recognize you're testing healthy
17 people.

18 And what was being recognized though -- so
19 although there's very few cases, documented cases of
20 clear-cut transmission from asymptomatic people of
21 infectious viruses that may be at a dose that can cause
22 disease, it's definitely not a substantial driver of
23 this pandemic in any way, shape, or form.

24 So even, I'd like to point out -- so I notice
25 that -- you know, like Dr. Hu cited some peer-reviewed
26 scientific articles, and that's great, because, again,

1 that's the, you know, best type of evidence for this,
2 but even there, the important thing is looking at what
3 was actually measured.

4 So when you actually look, when they were
5 measuring some of the -- in some of those masking
6 studies, it was -- they were looking at, again, doing
7 genetic testing essentially, like PCR testing, to look
8 for evidence of the genetic material from the virus,
9 and so this -- you have to be very careful again
10 because -- okay, so this requires a little bit of
11 background in terms of measuring, measuring, how you
12 measure whether a virus is being filtered.

13 So with this PCR test that we've all probably
14 heard about, it's called polymerase chain reaction.
15 What it is is this concept that we can use little
16 pieces of genetic material that recognize sections of
17 the genetic material from the virus, and so if the
18 genetic material from the virus is present in a sample.

19 So, for example, if you put a mask on an
20 individual like -- and you ask them to breathe, and you
21 capture those samples, you can run this test to look
22 for evidence, you can ask is there any evidence of the
23 virus based on genetic material being present. And
24 when you do that, this test can detect small segments
25 of the genetic material from the virus, and then it --
26 this gets amplified, you run it for a number of cycles.

1 And if genetic material is present, you keep amplifying
2 it with each cycle, somewhat exponentially, until you
3 get enough of it, you can literally visualize it in a
4 test. So you can ultimately amplify it to such an
5 amount that you can visualize the genetic material, and
6 then you say, okay, so that genetic material seems to
7 have been present.

8 The problem with this is and the problem we've --
9 you know, I don't -- I can't comment on why this has
10 happened, because it's -- it's against all historical
11 standards, but we have relied on just the PCR test in
12 Canada for some reason, and we have arbitrarily picked,
13 in most cases, cycle cut-offs.

14 Because what happens, when you go to very high
15 cycles, your amplify -- you can -- what can end up
16 happening is you can end up amplifying background, you
17 get background signals we call it. And so you think
18 you see a causative result, but it's actually just
19 background. And we've been calling, running these
20 tests and calling -- so, for example, in Ontario, up to
21 38 cycles, if you can then detect a signal from this
22 test, we're calling that a positive test result for
23 SARS-Coronavirus-2.

24 But this is how it's supposed to work: We do
25 actually -- PCR is not a gold-standard test for
26 detecting it. Like it's a fabulous technology, but

1 like anything, all technology, it has limitations. It
2 is able -- what it's not able to do is detect -- it's
3 not able -- it's only going to tell you if a portion of
4 the genetic material -- material is present. It can't
5 tell you if there are replication-competent, intact
6 virus particles, in other words, virus particles that
7 have the potential to infect somebody.

8 But we do have a gold-standard test for that, a
9 virology assay. Remarkably, we abandoned this early on
10 in Canada. And specifically what's supposed to happen
11 is in order to validate your test, in order -- in other
12 words, in order to say, okay, my test, the results that
13 I'm showing in this test are proving -- or are
14 suggestive, highly suggestive that what I'm detecting
15 is infect -- or are virus particles with the potential
16 to infect somebody else. What you do is you take your
17 sample, and you split it into two, and with one, you
18 run your PCR test, and you determine at what cycle
19 number you get a positive result.

20 And in the other one, you do -- that uses
21 gold-standard virology test, which is actually a
22 functional test. What you do is apply the sample to
23 cells. You let these cells grow, you grow them on
24 plates, and we grow them for what's called confluence,
25 which means the entire bottom of the plate is covered
26 with these cells; you can't see the plate at the bottom

1 of the plate anymore.

2 And then what you do is you add your sample.
3 These are a special type of cell, we call them
4 permissive cell lines, and what they are are they are
5 cells that are stripped of all their anti-viral
6 properties, they're not able to protect themselves from
7 viruses, so that if there is a virus in your sample, it
8 can very efficiently infect these cells, and it will
9 start replicating and spreading, and it will kill the
10 cells. We call this cytopathic effect.

11 So what you do is you look at your cells under a
12 microscope, and you make sure, before you add your
13 sample, that the entire bottom of the plate is covered
14 with the cells, then you add your sample. If there's
15 any replication-competent virus there, which also
16 means, therefore, that it would have the potential to
17 infect and cause disease in somebody else, when you
18 look under the microscope later, you will see those
19 cells removed from the -- those cells have been killed
20 off, and now you'll be able to see the bottom of the
21 plate. And what you do is you find the cycle number at
22 which your samples no longer cause any damage to that
23 cell layer, and then that is how you prove,
24 objectively, the cutoff for your PCR.

25 And what's interesting is we actually did this --
26 I did. Our micro -- National Microbiology Laboratory,

1 which is part of the Public Health Agency of Canada.
2 It's located -- it's one of our -- it's a Containment
3 Level 3 and 4 facility in Winnipeg, Manitoba, they did
4 this at the beginning of the pandemic, and -- which was
5 the appropriate thing to do, and remarkably -- and this
6 is published, this is a peer-reviewed published paper
7 that they issued early on in the pandemic. And what's
8 remarkable there is they set the cut-off at 24 cycles.
9 Now, that doesn't mean anybody running a PCR test has
10 to have their cut-off at 24 cycles. The -- the actual
11 cycle cut-off, any person running this test should,
12 first, establish what the cut-off is for themselves, with
13 their particular protocol, their set of reagents, and
14 their particular technical expertise.

15 So the cycle number should act -- for the cut-off
16 should change from laboratory to laboratory, but
17 everybody should be able to show you that gold-standard
18 virology assay and the results from it to provide the
19 rationale as to why they picked that particular
20 cut-off.

21 But nevertheless, it -- because it's not going to
22 stray too far from that. And so my point is the
23 National Microbiology Laboratory showed that the proper
24 cut-off in their hands of the PCR assay was at 24
25 cycles. In other words, this paper, if you go and you
26 read it, our own public health scientists that

1 published this, what they found is that if the PCR test
2 came up positive at cycle numbers higher than 24, those
3 samples, they were unable to infect the cells in that
4 gold-standard virology assay with those samples.
5 Meaning, there was no evidence of replication-competent
6 or -- virus particles that had the potential to infect
7 anybody else.

8 So if they were running the diagnostic tests, for
9 example, to the PCR, therefore, they would set the
10 cutoff at 24. They would say anybody with a positive
11 test result up to 24 -- and they wouldn't have to run
12 this assay again, you don't have to do it every time,
13 and it makes no sense to do so -- they would then, with
14 high confidence, be able to say anybody who tests
15 positive up to a cycle number of 24 almost certainly
16 has infection of -- replication-competent viruses in
17 their body with the potential to infect others. But
18 the reverse of that conclusion is anybody with the test
19 result that is cycle number above 24, they would have
20 to conclude that those people are not able to infect
21 anybody else.

22 And so this is the problem, because a lot of the
23 publications that relied on this genetic test, and,
24 therefore, there is, without the gold-standard test
25 being run in parallel, there's no way to tell whether
26 their positive results were false positives, or even --

1 the thing I like to point out, there are genuine
2 positive tests but that do not -- but -- in which those
3 individuals, so they're genuinely detecting, they're
4 truly detecting genetic material from the virus, but
5 those people actually aren't infectious, and that's
6 actually people who have mounted immune responses.

7 This is very important to understand, because what
8 happens is one of the things our immune system does --
9 I didn't go into the details, but some of you may
10 recall when I was explaining kind of line of defences,
11 I mentioned that once the virus penetrates the physical
12 barriers and starts affecting cells, we have these
13 sentinel cells which will detect infection and trigger
14 these subsequent immune responses.

15 Well, these sentinel cells, one -- and a couple
16 other cell types, what they're designed to do very
17 on [sic], in order to detect these viruses is they
18 gobble them up, they actually consume them. We call
19 this phagocytosis, right? So they actually basically
20 eat, consume the virus, and then what they do is they
21 take the virus, and they break it into pieces, and then
22 they take these pieces, and they actually take it to
23 the draining lymph node, and they show it to our B and
24 T cells, to say, Look, here's a dangerous pathogen that
25 you need to go and try and clear from the body.

26 And then we get our B cells and T cells activated.

1 The B cells are the ones that then produce the
2 antibodies. And you know that this process is
3 happening when your lymph node swells, because if those
4 B and T cells are being activated, they start
5 proliferating in large numbers, so we have an army, an
6 army that's designed to go and recognize the pathogen.

7 So that's why if you're sick, like you have a
8 throat infection, you can often palpate the lymph
9 nodes, right, just behind your jaw, or your physician
10 does that. That's what they're looking for for
11 confirmation, because your lymph node is swelling; that
12 means you're actively mounting an immune response
13 against the pathogen, and it's clear evidence that
14 you're infected.

15 But, so, this is what you have to understand, this
16 is the key, to get to that process, we have to have
17 cells that gobble up the virus and carry it to the
18 lymph node and show pieces of it. These cells will
19 hold on to that so that virus is no longer
20 replication-competent. It's inside the phagocytic
21 cells and -- but it -- they will hold onto this for up
22 to weeks, even sometimes months, and that is to make
23 sure that there is always a supply of the target that
24 the immune system needs to respond to to protect the
25 body.

26 So it can take -- usually it doesn't take months,

1 but certainly, for sure, at least two to three weeks,
2 they'll be holding onto this material in case -- and
3 that's the case, the immune system has to keep
4 responding, in case they have to keep getting more
5 effectors recruited, depending on how virulent the
6 virus is.

7 And so in many cases, that -- then what you get is
8 you get a true positive test result with the PCR.
9 There's actually, you know, viral particles present --
10 or partial viral particles, at least pieces of the
11 general genetic material present in the body, but as
12 you can imagine, that's not ever going to infect
13 anybody, right? It's inside the cells of our immune
14 system that use that to educate the rest of our immune
15 system.

16 So this is why it's important to understand how
17 this works. Yeah, so I'll leave it at that.

18 Q Thank you. All right, so I need to go back to -- you
19 established that SARS-CoV-2 spreads by aerosols; we've
20 established that the masks don't stop aerosols; we've
21 established that they do tend to stop the bigger
22 droplets, we've established that asymptomatic spread is
23 rare. And that leaves the question then, forgive me,
24 but if I'm listening logically to what you're saying,
25 then, when symptomatic people wear a mask, they'll end
26 up spreading SARS-CoV-2 through aerosols; is that

1 correct?

2 A Yes. Again, there's evidence this virus can spread
3 through aerosols. So one thing, just to clarify what
4 you said just a moment ago, the -- so, yes, there's
5 evidence that the virus spreads by aerosols, but I also
6 want to make it clear, the virus is going to spread
7 very efficiently through the large water droplets with
8 the coughing and sneezing as well, as well as contact
9 media transmissions.

10 So I notice in Dr. Hu's report, you know, he had
11 mentioned that as well -- he had mentioned all three --
12 all three occur. He placed more emphasis on the large
13 water droplets and the contact transmission, so I don't
14 disagree. I just want to make that clear. But again,
15 those are symptomatic individuals; we're talking about
16 large water droplets and contact transmission, those
17 are people who are actively -- you know, actively
18 releasing large amounts of the virus.

19 And so with a contact transmission, actually I
20 have additional concern there, because I agree that
21 contact media transmission is an issue, and that's
22 where I'm concerned when we -- when we're old -- when
23 we're making people use these masks only in the context
24 of aerosol media transmission, because, again, those
25 who are actively sick are isolated, what we're doing
26 with these masks, because of the contact -- or

1 potential contact is where we -- people are constantly
2 handling their masks, right? So if there is any spread
3 of virus, we're actually bringing their hands to their
4 mask.

5 I have been -- I am unable -- I wear a mask on a
6 regular basis, clearly for some of the, you know,
7 surgical work that I do as part of my research program.

8 I -- when I'm doing the surgical stuff, I do tend
9 to be very careful, you know, very mindful of that.
10 And even there, it's very difficult not to touch a
11 mask, but you're taught, you know, when you're doing
12 surgical work not to touch it. But, otherwise, unless
13 you're doing surgery, I'm not able to -- especially if
14 I'm -- unless I'm focused on it all the time, I'm not
15 able to avoid touching my mask. In fact, the average
16 person cannot talk for any substantial period of time
17 and not have to touch their mask because it causes
18 bunching of the mask, you know, and it pulls off the
19 chin or it pulls off the nose. So there's very few
20 people who get through an eight-hour workday without
21 handling their masks over and over and over and over
22 again.

23 And worse, many people, unlike a surgery, where
24 you would then discard your mask, and then if you have
25 another surgery, you would put on a fresh one, there's
26 a lot of people who keep reusing their masks over and

1 over. So that potentially enhances the contact media
2 transmission. So I just want to be clear on that, that
3 it's not just the aerosol, it's contact media
4 transmission and large droplets. And wearing a mask
5 for the large droplets can handle that, but you don't
6 want to be handling the mask or else you're promoting
7 the contact via transmission. But, again, I highlight
8 that's symptomatic people, and we're screening those
9 individuals out, so they're not supposed to be in the
10 workplace, so that leaves, therefore, just the aerosol
11 media transmission.

12 And so, yes, I agree with you that in the context
13 of the aerosol transmission, an asymptomatic person
14 leaving their home and then donning their mask to try
15 and prevent the aerosol media transmission for all the
16 reasons that I just cited prior to this is not going to
17 be effective at preventing transmission by that route.

18 Q The question that I'm left with and I think many people
19 are if they have the masking in place, and we have the
20 screening in place, and yet what we've seen in the last
21 year-and-a-half that we've had masks, because we didn't
22 have it the first few months of the declared pandemic,
23 the last year-and-a-half that we've had masks, we've
24 just seen the spread increase and increase and increase
25 and increase. And yet, what you're telling me is that
26 it is effective with symptomatic people because it --

1 somewhat because it stops their droplets and spittle.

2 And I'm left with that question, right, of if
3 masks are somewhat effective with symptomatic people,
4 and symptomatic people are supposed to be removed, and
5 it seems like they sometimes are, and yet we still have
6 all this increase in spread, all right, so people --
7 nonscientific people like me are left scratching their
8 head.

9 A Would you like me to address that point?

10 Q Yes.

11 A Yeah, so it's for the reason that we've been talking
12 about is the aerosol media transmission.

13 Q Okay.

14 A So I've cited in my report, there's a large number in
15 there. I mean, that's exactly what was looked at. So,
16 again, just to make this clear, there's a big
17 difference between SARS-Coronavirus-2 and the viruses
18 that we're familiar with. This is why I took some time
19 to investigate it.

20 So what seems to relatively unique about the
21 SARS-Coronavirus-2 is this aerosol media transmission.
22 That's something else they should clarify. Previous
23 viruses historically -- because -- so this is again
24 why, initially, the masking seemed to make sense, but
25 only in the context of symptomatic individuals is
26 because we assumed that the primary mode of spread was

1 the coughing and sneezing and contact media
2 transmission. So that is pretty much what most of the
3 previous viruses and our other viruses that we're used
4 to causing respiratory infections, they usually fall
5 into that category.

6 For the flu virus, for example, that is the
7 primary way by which it is spread. It's not
8 recognized. In fact, it's well recognized that the
9 influenza viruses don't spread very efficiently via
10 aerosols. So that's what's unique to this virus.

11 So, again, like all our historical studies and the
12 masking studies, again, this is a strategy that is
13 designed to stop those kind of respiratory pathogens,
14 and that type of transmission, but not aerosol
15 transmission, and so that's why we've been seeing this.
16 And that's why I say when you take sick people away
17 from other people, that's the most effective way, but
18 the problem is with the aerosol transmission, people
19 are still able to go out there, right, and transmit
20 this virus.

21 And the issue here is with the -- yeah, the
22 masking in particular. So this is something that I
23 hadn't highlighted, which I think is important, because
24 what it comes down to then is what would a protective
25 mask look like or what would really protective masking
26 look like in the context of aerosol media transmission.

1 So as a researcher, this is something that they
2 deal with all the time. My entire laboratory is rated
3 as a Containment Level 2 laboratory, so all of my
4 entire research space. So this is because we work with
5 what's called Containment Level 2 biosafety hazards.
6 So -- and there's a certain amount of protection
7 that -- that we implement to protect us. So these are
8 not particularly -- these are not dangerous; these are
9 not dangerous pathogens; these are not disease-causing
10 agents, or, at most, if somebody were to get a large
11 dose of them, it would cause mild disease at the most.

12 But so -- but what we have to do all the time when
13 we are -- design a research program, I -- we're
14 constantly policed in the sense that I have to get a
15 biohazard permit in order to conduct my research. So I
16 have to describe how I'm conducting my research and
17 what protections are in place to make sure that people
18 aren't put at unnecessary risk from the Containment
19 Level 2 to agents that we work with.

20 The SARS-Coronavirus-2 -- and so I'm very
21 familiar, therefore, with biosafety strategies, right,
22 and personal protective equipment that one would use in
23 these scenarios. And like I said, I've done
24 collaborative research on the SARS-Coronavirus-2.

25 For the one publication that we published recently
26 dealing with the novel vaccine, that involved a

1 challenge study with the SARS-Coronavirus-2, where
2 animals were vaccinated and then challenged with the
3 virus. So that work is done, and it can take -- what
4 we call Containment Level 3. So SARS-Coronavirus-2 is
5 considered a Containment Level 3 pathogen.

6 Now, this is interesting because this then says --
7 so we have -- the Public Health Agency of Canada has
8 told us what the appropriate protection is against a
9 Containment Level 3 pathogen, and I have that in my
10 report. So, in fact -- not people to look at it, but
11 if you want to take a note and look at it later, I
12 would refer everybody to Figure 7 on page 13 of my
13 report, because what I've done there -- what I've shown
14 is a picture of a stereotypical personal protective
15 gear that one would wear to protect themselves against
16 infection with a Containment Level 3 pathogen.

17 And so what I can tell you is -- I mean, it would
18 be laughable if I ever put on a surgical mask or a
19 cloth mask and then asked to go in and challenge our
20 animals with a SARS-Coronavirus-2 wearing that. I
21 mean, I would get myself in serious trouble. I'd
22 probably have my biohazard permit revoked for showing
23 such lack of understanding of personal protective
24 equipment, because I'd be putting myself at incredible
25 risk of being infected with the SARS-Coronavirus-2,
26 because a lot of the procedures that we're doing create

1 aerosols. So if you're pipetting, which is a -- it's a
2 scientific tool for allowing us to deliver precise
3 quantities of fluid; that's known to create aerosols.

4 So a lot the work and manipulation we do -- and
5 we're working with high doses of viruses as well,
6 remember, in those kind of settings with lots of
7 potential for aerosol production, so I'm very familiar
8 with what it takes to protect one from a pathogen
9 that's been aerosolized.

10 And if you can refer to this picture, the first
11 thing you'll notice is the individual has the pathogen
12 in a tube, a closed tube, and these tubes will only be
13 opened inside this special unit that their arms are
14 inserted into. It's called a biological safety
15 cabinet. And if you can see the picture, you'll notice
16 that just in front of the individual's elbows, there's
17 a grate. There's a solid stainless steel surface
18 inside the hood, and what's in the front of it is a
19 grate.

20 And what happens is this has special air flow, and
21 what happens is air actually blasts up from this grate
22 and then up into the cabinet and then goes through a
23 HEPA filter -- actually a number of HEPA filters.
24 HEPA -- so unlike the masking material in the low-cost
25 masks like the surgical masks and the cloth masks,
26 which have very large pore sizes, HEPA filters have

1 extremely small pore sizes that are designed to filter
2 out most pathogens. And so what that air, therefore,
3 is -- so what it does is creates a wall of air in front
4 of you that is basic -- essentially sterile air. So
5 you actually run these things for 20 minutes, so if
6 there's any contaminants in it, after 20 minutes, the
7 air that's running is essentially sterile. So then
8 when you put your arm -- you put your arms in slowly,
9 because you don't want to disrupt the air flow too
10 much. By doing so, you're literally going through an
11 air barrier, so no aerosols can come out of that
12 cabinet.

13 But in case any does, however, say for example,
14 that individual were to make a mistake and insert the
15 arm too quickly to disrupt that air flow excessively
16 and allow a little bit, potentially, of aerosol to come
17 out, that's why they have the rest of the personal
18 protective equipment, the gloves and the gown, is to
19 minimize the potential for contact media transmission.
20 You don't want spills on your personal clothing, right,
21 such that, you know, if you go home, you know, you
22 might be touching your clothing, then touching other
23 things, so that's to protect against that contact media
24 transmission.

25 But you'll notice they don't -- they aren't
26 wearing a cloth mask or a surgical mask; they're

1 wearing a mask -- and as you can see, very different --
2 this is actually a requirement interestingly. I would
3 not be able to go into this facility with the mask
4 that's in this picture. And so if you notice what the
5 difference is between the individual wearing that mask
6 and me, I've got a beard. And so this is very
7 important to note. So if you look at their mask,
8 you'll see it has elasticized material such that it
9 provides a tight seal along the skin everywhere. And
10 then around the hair, you'll see a headband. And then
11 what you see is you see a tube coming out from the back
12 of the -- the headpiece, and what it goes to is a
13 little unit that mounts on the belt at the back of this
14 individual, and this actually actively filters air.

15 So what that -- what that has is has a fan in it,
16 and it has HEPA filters, and so it's actually drawing
17 in air from the environment, from the room this
18 individual is in, passing it through HEPA filters and
19 then into that hood and specifically the face mask area
20 so that what they're breathing is HEPA filtered air.

21 And like I said, so this individual -- so often,
22 people working in these facilities are required to
23 shave so that their mask can actually make proper
24 contact, right? Because right now, I'm allowed to wear
25 a cloth mask right now, and I'm not -- and I like to
26 have a beard, and it's winter time, and I'm not

1 required, but I'll tell you the -- and because I know
2 of the futility of masking in the context of aerosols,
3 but the reality is, you know, if I were to wear a mask
4 right now, I mentioned about how air would escape past
5 the ears and the nose, well, also around my beard
6 because the beard is holding the mask away from my
7 skin, and I can guarantee that my beard has far larger
8 pore sizes in it than the masking material.

9 So I just want to point that out, because that's
10 our own government agency that's designed for telling
11 us how we safely interact with Containment Level 3
12 pathogens, of which SARS-Coronavirus-2 is, that is how
13 one would protect themselves from aerosolized mediated
14 transmission of a Containment Level 3 pathogen, and as
15 I'm sure you can appreciate, it's not a cloth or a
16 surgical mask.

17 Again, I can't emphasize enough that if I were to
18 try to enter this facility and conduct this type of
19 research with that, I would almost certainly have my
20 biohazard permit rescinded and my ability to conduct
21 that type of research removed, at least temporarily,
22 until I underwent training to demonstrate that I
23 understand how to truly protect myself from a
24 Containment Level 3 pathogen.

25 And this isn't just for the individual of course.
26 The key thing, in any of this strategy should be both

1 protecting the individual and also the people around
2 them. You don't want a researcher coming out of a
3 Containment Level 3 facility potentially spreading
4 Containment Level 3 pathogens to the public.

5 Q Is there any logical or scientific reason to think that
6 masks are more effective at preventing transmission of
7 the virus by asymptomatic people in one place than
8 another?

9 A No, no. They're physically -- they're operating based
10 on the same physical principles. Now, I have seen the
11 argument made that maybe the environment can
12 potentially put an individual at greater risk. So, for
13 example, in the health care environment, again,
14 masking -- the physical protection conferred by a mask
15 doesn't change based on the environment that they're
16 in, but the potential risk of exposure does.

17 So a health care worker working with actively
18 infected individuals certainly might be at increased
19 risk of potentially being exposed. All the more reason
20 why I would argue that they actually need proper
21 protective equipment, so beyond the cloth mask, like
22 something that would actually be designed to filter out
23 this, and those are things that could not be worn for
24 long durations of time. That would, for example, be
25 like a rubber mask that could be fit-tested, again, to
26 seal on the face; you wouldn't be allowed the beard,

1 and would have -- potentially the filters mounted to
2 it. But you'll find that those devices, very difficult
3 to breath with those devices for long periods of time.
4 But that's the type of thing that might be appropriate
5 in those settings. So, no, this type of masking isn't
6 going to help in different settings.

7 But what I want to point out is -- so one of the
8 things I noticed actually in Dr. Hu's report is that he
9 brought this up in terms of health care workers. I
10 mean, I'm no expert with chiropractors, but I agree
11 with him that a health care worker working -- and he
12 used the example of people who are -- were known to be
13 actively infected and potentially infectious with
14 diagnosed COVID-19. Where, I guess, I differ on
15 this -- and, again, I'm not an expert in the world of
16 practicing as a chiropractor, so I could be
17 corrected -- but my understanding is that the average
18 chiropractor is not being expected to work with a
19 symptomatic COVID patient, diagnosed with COVID-19, so
20 I would -- especially in that case, I wouldn't have a
21 concern.

22 If -- so if a health care worker is working
23 with -- is asymptomatic, and the patient they're
24 working with is asymptomatic, having a mask just
25 doesn't seem to make logical sense to me. A mask that
26 is designed to effectively prevent transmission because

1 of lack of sickness doesn't make sense to me.

2 Q Forgive me, you've answered so many of my questions, I
3 have to do a bit of a review here.

4 Okay, so I'm going to ask a couple questions here
5 about aerosols and droplets, and then I think maybe we
6 can leave that behind, because there seems to be
7 contention on this. Would you say that the balance of
8 the available academic literature supports aerosol
9 transmission?

10 A So this is interesting, the -- it's debatable. This
11 aspect is debatable about the aerosol-mediated
12 transmission. Certainly without the act of coughing
13 and sneezing, it would be difficult to get a, again, a
14 threshold dose needed to infect somebody out with the
15 aerosols, and there was -- earlier on, in order to
16 explain this spread and the spread despite masking,
17 that that's where a lot of the publications were geared
18 towards were showing this aerosol-mediated
19 transmission, that's been questioned now as well. So
20 it's actually a little bit difficult to say
21 definitively, based on the scientific literature, it's
22 an active area of debate I would say.

23 And like I said, especially because, as we now
24 have two years of experience and despite this strategy
25 having been implemented throughout the duration, right
26 from the beginning, but the ongoing spread of

1 increasingly --

2 (AUDIO/VIDEO FEED LOST)

3 MS. NELSON: Sorry, I don't mean to
4 interrupt, but Dr. Martens has dropped off the call, so
5 if we could just pause until I get her back, please --

6 A Yes.

7 MS. NELSON: -- that would be great.

8 Q MR. KITCHEN: Thanks, Dr. Bridle.

9 Dr. Bridle, I welcome you to continue.

10 A Okay.

11 Q But I just want to make sure I have this right, are
12 there three potential or likely areas of methods of
13 transmission: Droplet, aerosol, and contact; is that
14 accurate?

15 A Yes.

16 Q Okay.

17 A Now, I guess, yeah, in the context of SARS-CoV-2. If
18 we're talking about pathogens in general --

19 Q Right.

20 A -- (INDISCERNIBLE) like sexually transmitted diseases,
21 but, yes, certainly SARS-CoV-2, for example --

22 Q Yes.

23 A -- those would be the three primary potential modes of
24 transmission.

25 Q Okay, well, let me ask you this, and, again, you can
26 continue going on about aerosols and droplets and all

1 that, but I -- what, if any effect on contact
2 transmission do masks have?

3 A Potentially increasing it for the very reason that I
4 said. I have -- I mean, I'm not going to excuse any
5 individual, because there might be individuals who,
6 miraculously, are able to wear a mask for very long
7 periods of time and never touch it. I'm not going to
8 say that's an impossibility, but I have watched
9 hundreds of people throughout this pandemic, you know,
10 because it's an area of interest of mine, because
11 everybody's been instructed to not touch their masks
12 because of the acknowledgment that there's
13 contact-mediated transmission. I know it's in Dr. Hu's
14 report that he -- you know, he mentioned that as a key
15 potential way to transmit.

16 And I have yet -- I have yet to observe any
17 individual who has not touched their mask multiple
18 times within certainly let's say within an hour. I
19 have not once seen anybody not touch their mask
20 multiple times during a one-hour span. And, again,
21 it's just natural with these masks. There are masks
22 that are designed to stay in place. Again, if you
23 refer to Figure 7 that I have in my report, that type
24 of mask will stay in place; it's got very firm
25 headbands, and it's designed to, you know, to seal.
26 It's got -- you'll notice that the material, if you'll

1 notice the material, it's elasticized, and it's
2 flexible. So, for example, this individual would be
3 able to talk, you can envision his jaw moving up and
4 down, and all the material that's attached to the
5 plastic face shield, it is flexible -- or not flexible
6 but loose enough that it allows that movement.

7 And see the differences with the mask, if I'm
8 talking to you -- if I put on a mask right now, as I'm
9 talking to you, within -- I don't exact time, but
10 probably within 30 seconds, the mask, again, will have
11 migrated off my nose or off my chin, and I'll have to
12 do an adjustment. So unless you're sitting with these
13 masks, never use -- never chewing, like not chewing on
14 gum, not talking, it's going to be very difficult. And
15 even at that, you know, people get itchy noses and so
16 on. And depending on how they take their masks on or
17 off, there's actually -- I mean, there's proper
18 training procedures even for putting masks on and off.

19 Especially for surgery, right, you want to keep
20 everything sterile, you want to keep your gloves
21 sterile, you want to keep any masks that you put on
22 sterile, right? So the proper thing would be just to
23 handle the mask by the straps that go over the
24 earpiece, right, and nothing else. But people, all the
25 time, are grabbing their mask, you know, or taking
26 their mask and grabbing it, you know, and stick in

1 their pockets or whatever. This is not the way these
2 masks were designed to work.

3 Again, originally, remember, these masks came out
4 of the concept of surgery and trying to make -- keep
5 surgical fields as clean as possible. And if you watch
6 how a surgeon dons and doffs their surgical equipment,
7 including their mask, it's very different from what the
8 average individual is right now, because we haven't
9 trained, we haven't trained the general public in that
10 kind of, you know, what we'll call sterile technique.

11 So, no, wearing a mask in an inappropriate
12 environment can potentially cause more harm. Again,
13 I'm not concerned. I'm not concerned about that
14 contact media transmission if the person isn't
15 symptomatic.

16 Q Right, so but, you know, I've heard you say, obviously,
17 the masks don't work for asymptomatic, but I've heard
18 you say they kind of work for symptomatic because
19 they'll stop the droplets, but, in your opinion, do
20 masks -- are they a net contributor to spread or a net
21 inhibitor of spread when you balance out the
22 contribution to contact spread with the reduction of
23 droplet spread?

24 A Okay, so I would think that the net would be
25 potentially enhancing for the -- again, for -- again --
26 and if it's an asymptomatic individual. And the reason

1 is if there is any --

2 Q Hold on, asymptomatic or symptomatic?

3 A The -- well, in both cases, right, they're going to do
4 something for the -- well, again, if somebody's not
5 sick, then I'm just not worried in general. If
6 somebody is shedding the virus, if that's the scenario
7 where somebody is shedding a virus, I think it's going
8 to have a net negative result. And that's because,
9 again, it's not designed to filter out the aerosols.

10 What happens when people put a mask on, there's
11 well-established behavioural changes that occur, right?
12 When we feel -- when we feel more protected, we tend to
13 behave -- it's human nature to tend to behave in
14 riskier ways.

15 So it's interesting, this is interesting: I play
16 hockey, for example, I'm an ice hockey goaltender.
17 Now, so one of the things is if you want to -- if you
18 want a contact game -- or, sorry, a contact-free game
19 of hockey, one of the general rules of thumb is you
20 don't have people put on -- you put -- you have them
21 put on the minimal amount of safety equipment. And
22 what will often happen is because, following -- what
23 often presents a very danger to the elbows is the elbow
24 pads, but a lot of people will not wear the shoulder
25 pads, because that's not a particularly risky area.
26 And one of the reasons is is because it's

1 well-established behaviour, if you load yourself up
2 with armour, you tend to be more risky in your
3 behaviour, potentially more aggressive in a sport like
4 that. And it's not different than everything.

5 And so what happens is when people -- when -- this
6 is the problem, see if people mask, and they understand
7 the limitations, they understand what they're designed
8 for, where their strengths are and where their
9 weaknesses are, you're fine. But the general messaging
10 that people have received is that these masks are
11 fabulous at preventing the spread of this. And so when
12 you have that program in your mind, As long as I have
13 my mask on, I'm not a risk now to anybody else, and
14 they're not a risk to me; what you inevitably see is,
15 on average, masked people will tend to interact closer
16 than people who are unmasked, and that's just the
17 reality.

18 And so if there is aerosol mediated transmission,
19 if you're, on average, interacting in closer vicinity
20 with somebody, there's the potential for greater
21 aerosol mediated transmission than if you're not
22 masked, you don't feel that, you know, (INDISCERNIBLE)
23 extra protection.

24 And so that's what I argue, as a scientist, I
25 mean, when I wear it, I know that it is -- you know, so
26 I wear them because I have to when I go to the grocery

1 store and everything, but I recognize that they're not
2 properly protecting against aerosol mediated
3 transmission. And so if there can be aerosol mediated
4 transmission, of which is active debate in the field,
5 you know, I recognize -- I'll stay in my -- you know,
6 far away from individuals. So that's one -- that's one
7 potential harm.

8 So, yes, the net effect on average is the average
9 person who is masked won't maintain as much distance,
10 and so if they are transmitting, that could potentially
11 be an issue. And then the other is that the contact
12 that I just mentioned with the mask.

13 So, again, I simply -- I just am not concerned
14 about asymptomatic or healthy people, period. But --
15 so -- but if anything, the net result of masking --
16 that's what I'm saying is especially if you're
17 symptomatic, that's where the mask can stop the
18 droplet -- the droplets, but there especially, you have
19 to be very careful. Again, you know, if you're going
20 to the workplace in, like I said, that I have, I have
21 multiple masks that I change regularly, and, again, I'm
22 mindful because I've been trained in this concept of,
23 you know, sterile technique in the microbiological
24 world and thinking from that perspective; because
25 especially if you're symptomatic, you are spewing
26 droplets into that mask, and it's getting soaked, and

1 it will soak through. This is material that's
2 absorbant. You can think, especially with a cloth
3 mask, it'll soak right through. And you can see
4 that -- the wet stains. And so if you're grabbing that
5 mask, you're going to dramatically enhance contact
6 mediated transmission and -- and you have to be, again,
7 mindful that when you have that mask on, although it's
8 effective with the large water droplets, you don't want
9 to go closer to people than necessary.

10 So, yes, you have to be very careful with masks:
11 You have to recognize the strengths, their limitation,
12 and you have to maintain other strategies that are
13 independent from the mask. And by that, I mean, again,
14 recognizing the inherent weaknesses of the masks and
15 so, you know, not grabbing them, you know, not touching
16 them and then, you know, touching others and that type
17 of thing.

18 Q So in your opinion, is this part of the reason why,
19 after a year-and-a-half of masking, the cases and the
20 infections just keep going up?

21 A Yes, yeah. It's ineffective in the context of
22 controlling the spread of SAR-Coronavirus-2. Again, I
23 can't emphasize that enough. I use my own workplace as
24 an example. We've prided ourselves on the fact that
25 well over 99 percent are vaccinated, and I can tell you
26 that the messaging both from the president of my

1 university and the Medical Officer of Health, who has
2 presented in multiple town halls, have told us,
3 although, again, it's -- this is -- it's often
4 difficult to comment as a scientist, because there's
5 the publicly acknowledged message, and then there's my
6 message as a scientist, but --

7 So their message has been that the vaccines are
8 excellent at protecting people, break-through
9 infections are very rare, and it either prevents
10 transmission or reduces that -- the number of viral
11 particles that get transmitted, so excellent at overall
12 trying to prevent transmission. So that's my campus
13 community, more than 99 percent fall into that
14 category.

15 And -- but everybody is still doing the exact same
16 masking and the physical distancing, and yet
17 SARS-Coronavirus-2 has ripped through our community.
18 We recently had two -- two of our residences with
19 outbreaks, declared outbreaks of -- so, you know --
20 and, again, I always find it difficult. So the public
21 messaging was those are outbreaks of COVID-19. What
22 they really were outbreaks of people identify -- who
23 had positive test results for SARS-Coronavirus-2. I
24 can tell you the majority of the students, you know, we
25 had no deaths. The vast majority of the students had
26 mild cold-like symptoms for a couple of days.

1 I can also give you the example at my son's high
2 school, the same Medical Officer of Health recently
3 declared an outbreak at his school. One of the cases
4 was confirmed, where sequencing was done, to confirm
5 that it was Omicron. And so the whole school was shut
6 down, right, and everybody went home. In that case,
7 the individuals both had -- they reported mild
8 cold-like symptoms for three days and then recovered.

9 But the whole point being in that school again,
10 this is high school, so they've been actively promoting
11 vaccination. It's not nearly close to a hundred
12 percent, like in the university, where it's been --
13 people are not allowed on campus if they're not
14 vaccinated, but a large profession, and masking every
15 day, right?

16 So this is all evidence -- and so that -- and
17 again, I'll emphasize again, Omicron, that wave in
18 terms of the number of people who tested positive for
19 SARS-Coronavirus-2, it dwarfed, I mean, it shattered
20 all previous records, you know, that we had in all
21 previous waves, and this is despite not only the
22 masking and the physical distancing that was there from
23 the beginning but added to it what we hoped was this
24 super strategy of vaccinating everybody. So even with
25 that thrown on board, the masks have not stopped the
26 spread.

1 So my professional opinion is and has been from
2 the beginning that the way we're using these masks is
3 not appropriate, it's not going to stop the spread, and
4 worse, that there are harms. Again, I am not concerned
5 in the context of symptomatic [sic] people, the masks
6 necessarily promoting harm of spread because they're
7 asymptomatic, they're not sick, but there are inherent
8 harms to the mask itself, to individuals wearing them.

9 Would you like me to talk about that at all; is
10 that something that's relevant?

11 Q Well --

12 A I have that in my report. I have it in my report if
13 you're interested.

14 Q No, and I see that. Well, I mean, you seem to talk
15 about -- well, let me ask you this: This fact that
16 masking potentially actually increases the spread of
17 SARS-Coronavirus-2, would you identify that as a harm?

18 A Yes.

19 Q Now, I know you identified the harm of low oxygen
20 levels, but you also, which I found interesting, you
21 mentioned the harm of muffling speech and inhibiting
22 communication between individuals. Do you identify
23 that as a significant harm?

24 A Yes, yeah. So I live in the world of special needs. I
25 have two children with special needs, one of them does
26 have speech difficulties. He has Down Syndrome, so I'm

1 around individuals with special needs all the time.
2 I've interacted as a parent supporting work done by a
3 speech therapist. And one of the things that I can
4 tell you that has been particularly difficult, his
5 speech through the speech therapy and also through
6 sheer hard work, especially through my wife, his speech
7 has dramatically improved, but this improvement has
8 largely happened over the last couple of years. You
9 know, he's in his formative years, he just turned 12.

10 It was exceptionally frustrating for him early on
11 in the pandemic and frustrating us as parents to
12 observe, because what a lot of people don't realize
13 that when it comes to Down Syndrome, a lot of
14 individuals have difficulty speaking. The best way to
15 explain or for people to experience what it's like if
16 an individual has Down Syndrome to try and speak is
17 there's physical reasons for this. They tend to have
18 smaller than average mouth cavities and larger than
19 average tongues, size of tongues, often length. So I
20 mean, my son, if he sticks out his tongue, a little bit
21 like a snake, so long, but also very thick, and this
22 combines to make it hard for them to speak like many of
23 us. Again, it's difficult for him to physically get
24 his tongue behind the teeth or the roof of the mouth,
25 for example, because of the length and because of the
26 size. So it's like if we were to stuff a couple of

1 marshmallows in our mouth and then try and talk, it
2 muffles the speech.

3 So he had difficulty being understood at the best
4 of times, and with the mask on, that further muffles
5 the speech. So he went through a period where he
6 progressed so well with his communication in school,
7 and all of a sudden, for a long period of time, his
8 teachers lost the ability to understand him for quite a
9 while, and he had to learn with the mask to speak
10 louder and to learn to annunciate even better to get
11 that back.

12 So it was very hard for that -- to see that step
13 backwards. You know, you have to understand for an
14 individual, especially a young person, to lose the
15 ability to communicate your thoughts and feelings
16 becomes very difficult. So that's just an example on
17 that side.

18 Even in terms of muffling the speech, so, again,
19 I'll give an example to try -- you know, to try and
20 convey, you know, an example of -- that we might be
21 able to familiarize ourselves with. I personally like
22 watching professional basketball. The Toronto Raptors
23 are my favourite team. If anybody has watched the
24 Toronto Raptors, one of the things that you'll know is
25 that their coach, Nick Nurse, has got himself into
26 trouble multiple times throughout the pandemic. He

1 always wears the mask, and he's always taking his mask
2 off, and he gets in trouble for it, you know, people
3 from the public complain that he's not wearing his mask
4 or not wearing it properly. And the reason he gives
5 every single time is he's the coach, he's trying to get
6 critical instructions to his players, and they can't
7 hear him or understand him. And you'll see it, it will
8 be in the heat of the moment of a game, and he's trying
9 to get instructions to his players, and that's when he
10 pulls his mask off and is giving instructions to his
11 players, and then he'll put it back on.

12 And that's the case, you know, we've all -- I'll
13 tell you in the context of teaching, we've really had
14 to adopt the whole concept of using microphones,
15 because it's even very -- more difficult to project our
16 voices to the back of the classroom. So, yeah, muffled
17 speech definitely has that in impairing the ability to
18 communicate.

19 MR. MAXSTON: Dr. Bridle and Mr. Kitchen, my
20 apologies for interrupting, but I think we've gone a
21 little far afield of the qualifications of this expert
22 when we're talking about communication. We're here to
23 talk and hear from him about transmission and efficacy
24 and those kinds of things. I'm not trying to be
25 unsympathetic to your comments, Dr. Bridle, but I think
26 you haven't been called as an expert to talk about

1 those things.

2 A Can I comment about the specific comments I had in my
3 report?

4 MR. MAXSTON: I'll leave that up to the
5 Tribunal. It depends on what question Mr. Kitchen asks
6 of you, but, again, I'm not trying to be difficult
7 here, but you were qualified to speak about the
8 transmission and efficacy of masking and physical
9 distancing, and I don't think we're here today -- I'm
10 not trying to be difficult, but I don't think we're
11 here today to talk about communication problems --

12 A Okay --

13 MR. MAXSTON: -- and those types of things.

14 A -- and I respect that. I'll wrap up then with
15 something that definitely is in my realm of expertise,
16 so --

17 MR. MAXSTON: I'll let Mr. Kitchen decide
18 what he wants to ask you next maybe, but I just wanted
19 to be clear we shouldn't go too far off what you were
20 called to testify about. So I might have an objection
21 to what you're about to say too, if it's going to be in
22 the same vein.

23 MR. KITCHEN: Well, let me jump in. I have
24 two comments: One, Mr. Maxston, let me know if you're
25 going to apply to strike that, because we'll have to
26 deal with that. Two, it doesn't take expertise to do

1 what he's doing: He's observing reality as a
2 scientist. You know, if he told me that clouds were
3 made out of water droplets, it's the same as saying
4 that masks muffle speech. So I don't think it requires
5 any expertise, but, nonetheless, I take your point.

6 Q MR. KITCHEN: So, Dr. Bridle, let me ask you
7 this: What would you identify as the three most severe
8 harms of masking? Oh, hold on, you're muted.

9 A Okay, yeah, I listed quite a few. Let me just go to
10 these points if you don't mind.

11 Q Yeah, I'm on page --

12 THE CHAIR: Excuse me, Dr. Bridle, what
13 page are you on in your report?

14 A Actually, I'm looking for the page right at the moment.
15 Okay, so page 8 would be one. So page -- I've listed
16 my concerns about the masking and potential harms on
17 page 8, and then also I would like you to refer to page
18 14, where I have some additional ones, and one that I
19 would highlight perhaps is one of my biggest concerns,
20 as Mr. Kitchen had indicated.

21 First of all, related to this, there's something
22 that I was hoping to have the opportunity to say, it's
23 directly related to this, in the expert report from
24 Dr. Hu that I was able to look at, there was an
25 accusation made against me actually with respect to
26 these harms. Can I just address that for a moment?

1 Q MR. KITCHEN: Well, that's fine with me, but
2 my friend might take issue with that, and I can
3 understand why.

4 MR. KITCHEN So, Mr. Maxston, I was going
5 to ask him a question on that. If you want me to hear
6 him [sic] ask the question, I can do that if that's
7 helpful to you.

8 MR. MAXSTON: Well, that might be helpful.
9 I think it's fair for your client to comment on
10 Dr. Hu's report, but I think it depends on the extent
11 of your question or the type of your question.

12 A Okay, what I would like to do, if you don't mind, I'll
13 just read something of the report and then see if
14 you're okay with me just commenting on it. Just let me
15 find this when it comes to the dangers.

16 Q MR. KITCHEN: Well --

17 A Okay, yeah, so the comment that I want -- the thing I
18 want to comment on is in the -- Dr. Hu's report on page
19 8, the one, two, third paragraph down. He says: (as
20 read)

21 Lastly, both Dr. Dang and Dr. Bridle make
22 unsubstantiated claims that there are
23 numerous harms associated with masking.

24 And then states: (as read)

25 There are no known harms associated with
26 masking.

1 So that is what I was hoping to respond to.

2 Q Yes, well, I'll let you respond however you like,
3 but -- well, let me ask you, I take it you would say
4 that claim is inaccurate?

5 A Yes, and I provided scientific citations to demonstrate
6 that that I'd like -- there is one in particular I'd
7 like to highlight that is clearly within my realm of
8 expertise, and it's a serious concern that I have.

9 Q And I want to hear your comments to that, and I --

10 A Okay.

11 Q -- invite you to, but I want to also ask you this:
12 That claim coming from a public health doctor, is it
13 merely inaccurate, or does it rise to the level of
14 willful ignorance?

15 A Well, yeah, that's -- yes, that's why I wanted to
16 comment on it, and also accusatory, indicating that
17 we -- you know, that we -- suggesting that we have
18 failed to -- or that I have somehow failed to
19 demonstrate harms associated with masking.

20 And, yeah, because there's numerous -- there are
21 numerous potential harms with masking. So I guess
22 this -- yes, and so I'll highlight. So if you like, I
23 can pick three. I can think of two right off the top
24 of my head, and I can look through the list.

25 But I guess what I would do is bring people to the
26 attention of those two pages, because I list numerous

1 potential harms on page 8, and I mention several more
2 on page -- as I said, page --

3 Q 14?

4 A -- 14. So it isn't that I failed to identify, and
5 these are substantiated, and I have peer-reviewed
6 scientific publications to back them up, so this --
7 yeah, that's what I just wanted to mention is that is,
8 I feel, a very untruthful statement and accusation
9 against me.

10 So let me go on to some of the major concerns.
11 I'll start with the hygiene hypothesis. So I just had
12 been asked to comment on harms with the mask, so this
13 one focuses on children. But what people need to
14 understand, and I wrote an article about this early
15 on -- after one year into the pandemic. I wasn't
16 concerned when we were told it was two weeks, you know,
17 and that was the original warning, even if it was a few
18 months.

19 But after a year, I expressed this serious
20 concern. It used to be called the hygiene hypothesis,
21 but the concept is this is that we're designed to
22 interact and interface with our microbial world. It's
23 absolutely required for proper physiological
24 development. For example, many people have shown --
25 and this has been shown with what we call
26 gnotobiotically delivered animals, so animals that have

1 no microbiome whatsoever. Behaviours are fundamentally
2 altered. They have the -- the development of the
3 central nervous system is altered. But one of the key
4 things is the immune system does not develop properly
5 if we don't have proper interaction, as we are growing
6 up with the microbial world.

7 So a lot of people don't realize when we're
8 born -- so, first of all, when we're born, we are
9 immunologically naive. Unless there was some kind of
10 in-utero infection, meaning infection of the fetus
11 while in the mother, then when born, the vast majority
12 of us are immunologically naive: We have not been
13 exposed to anything in the microbial world up to that
14 point.

15 But further -- so that means that our immune
16 system learns to interact with the immune system
17 following birth. Further, and because of that -- and
18 actually because of that and to have that opportunity
19 to learn what is dangerous and what is not dangerous in
20 the microbial world, our immune systems do not reach
21 full maturity, they are not fully developed until about
22 the age of 16, and the vast majority of that
23 development occurs between birth and the age of 6

24 And what we know is that if and especially young
25 people are not allowed to be exposed on a regular basis
26 to the microbial world, their immune system does not

1 develop properly, specifically the ability to
2 differentiate between the non-dangerous microbes that
3 we encounter all the time and the genuinely dangerous
4 pathogens. And it's only the latter we want to respond
5 to, because if you can imagine if we -- if our immune
6 system is what we call dysregulated, and it thinks that
7 non-harmful microbes are worth responding to, that's
8 very dangerous, because we have non-harmful microbes
9 all over and inside our body.

10 An individual who responds inappropriately, for
11 example, to -- and it's -- and it's many things, it's
12 in our environment, it's even the food that we sample,
13 the air that we breathe, the dust particles that we're
14 exposed to in the environment. If we're not adequately
15 exposed and our immune system learns to tolerate these
16 things, not respond, then we can end up with problems
17 like chronic inflammation in certain locations.

18 So, for example, if somebody were to develop a
19 food allergy, right, that food is something we should
20 be tolerized against, that you're going to have chronic
21 inflammation in the gut when exposed to it, or if you
22 haven't been properly exposed to the environment, so,
23 for example, a lot of people who are mainly -- you
24 know, grow up in urban areas might have more of a
25 propensity towards things like hayfever, because when
26 young and their immune system was learning to

1 differentiate the dangerous things in our environment
2 from the non-dangerous things, they weren't exposed to
3 some of these things that you're exposed to in a rural
4 environment.

5 And so what -- and so this is very important, and
6 the reason why this is important is because one of the
7 things that masks are exceptionally good at filtering
8 out are large particles, like I said, large water
9 particles, that also includes dust particles, so
10 environment -- things we are exposed to in the
11 environment that are not dangerous and also bacteria,
12 especially bacteria. And a lot of this development is
13 not actually around the virome that populates the body,
14 but it is, in fact, the bacterial.

15 So, for example, in these gnotobiotic animals that
16 have no microbiome whatsoever, if you want to correct
17 the behavioural deficits that they will develop and the
18 immunological deficits, we can repopulate their gut,
19 for example, with a lot of these what we call like
20 probiotic bacteria, the same ones you would get in
21 yogurt, like lactobacillus, for example, so it's
22 largely these bacteria, these non-harmful bacteria that
23 allow us to, you know, to educate our immune system.

24 Without that, what happens is a child's immune
25 system tends to become dysregulated, never learns to
26 differentiate properly, and individuals are at a much

1 enhanced risk of developing autoimmune disease --
2 anything that's disassociated with an improperly
3 regulated immune response. So allergies, which is
4 responding to non-dangerous things in our environment
5 and causing inflammation against them; asthma is when
6 you're responding to inert things in the air that you
7 inhale and responding inappropriately to those, that
8 cause asthma; and autoimmune diseases.

9 And so, and we know this is the case, because so,
10 for example -- and this is largely looking at those who
11 grew up largely in urban centres versus those who grew
12 up on farms. Those who grew up on farms are much more
13 exposed on a regular basis to a rich microbial
14 environment. And so those who grew up in these urban
15 area -- or, sorry, rural areas have a much lower
16 incidence overall of allergies, asthma, and autoimmune
17 diseases.

18 And so by -- so, again, by putting these masks on
19 children, first of all, they're not at high risk of the
20 most severe outcomes of SARS-Coronavirus-2, and I've
21 already explained one of the physical reasons, they
22 just don't -- simply don't express the receptors at
23 nearly the concentration that adults do in their lungs
24 that the virus uses to infect. But we have put masks
25 that are effective at isolating their lungs from the
26 microbial environment, and we, of course, isolated

1 them, kept them away from their friends, a lot of
2 family members, and a lot of social interactions.
3 Literally, for children, it's a good thing to get
4 dirty, to get dirty, to have dogs lick their faces, to
5 hug other people, that their immune systems need to
6 interact with other microbiomes in order to develop
7 properly. So that is an immunological concept that
8 long-term masking -- and, again, nobody has any
9 concern. I mean, kids get sick, and maybe they're at
10 home, relatively isolated for a couple of weeks. It's
11 not a problem if it's a couple of weeks or it's a
12 couple of months. But once we start -- I wrote my
13 article first about my serious concerns about that a
14 year in. A year is getting too long. A year is a
15 substantial amount of immunological development in a
16 young person. And now we're at two years with no
17 current end in sight. So that is a serious potential
18 harm. By masking children, we are potentially, there's
19 no question, we're going to have an unknown number of
20 children with allergies, asthma, and autoimmune
21 diseases in the future, and they're going to have those
22 for the rest of their lives because we masked them for
23 two-plus years. So that's one.

24 And then I guess another one that I would mention
25 is this idea of carbon dioxide, because this is just
26 intuitive, so, you know, fire fighters have the

1 equipment to do this. At my university, we have the
2 ability to do this, look at CO2 levels, and we often do
3 that when looking at how we adjust the air change rate
4 in our rooms, especially the work rooms we work in a
5 lot, like the laboratory space that we're in, the
6 animal research rooms that we're in.

7 And so if you monitor the carbon dioxide level in
8 front of your mouth without a mask and then with a mask
9 on, it goes up. And this makes intuitive sense,
10 because what you're doing by putting a mask on your
11 face is you are restricting, you know, the free flow of
12 oxygen. What you're doing is you're creating an
13 additional dead space. When we exhale, when we exhale,
14 there's always dead air. We cannot get all of the air
15 out of our lungs, and we can't get all of the air out
16 of our mouth. That's dead air. When we inhale, that
17 dead air, when there's not been fresh air exchanged,
18 gets inhaled back into the end of the lungs.

19 By -- so by putting on a mask, you're extending
20 that dead air space a bit, and so it does increase the
21 carbon dioxide level a little, not a lot, a little, and
22 this creates a condition of very mild hypoxia, it's not
23 severe hypoxia, but if you have high carbon dioxide,
24 then the net result is you have slightly higher --
25 lower oxygen levels. But, again, slight changes in
26 oxygen concentration we know can have profound

1 physiological consequences.

2 So, for example, on the positive side, endurance
3 athletes, especially if they know they're going to have
4 to compete at a higher elevation will often go to train
5 in areas with a higher elevation. There's not a
6 massive change in the oxygen concentration, but by
7 going there for a long period of time, being exposed to
8 that lower oxygen concentration and training in that
9 environment, their body gets more efficient at the
10 oxygen exchange. Then they can perform better in the
11 sporting activity at a higher elevation.

12 But so we're kind of expecting this from
13 individuals. So we're putting masks on -- again, I'd
14 like to emphasize, masks make sense if you're going to
15 wear it to go into work for, you know, a little bit of
16 time because you have to meet a deadline, but you're
17 sick. They make sense when you're doing surgical
18 procedures. You're doing a limited procedure, you
19 leave, you take the mask off. They're not designed to
20 be left on for long periods of time and exposing people
21 to chronic low levels of hypoxia.

22 And, again, I'd like to highlight this is just
23 kind of intuitive in the sense that -- like I know for
24 myself, if I wear -- and I wear masks all the time
25 except for surgical intervention stuff, but if I wear a
26 mask for several hours, I start developing a headache,

1 constant thing and consistently. I need to take a
2 break; I need to get out in the fresh air.

3 And I would encourage anybody, if -- just focus,
4 put on the mask and go outside, because often that's
5 where the air, you know, seems the freshest and
6 everything, keep your mask on and take several deep
7 breaths, right, and pay attention to what it feels
8 like. Then take that mask off and take in a big deep
9 breath; it feels so refreshing. And that's why,
10 because we are impacting, albeit to a small degree, our
11 ability to gas-exchange, by taking off that mask, we're
12 removing some of the dead air space that we've created;
13 we're reducing the dead air space.

14 And this has -- because we've never done this for
15 such a long period of time, we simply don't actually
16 know the extent of harm that we might be causing,
17 especially to developing children again, I'd like to
18 highlight, right, this constant, prolonged exposure to
19 low-level hypoxia it might be causing.

20 So I think I'll leave it at that, if that's okay,
21 Mr. Kitchen. I -- I mean, I could look through and
22 provide another one, but those are probably my two top
23 concerns at this point in general.

24 Q Thank you. I am going to try to bring you through
25 pretty quickly, I want to give my friend a chance to
26 cross-examine, and we are down to, you know, roughly

1 only two hours left.

2 MR. KITCHEN Well, Mr. Maxston, let me ask
3 you this because I want to be mindful of this. How
4 much time do you think you're going to want for
5 cross-examination?

6 MR. MAXSTON: Mr. Kitchen, I expect I'd
7 be -- and this is not a criticism of Dr. Bridle, but he
8 seems to give expansive answers -- so thank you,
9 Dr. Bridle, for that -- I would anticipate 20 minutes,
10 maybe a little longer just because of the nature of the
11 answers, but I don't think I'll need terribly long.

12 I'll leave it up to you in terms of how much you
13 think you'll want to be, but it may be time to take a
14 break right now as well, given how long you've been
15 asking questions.

16 MR. KITCHEN: Yeah, yeah, I agree.

17 THE CHAIR: Yeah, it's, by my watch, 5 to
18 3, so let's take 15 minutes, and we'll come back at 10
19 after 3 and resume then, okay?

20 MR. KITCHEN: Thank you.

21 THE CHAIR: Just a reminder, Dr. Bridle
22 you're still under oath.

23 (ADJOURNMENT)

24 THE CHAIR: And, Mr. Kitchen, we'll turn
25 it back to you.

26 MS. NELSON: Sorry, Mr. Kitchen, we can see

1 you talking, but we actually can't hear your audio.

2 MR. KITCHEN: Sorry, I have a mute button on
3 my mic, so I apologize, so you missed --

4 MS. NELSON: No worries.

5 MR. KITCHEN -- the last 10 or 15 seconds,
6 sorry.

7 Q MR. KITCHEN: Dr. Bridle, I just have some
8 specific questions about comments that Dr. Hu has made
9 both in his report and in questioning.

10 Dr. Hu has stated that every country that has
11 imposed masking has experienced decreased transmission
12 of COVID; do you disagree with him?

13 A Yes, I do. I'll point out again, you know, like -- you
14 know, my expertise isn't epidemiological per se, but as
15 a researcher, I certainly am qualified to look at the
16 scientific literature and interpret some basic data.

17 I do know of numerous countries where the opposite
18 is true. And, in fact, when we look at the United
19 States, we see states where that trend is the opposite
20 as well. I know that Dr. Hu did not like the example
21 of Sweden, but I mean that is an example. He didn't
22 seem to cite any science to -- he just said it's, you
23 know, complex to interpret the reasons for observing
24 differences, but, nevertheless -- and he didn't dispute
25 either that Sweden is a classic example of, you know, a
26 country where they went the natural immunity route, and

1 seem to have done just fine, and there's other
2 examples. But, yeah, so, in other words, that all we
3 need is one example to say that that is not true. So I
4 do disagree with that overgeneralization.

5 Q You just called it an overgeneralization. So is that a
6 fairly absolute statement?

7 A Could you remind me what page of that report is it on,
8 just so I can look at it myself?

9 Q I'm quite sure he said that in questioning, not in his
10 report.

11 A Oh, can you repeat --

12 Q I do know --

13 A -- (INDISCERNIBLE) --

14 Q -- that he said it --

15 A -- so could you repeat it again, please?

16 Q So he said that every country that has imposed
17 mandatory masking has experienced decreased
18 transmission of COVID.

19 A Okay, so, yeah, that's not an overgeneralization,
20 that's incorrect. Again, when somebody has said
21 "every", and all we need is one example where they
22 didn't do it, and the -- you know, the outcome has been
23 fine, like Sweden, so that makes it not just an
24 overgeneralization, it makes it incorrect.

25 Q Do you find it unusual that he makes such an absolute
26 statement?

1 A Yes. So in the sciences -- so I even mentioned this
2 before when I was giving examples of -- when we were
3 talking about asymptomatic and transmission, right,
4 I -- there is asymptomatic transmission. It's not
5 common, and it's not a driver in this. And when I
6 mentioned, when I talked about that, is when you're
7 dealing with biology, there are no absolutes. Biology
8 is not an absolute science. It's not black and white.
9 It's not like mathematics, it's not like chemistry,
10 it's not like physics.

11 Biology, there are general ways that, you know,
12 biological systems function, and there's almost always
13 exceptions to the rule. So there's what the dominant
14 biology is, and then there's always exceptions to the
15 rule. So very rarely, if ever, can you make definitive
16 statements like that when it comes to biology,
17 especially when you're talking about fairly complex
18 biology. Because here, we're talking about -- we're
19 not even talking about one biological system, like
20 people, like humans; we're talking about the
21 biologic -- the biology of people interfacing with the
22 biology of a virus in the context of a complex
23 environment. So there's absolutely no way you can make
24 absolute statements like that in the context of this
25 current medical scenario.

26 That's -- so, again, that's the -- you know, so as

1 a scientist, that's not the appropriate scientific
2 approach. One has to be open to the fact that there
3 are exceptions. What we always have to do, and also to
4 explain, the way science and medicine is supposed to
5 function is we should -- we need to weigh the weight of
6 the overall evidence.

7 Again, because there often are not absolutes,
8 often things are not intuitive or common sense, what
9 often happens is -- I mean, so it's very clear in
10 science, if somebody put -- as soon as -- so the first
11 time a paper is published, that's obviously the first
12 report on a given scientific issue, so it sets the
13 tone. At that point, that becomes what the scientific
14 community agrees at that point in time, early point in
15 time, seems to be the reality. If the subsequent
16 scientific literature is all in agreement, that's
17 something that usually then gets enshrined in science
18 as a -- as, you know, sort of as a classic paradigm in
19 science. But as soon as you have disagreement, say the
20 second publication find -- finds something different,
21 at that point, you automatically need additional
22 research to be done to sort out the problem.

23 And so at the end of the day, it's never about --
24 and so especially one thing to keep in mind, you know,
25 my advice to everybody with this is there's a lot of
26 science that has accumulated over the past two years,

1 and, therefore, it's always about the weight of the
2 science. They're not about citing one paper or, you
3 know, two papers or selective papers. One has to look
4 at the overall weight of the evidence, like on scales,
5 and see what the balance of that evidence is. So,
6 yeah, just by the very nature, we can't, in this
7 scenario, make such conclusive statements.

8 Q To give Dr. Hu, to properly and fairly characterize his
9 position -- and my friend can interject if he disagrees
10 with me -- Dr. Hu has said the evidence for the
11 effectiveness of masking in reducing the spread of
12 COVID-19 in a health care setting is overwhelming, and
13 there's heaps and mounds of it. And then he says in a
14 non-health care setting, well, it's less clear. He
15 makes no distinction between asymptomatic or
16 symptomatic; he simply says in a health care setting,
17 it's guaranteed to work, we know absolutely it works,
18 there's just no question, maybe there's a question
19 about the community.

20 What I've heard you say is, Well, look, it doesn't
21 work at all for asymptomatic people, it's just -- it
22 just doesn't -- it's not even relevant, it's not even
23 logical because they just don't spread it because
24 they're asymptomatic, there's no asymptomatic spread.
25 So, you know, you two, as experts, you're kind of
26 talking at cross-purposes.

1 So I want to ask you about the health care
2 setting, okay, and then the non-health care setting,
3 because that's how he's done it, okay, to be fair to
4 him.

5 So he says that the evidence for the effectiveness
6 of masking in the health care setting is, quote,
7 Overwhelming, and, quote, There's heaps and mounds of
8 it. Would you agree with that or disagree?

9 A Yeah, we wouldn't be here today hearing this case if
10 there was universal agreement and if it was
11 overwhelming evidence. This is an area of active
12 debate. It's an area of active research. I looked at
13 Dr. Hu's report, because the other experts have
14 provided that. Where the misunderstanding comes in is
15 this concept of asymptomatic transmission and this
16 misnomer, this concept.

17 Where it's been most exaggerated, for example, is
18 children. We've mislabelled children as somehow being
19 these individuals that rarely get sick but are
20 overflowing with large quantities of this incredibly
21 pathogenic virus, right, so they can spread it to
22 others. That's simply not the case.

23 So, again, I highlight, Dr. Hu and I are not far
24 off in our view of masking. We're in complete
25 agreement that masking makes sense if you're
26 symptomatic, and it can very much help as a tool to

1 curb the spread if you're symptomatic, and you're
2 choosing to go around other individuals in that state.
3 But not asymptomatic.

4 I mean, this is again, intuitively, I guess, you
5 know, again, to put it in a perspective that maybe the
6 average layperson could appreciate, knowing what I told
7 you about the Omicron variant, where the reality is the
8 average flu is more dangerous than the Omicron variant
9 for the vast majority of the people, especially the
10 very young, for which SARS-Coronavirus-2 is not
11 particularly dangerous, but, you know, we've never
12 implemented this, if this asymptomatic transmission was
13 always such an issue, and we were to accept this now as
14 a paradigm, we'd have to apply this to every -- every
15 infection -- we would never -- we would never know if
16 somebody is ever, quotes, healthier or unable to
17 transmit to anybody else. There would be no way of me
18 knowing of somebody else who has no signs or symptoms
19 has, you know, in their lungs, respiratory syncytial
20 virus or a flu virus or Norwalk virus or any of the
21 viruses that we face. So just from that perspective,
22 it's counterintuitive.

23 And this is definitely within the realm of
24 immunology, and it comes largely from a
25 misunderstanding -- and, again, you know, with all due
26 respect, the average physician who has been in a

1 position of authority, you know, to implement policies,
2 and this is one of the reasons why -- a lot of people
3 don't realize it, and this is an area I have expertise
4 in as well because we have an emergency preparedness
5 plan in our university for responding to a pandemic.
6 We were required to implement this by the Government
7 following the 2009 flu, declared swine flu pandemic,
8 where people realized that there was initially -- the
9 response was one of panic and realizing that we really
10 did not have a coordinated response, we hadn't really
11 prepared for such a scenario. Now, that turned out --
12 that fizzled and that was not a true pandemic.

13 But so all the -- the Government made all publicly
14 instituted -- institutions, including my university,
15 come up with a pandemic preparedness plan. Our country
16 came up with a pandemic preparedness plan. Every
17 province and territory was required. We threw these
18 out within the first week to two. At my institution,
19 we threw it out within five days of the pandemic being
20 declared, and we haven't been following any defined
21 plan since.

22 And that applies at the Federal level as well.
23 We -- like, if you look, we still don't know what the
24 goalposts are. We don't know what the finish line is
25 before we declare that we're out of this. In fact, the
26 goalposts have kept moving.

1 And what I can tell you is that in those pandemic
2 preparedness plans, none of them looked like this at
3 all. They relied on the more traditional ways that we
4 approach this kind of problem, which was you treat
5 people who are sick as sick, and you keep them away,
6 especially from the vulnerable populations, and you
7 focus your protective efforts and your protective
8 measures on the high-risk demographics if, if, and when
9 a pathogen shows a predilection towards causing harm in
10 limited demographics. And so, you know, we haven't
11 reached that point here. You know, we didn't follow
12 those kind of plans, and so this is where we've come in
13 with these other approaches.

14 And what I do want to point out then is --
15 actually to get back on track, Mr. Kitchen, can you
16 remind me what your core question was? I was just
17 coming to it, and I wanted to find something in the
18 report here.

19 Q Well, like I said, Dr. Hu says, end quote, heaps and
20 mounds of evidence supporting the effectiveness of
21 masks in --

22 A (INDISCERNIBLE)

23 Q -- a health care setting --

24 A -- yes, and so -- so, no, that is a point of
25 contention, and so his report even highlights this. So
26 one of the things -- I mean, he hasn't -- he hasn't

1 cited heaps and mounds of evidence. It's a limited
2 number of citations.

3 And this is -- so this is something that I want to
4 deal with head-on just so that people, when
5 interpreting the two reports, can understand. He
6 accused me of solely leaning on outdated documentation,
7 or maybe not solely but certainly leaning on outdated
8 documentation when it came to my report. People are
9 free to look at my reference section. I have lots of
10 updated citations in there.

11 I want to highlight that, in fact, after accusing
12 me of using outdated literature, the two things that he
13 most emphasized when talking about this -- when talking
14 about this concept of masking, the first one was a
15 citation from 2011. So he actually set the record for
16 the oldest cited paper with respect to masking and
17 citing the one from 2011, a Cochrane review. And so --

18 Oh, and the other thing he said is he accused me
19 of using examples from other viruses. And I want to
20 point out that this 2011 one is the oldest -- second
21 oldest reference of all the reports about masking and
22 dealt with influenza virus, not SARS-Coronavirus-2.

23 And one where he spent half of a paragraph
24 highlighting it was actually to describe what he felt
25 was, you know, sort of break-through work that was
26 done, and it's a study that was done in the early

1 1900s, which shattered records in this in terms of the
2 oldest citation, and that certainly wasn't dealing with
3 the SARS-Coronavirus 2.

4 So he's got that aspect wrong in terms of arguing
5 that he's got the updated literature. And, in fact, I
6 just want to highlight this as well, because this is
7 overstated again, he actually said in his report, on
8 pages 1 -- at the very end of page 1, the final last
9 few words, onto page 2, he said: (as read)

10 A vast majority of literature [this means his
11 literature] is from the years '20 to '21 with
12 emphasis on literature published in 2021.

13 So I actually went to his reference section, because,
14 again, I do lots of review of, you know, scientific and
15 medical documentation, and I excluded some of these
16 because they're not peer-reviewed articles. A couple
17 of them are websites. One of them was a website where
18 he -- that described the 2011 paper, the source of the
19 2011 paper that he got.

20 And so, in fact, it turns out that of his
21 citations, 19 of his citations about masking, of those
22 19, 11 were from 2020 to 2021. That's 58 percent. So
23 that's not a vast majority of the literature. And he
24 then emphasized that most of it was from 2011. Well,
25 in fact, only two of those is 11 -- sorry, two, the
26 emphasis was on literature published in 2021, but only

1 two of those 11 papers were from 2021, 18 percent of
2 the papers cited since 2020 were from 2021.

3 And so I think it's important, again, otherwise,
4 it gives a misconception that somehow he's captured the
5 recent, cutting-edge data, and I have -- again, people
6 are free to look through -- I've got plenty of
7 citations from 2020 to 2021, so that's not the case.
8 It's not -- this isn't the case of somebody having --
9 understanding current literature, and somebody else,
10 myself, not understanding the current literature and
11 only focusing on historical literature. I want to
12 point that out.

13 Further, he even states in this, if I can find it
14 here, and this is important because this is a very
15 important thing for us to understand, because we're all
16 hearing public messaging, and we're all trying to sort
17 through this information and understand, and there is
18 lots of misinformation, there's genuine information,
19 and there's been messaging that's been changing over
20 the course of this. And so this is very important
21 because one of his critical sources of information
22 about this are public health officials, especially
23 Dr. Theresa Tam, and that's why I'm hoping I can just
24 find this here quickly. Where is it?

25 Q He mentions Theresa Tam on page 8. I don't think he
26 mentions her anywhere else.

1 A Okay, thank you. Oh, Dr. -- sorry, I mean Dr. Tan,
2 sorry. Do you see the reference to Dr. Tan?

3 Q T-A-N?

4 A Yes.

5 Q 'N' as in "nothing"? No.

6 A Medical Officer of Health. Give me one second, because
7 this is an important point.

8 Q Okay.

9 A Let me just pull up the document here.

10 Q Do a search on it.

11 A Sorry for the extra time, but I just want to make sure,
12 because this is important.

13 Q I don't find anything for T-A-N.

14 A Okay, sorry, yes, that's why, I meant Theresa Tam. I'm
15 getting her Medical Officer of Health, her name messed
16 up here, it's Theresa Tam, Dr. Theresa Tam --

17 Q Yeah, page 8.

18 A -- so this is on page 8 just before the summary, the
19 subheading "Summary", and this is when talking about
20 that that I made unsubstantiated claims, that there are
21 numerous harms associated with masking, there are no
22 harms, but we've already discussed that.

23 And then -- this is very important, because --
24 this is very important here, so what he states in that
25 last sentence: (as read)

26 Indeed, public health experts, including

1 Dr. Theresa Tam, have walked back any
2 statements alluding to the potential harms
3 and increased infection risk of masking.

4 There's no scientific documentation there, so
5 peer-reviewed literature, and what this is -- so what
6 he means, what he means, and if we're blunt about it,
7 is that Dr. Theresa Tam has completely contradicted
8 herself in the context of this pandemic.

9 And specifically what he's referring to when he
10 talks about walking back in his statements, it was that
11 a lot of top public health officials, including
12 Dr. Tam, Dr. Fauci in the United States, and others and
13 agencies like Health Canada were actually discouraging
14 the use of masks and widespread use of masks earlier on
15 in the pandemic and widespread use of masks earlier on
16 in the pandemic, and that was because of the scientific
17 evidence available at the time.

18 So, yes, they later walked back the statements,
19 and I can tell you that I have yet to know what the
20 scientific foundation is for Dr. Theresa Tam walking
21 back that statement. And I point out, as you can see
22 by the wording here, you can ask yourself, it's not
23 scientific, I don't know what walking back a statement
24 actually means. She never rescinded the statement.
25 Yes, I will agree that she downgraded the -- I guess,
26 the importance she placed on that, you know,

1 down-playing of masking as an effective protective
2 strategy in the context of SARS-Coronavirus-2 early on,
3 but she never rescinded it. She did, indeed, dampen it
4 or walked it back to some degree. And, again, I have
5 yet to see, she hasn't produced any peer-reviewed
6 scientific literature that I've seen.

7 Now this -- so this becomes very critical, because
8 I'm not going to say -- I can tell you there's lots of
9 literature to suggest there's harms of masking, and it
10 doesn't work, and, again, this comes down to the whole
11 disagreement is about asymptomatic transmission. And,
12 again, I highlight that in the studies that are cited
13 to support this, the vast majority of those studies are
14 defining transmission based on PCR positivity, not
15 proof -- not demonstrating with using the functional
16 virology assay that I said, that there is definitively
17 replication-competent viral particles in the sample,
18 especially at a concentration that would meet the
19 threshold required to cause infection in other
20 individuals.

21 So a lot of those studies actually agree,
22 potentially, with the outcome that made -- where they
23 measured what they did, but they didn't prove that
24 there was transmissibility of the sample that they were
25 collecting. And so that's what it comes down to is how
26 we interpret asymptomatic transmission in this.

1 Because like I said, we are all in uniform agreement
2 that if somebody is sick, this makes some sense.

3 And then the other thing is, which I was very
4 surprised, because often scientists who have been
5 speaking out in a way that's perceived to be against
6 the narrative, one of the arguments that constantly
7 comes up is, well, you haven't proven your point with
8 the randomized controlled trials.

9 So I want to explain to everybody, a lot of
10 people, when it comes to clinical medicine, consider a
11 randomized controlled trial to be the be-all and
12 end-all. It's where you actually look at a relevant
13 clinical setting, and you have your treated group and
14 your placebo group or untreated group. If you're
15 talking about masking and SARS-Coronavirus-2, it would
16 be a compilation in the context of SARS-Coronavirus-2
17 with the potential for it to be transmitted, and you
18 would have a population that's masked and a population
19 that is unmasked, that would be the negative control
20 group, and then you actually see if there is an effect.
21 So for everything that has not been accepted in the
22 public health narrative, it's because there hasn't been
23 a randomized controlled trial.

24 Let me give you an example. The same Dr. Theresa
25 Tam told all of Canada that the concept of vitamin D
26 reducing the potential for infection is fake science.

1 I can believe -- I'm an immunologist. I'm even left
2 with -- I've actually sent a letter to my
3 administration university telling me [sic] that am I
4 going to get in trouble if I continue to teach
5 immunology like I have during my whole career, because
6 I can tell you vitamin D is a critical component of the
7 immune system. There are -- it functions at such a
8 basic fundamental level with so many aspects of the
9 immune system.

10 Without it, it would be like if somebody is
11 familiar with cars and a car engine, it would be like
12 if you have a high-performing race car, say, a
13 Formula One race car, there's no question, if you
14 deactivate one of the cylinders in that engine, it is
15 not going to perform as well as if it had that cylinder
16 functioning. It's not going to be competitive in the
17 race.

18 And that's the case with vitamin D. I mean,
19 there's thousands and thousands of papers -- I can tell
20 you -- I can give you 77 citations right now that show
21 the benefit of vitamin D in the context of
22 SARS-Coronavirus-2. That's why we have -- one of the
23 reasons we have our annual cold and flu season. As an
24 immunologist, I often don't refer to it as the cold and
25 flu season, I refer to it as the low vitamin D season.

26 THE CHAIR: Dr. Bridle, I'm not sure that

1 vitamin D was really relevant --

2 A No --

3 THE CHAIR: -- to --

4 A -- no, I'll probably be back to it immediately, yes,
5 thanks, I appreciate that. So my next comment
6 immediately ties it in.

7 And the point being that it was declared that a
8 randomized controlled trial, therefore, was needed to
9 prove the effectiveness of vitamin D in the context of
10 SARS-Coronavirus-2.

11 And so that's where this ties in. So when you
12 have an area where there is definitely, clearly, far
13 more debate going on and the science is -- it's why you
14 have even more reason for a randomized clinical trial
15 if you really want to sort out this issue.

16 Now, what I was honestly shocked by is in Dr. Hu's
17 report, he acknowledged that but then went on to
18 proceed to argue that a randomized controlled trial
19 could not be done because this is such a cut-and-dry
20 topic, because everybody is in such uniform agreement
21 that masking works in the context of SARS-CoV-2. Well,
22 clearly, that is not the case. If nothing else, my
23 expert opinion disagrees with his expert opinion.
24 There's evidence of nonuniform agreement right there.
25 And when scientists disagree, we need further research
26 to work it out.

1 Now, I want to highlight something, because this
2 is very important to understand, randomized controlled
3 trials has been -- that's been the basis for promoting
4 anything to do with treating or protecting from
5 COVID-19. So what we get to here, and I just want to
6 go to this now -- I thought I'd have these better
7 marked -- so I want to get to this where he talks about
8 the randomized controlled trials, and I think this is
9 in his rebuttal section. And it talks about -- he uses
10 a -- an analogy there. Let me see here. Okay, yes,
11 right here: (as read)

12 With respect to the evidence for
13 effectiveness of masking [this is on page 7],
14 Dr. Warren states that in the absence of
15 evidence for randomized controlled trials in
16 meta-analyses ...

17 And then it continues on, and that's -- so that's what
18 he's responding to, this idea of randomized controlled
19 trials. So he admits it is correct that there are a
20 few randomized controlled trials on masking, and
21 there's none in the context of SARS-CoV-2 as -- so
22 we're talking about a fundamentally different virus.
23 Then he says: (as read)

24 There is an overwhelming burden of evidence
25 from other studies showing the benefits of
26 masking. Furthermore, it's not ethical to do

1 RCTs on masking given its significant
2 benefit.

3 Well, we've just talked about, there's potential harms,
4 potentially even in the context of symptomatic --
5 asymptomatic people, maybe more harm than good. And it
6 doesn't, for all the reasons I've explained, doesn't
7 help spread SARS-CoV-2 by the aerosol route. So none
8 of that fits into play here.

9 And then he goes on to give an analogy that
10 this -- to say why the randomized controlled trials
11 can't and should not be done with masking. He says
12 this is like parachute-jumping out of an airplane. We
13 wouldn't run a study right now, right, none of us would
14 ask for a study to be run asking people to jump out of
15 a plane with a control group that is not given a
16 parachute, right, and to the test the idea that
17 parachutes stop people from dying when jumping out of a
18 plane.

19 Well, this is not a fair comparison whatsoever.
20 Worse, he got upset about one of the other experts. He
21 actually says here: (as read)

22 Notwithstanding the factual error on page 6,
23 it is fallacious and unscientific to equate
24 death rates by age in the context of a global
25 pandemic with those of car accidents, with,
26 at a minimum, it is a false dichotomy and

1 then [et cetera, et cetera].

2 So he was really upset with the use of an analogy to --
3 due to car accidents with deaths caused by an
4 infectious agent in the context of a pandemic but then
5 goes on and uses his own completely, arguably even far
6 more inappropriate, analogy to argue that RCTs have no
7 role to play when it comes to considering the benefits
8 of masking.

9 And what do I mean by this? It's intuitive, I
10 agree, we're not going to run a study to determine
11 whether jumping out of a plane without a parachute
12 increases the risk of dying upon impact with the
13 ground, and we don't have to. That experiment has
14 naturally been run multiple times. If people -- if
15 somebody jumps from a large height, if they want to
16 commit suicide, they know they can jump from a large
17 height. Anybody who falls, plunges to the ground from
18 a large height will experience death. We've had people
19 with parachutes jump out of planes, and the parachutes
20 failed to deploy, and they've died. So this is not a
21 comparison.

22 The equivalent with -- the RC with masking would
23 be that we know that, in the control group, if they do
24 not wear the mask, they are going to die. Yes, that
25 would be unethical. We do not know that. In fact,
26 we're debating that very fact and whether it's actually

1 doing anything to protect these people from harm. And
2 so I would actually propose that the precise thing that
3 we do need scientifically to sort this out and
4 especially if we're going to force people to follow
5 this rule, we need to run a randomized controlled trial
6 and sort out the science once and for all.

7 So again, you know -- I mean, I'm not going to
8 apologize for the long answer, it's a thorough answer,
9 and so, no, this is not a clear path. And I'm sorry,
10 Dr. Hu has not cornered the market on, you know, the
11 fact that, you know, being be able to state that
12 everybody knows this, and everybody agrees on this
13 fact.

14 Q MR. KITCHEN: Thank you, Dr. Bridle that
15 answers several other questions that I had.

16 Since we're in that area on his report, on page 5
17 of your report in the last sentence of your section on
18 asymptomatic transmission, you kind of make a summary
19 statement, you say: (as read)

20 There is no substantial evidence to suggest
21 that people who are asymptomatic represent a
22 substantial risk of causing COVID-19 related
23 hospitalizations or deaths in others.

24 Now, as you know, Dr. Hu takes issue with this issue on
25 page 7 of his report. He says that you have no
26 scientific evidence for this statement. He also says

1 the fact that you would make such a statement, quote,
2 proves a lack of understanding of asymptomatic
3 transmission and its deadly effects on the community.

4 I have a couple questions on this. My first one
5 is do you think there's any scientific evidence to
6 support this statement that you made?

7 A Okay, that I think I can answer quickly. People, first
8 of all, can read page 5 of my report, see the citations
9 that I have there, and then refer to everything that
10 I've explained today.

11 I understand the science -- so again, with all due
12 respect, when it comes to asymptomatic transmission,
13 what we're talking about is we were talking about
14 fundamental, hard core immunology -- or, sorry,
15 virology at the interface with immunology. That is
16 precisely my area of expertise. I'm a viral
17 immunologist. This has nothing to do with public
18 health or anything like -- it has public health
19 implications, but the science behind this, this is how
20 a host immune system interacts with a virus that
21 dictates whether or not the outcome is going to be
22 potential transmission and infection and causing
23 disease in others. And I mean people can take my
24 expert, you know, commentary or not. Like I said, I
25 have the citations there, and I've talked at length
26 about the science, the precise mechanisms governing

1 this.

2 And just so that you understand, I don't know if
3 people can see, but I actually appreciate being asked
4 the question, because I've got that very thing marked
5 up, so I'm glad I actually got to talk about this,
6 because, again, I have been called upon to review lots
7 of literature, grant applications, scientific
8 publications, right, manuscripts people want to publish
9 in peer-reviewed journals. And sorry to be blunt here,
10 but this -- this report from Dr. Hu was and --
11 generally unprofessional, disrespectful in tone, very
12 much highlighted here. That's why I have this actually
13 underlined, because it's quite offensive. He uses
14 language that is offensive, accusatory. He makes
15 assumptions. He's hypocritical in areas of his report.
16 And I can give examples of all of these so -- if I
17 wish, and this is one of them. And he makes
18 demonstrable -- you know, many claims that lack
19 evidence, lacks citations or that are only backed up by
20 hearsay evidence, and then makes these kind of
21 statements, right, that as an expert in this area --
22 and I'm sorry, but looking at the expertise, I am quite
23 confident that I have deeper expertise in the area
24 directly relevant to understanding asymptomatic
25 transmission or lack thereof. And he's actually
26 arguing that I am provide -- that I have no scientific

1 evidence. That is a lie. That is a lie. I provided
2 the scientific evidence today. I have all these
3 citations. I'm looking at page 5 of -- and I see all
4 kinds of citations listed here and a description of the
5 science. And he says this proves -- somehow this
6 proves a lack of understanding. Like this means me,
7 that I do not understand this.

8 This is unprofessional. I don't do -- write this
9 way in any of my reports, so I'm sorry, this group
10 needs to understand this. I have been involved in a
11 lot of court proceedings. I have been involved in a
12 lot of scientific proceedings. This is not a
13 scientifically or medically acceptable document for
14 interacting with other scientists or medical
15 professionals, and this highlights it.

16 So thank you, because I didn't know if I'd have
17 the opportunity to share with the group, but this
18 statement is -- there's several others, and I'm not
19 going to take the time, but if anybody has a question,
20 I can prove what I just -- my overview of his report,
21 but that is, certainly I had listed, as the most
22 egregious statement against myself.

23 We have to respect one another as scientists and
24 physicians. I do respect Dr. Hu's perspective. Like I
25 said, I agree with much of his science, and I've
26 acknowledged the peer-reviewed publications that he's

1 used as valid, you know, acceptable scientific
2 publications. I think we need to be very careful, and
3 this stepped over the line, in my opinion, in terms
4 professionalism in this kind of environment.

5 Q Thank you, Dr. Bridle. I am almost done. I know this
6 might be obvious, is there an important difference
7 between correlation and causation?

8 A Yeah, absolutely. A massive difference. The burden of
9 proof is vastly higher for causations. Correlation can
10 contribute to the overall determination of causation,
11 but causation means that you know for sure that one
12 thing influences the outcome of another thing, directly
13 influences it, not, you know, has a direct impact on a
14 certain outcome.

15 So, for example, we know that SARS-Coronavirus-2
16 is the causative agent of the disease we call COVID-19.
17 If somebody is not infected with SARS-Coronavirus-2,
18 they will not get COVID-19, and if we infect them with
19 a different virus, they will not get COVID-19. It's a
20 causative agent, right? So it's a cause-and-effect
21 relationship.

22 A correlation means that something trends in the
23 same direction as something else, you know. And a
24 classic example -- and so I talk about this quite a
25 bit, because when I teach actually my immunology
26 students, because it is important to understand the

1 difference, so, for example, when it comes to -- you
2 know, one of the correlations that does -- that is
3 related and does have some link through causation, as
4 we get older, people tend to have a greater risk of
5 getting cancer. And there's two reasons:
6 Scientifically one is we get exposed to more potential
7 mutagens that can cause cells to turn cancerous; also
8 our immunological function declines, and our immune
9 system is very good at controlling cancers, right? But
10 there's many other things that correlate with age as
11 well, right?

12 So I don't know -- for example, as you get older,
13 there's also a greater use, on average, of dental
14 implants, right, as people lose their teeth, but that's
15 not a causation to have cancer, for example. So that
16 would be an example of a correlation, right, somebody
17 getting older, where if something gets -- as they get
18 older, there's an event that happens more frequently
19 among that population, but that event doesn't
20 necessarily mean that it's the cause of another event
21 that increases in frequency in that older population.
22 So, yeah, there's a huge difference.

23 Q Dr. Hu stated in his report that, quote: (as read)

24 A very, very, very large number of health
25 care workers in Italy contracted and died
26 from COVID in early 2020.

1 He concluded that part of the reason that happened is
2 because the Italian health care workers ran out of
3 masks. Now, in your opinion, is there a causal link
4 between masking and what happened to the Italian health
5 care workers, or is there only a correlation link?

6 A Do you have a page number for that so I can take a
7 quick look?

8 Q That I think was in his examination. It's not in his
9 report, but I can --

10 A Okay, I didn't recognize it --

11 Q -- invite my friend to --

12 A -- that's fine. So, yeah, I -- yeah, that's fine, I
13 can comment on that. I heard the question.

14 So, no, that's clearly not. So, again, if -- in
15 that case, when you're talking about a clinical
16 scenario, a complicated clinical scenario where there's
17 other things happened, so what I mean by this is it's
18 very different from a lot of the, for example,
19 preclinical experiments that I run. I can run
20 experiments in very controlled environments.

21 So, for example, if I run a study in mice, these
22 mice are all genetically identical. They are all the
23 same sex. They are fed the same food. They're housed
24 in the same environments. They -- and so we can divide
25 them, and we can have one treatment differ between
26 them, one thing. And so it's very easy then to

1 attribute an effect to that one thing because
2 everything else is controlled.

3 So in the scenario that Dr. Hu was talking about,
4 the only way that you could potentially allude strongly
5 to causation is with a randomized controlled trial.
6 That's the whole point. And so the reason it's so --
7 what randomized controlled trials are is they take
8 account for these real life settings. So in the real
9 world, when you're dealing with a clinical scenario
10 where you're talking about an outbred population,
11 you're talking about males and females, you're talking
12 about old and young, you're talking about different
13 lifestyles, different historical exposures to
14 pathogens, et cetera, et cetera, and, therefore,
15 different immunological programming and -- you know,
16 and you're dealing with a pathogen and different
17 potential exposures to that pathogen across that
18 population, you're talking about many, many
19 uncontrolled variables.

20 So what a randomized controlled trial is you try
21 to account for all those variables by getting those
22 variables equally distributed as much as possible among
23 the two groups. That's why it's called a randomized
24 trial: You literally random -- you can take two
25 people, they randomly get associated to either the test
26 arm or the control arm. And the idea of it's

1 totally -- if it is truly random, then at the end of
2 the day, both arms of your trial should have people
3 that represent the whole -- all those variables that
4 exist in the real world should be --

5 THE CHAIR: Dr. Bridle, could -- I'm
6 not --

7 A Yes.

8 THE CHAIR: -- sure that this is really
9 relevant. Could we get back to the question, please?

10 A Oh, yeah, well, it is relevant because this is the way
11 that Dr. Hu could have made his conclusion and should
12 have.

13 And so with the relevant -- and so what I'm saying
14 is with this randomized controlled trial, you equalize
15 all those variables, it's very large because of all the
16 variables, and then when you run those kind of studies,
17 that is what allows you to draw strong conclusions
18 about the potential causation of a variable, which, in
19 this case, is masking.

20 In the scenario that you just posed, there's no
21 way causation could be attributed to masking. There
22 were far too many uncontrolled variables that were not
23 accounted for.

24 Q MR. KITCHEN: I've only got one more
25 question on this and then one final question, and then
26 I'll be done.

1 Dr. Hu in his testimony, so in his questioning, he
2 described the lockdown restrictions imposed in Alberta
3 in November and December of 2020, so a little over a
4 year ago now. He stated cases went up after the
5 lockdown, but eventually later on cases went down. He
6 then concluded that the lockdown did not cause the
7 initial rise in cases, but that it did cause the
8 eventual drop in cases. In your opinion, is this a
9 logical or scientific conclusion?

10 A No. So actually he had the latter part of that
11 argument in his report highlighting -- trying to
12 highlight that these lockdown measures, including
13 masking a key component, had contributed to the
14 dramatic decline in cases.

15 So more recent history demonstrates that that is
16 patently false, that that's just the reality. That was
17 looking sort of -- taking a snapshot in time. So
18 again, first of all, it's correlative at best.
19 Secondly, I -- at least it was in the report. I didn't
20 see any peer-reviewed scientific -- I didn't see any
21 citations attributed to his comments there. That's one
22 thing that I had noted. And further, it's one snapshot
23 in time; it was looking at the tail end of one of major
24 waves of the pandemic -- waves of positive test results
25 for SARS-Coronavirus-2.

26 And what I would like to highlight is that since

1 he highlighted that snapshot in time, we have had a
2 record-shattering wave of the Omicron variant, where
3 all the historical stuff that was being I guess
4 highlighted as the reason for that decline, right, it
5 was still in place, coupled with the fact that the vast
6 majority of people were then vaccinated to add
7 additional -- an additional layer of protection, we had
8 record-shattering cases of Omicron.

9 So clearly, like -- and so again -- and I mean,
10 I'm a scientist and when I have the data, make certain
11 statements when there's overstatements or things
12 misstated. I don't think it's incorrect for me, as a
13 scientist, to declare something like that as being
14 patently false.

15 Q Thank you.

16 MR. KITCHEN Those are all my questions on
17 direct examination. So, Mr. Maxston, I've managed --
18 (INDISCERNIBLE) --

19 THE CHAIR: Mr. Maxston (INDISCERNIBLE),
20 would you like a few minutes?

21 MR. MAXSTON: I think, in fairness to Madam
22 Court Reporter, we should take at least a 10-minute
23 break. Again, I don't expect to be particularly long,
24 but Mr. Kitchen may have some redirect, and I think we
25 should take -- just take a 10-minute break if you're
26 comfortable with that, Mr. Chair.

1 THE CHAIR: I'm fine with that. It's
2 3:55, so we'll come back at 10 after 4. Thank you.
3 (ADJOURNMENT)

4 THE CHAIR: Okay, I think we're all back,
5 so Mr. Kitchen has completed his direct, and we'll ask
6 Mr. Maxston to continue.

7 MR. MAXSTON: Thank you, Mr. Chair.

8 Mr. Maxston Cross-examines the Witness

9 Q MR. MAXSTON: Good afternoon, Dr. Bridle. I
10 wanted to begin by saying that I was very displeased to
11 hear your expert testimony on the effects of aging. I,
12 however, will not use that to attack your credibility,
13 I tend to agree with it, I have to admit, but,
14 nonetheless, I thought that was something we should all
15 not take into account in today's hearing.

16 I have a couple of clarification questions for
17 you, Dr. Bridle. When I looked at your cv, and then I
18 Googled you at the University of Guelph, I just want to
19 be clear that your position is at the University of
20 Guelph in the pathobiology department at the Ontario
21 Veterinary College; is that accurate?

22 A That is accurate.

23 Q And that's part of the Doctor of Veterinary Medicine
24 program; is that correct?

25 A Yes, that's correct, yeah, as alluded to before, a lot
26 of my teaching is actually of the students enrolled in

1 the Doctor of Veterinary Medicine program.

2 Q Right.

3 A Yeah.

4 Q You had some discussions with Mr. Kitchen where you
5 talked about what was occurring at Guelph University.
6 Over the course of the pandemic, have there been any
7 requirements at Guelph University for you as staff or
8 perhaps students to mask if there's in-class settings
9 or teaching?

10 A So just -- so, yes, just to clarify, not just students
11 and staff but faculty as well. So actually I'm
12 technically not a staff member. So just so people
13 understand, yeah, there's three categories of people at
14 the university: Faculty, who are the professors is
15 what we're referred to; the staff -- we're represented
16 by the University of Guelph Faculty Association is kind
17 of the best way to distinguish; then there's our staff,
18 and many of them are affiliated with fundamentally
19 different unions; and then there's the student
20 population.

21 But all three populations, yes, there have been
22 masking policies that were implemented at the
23 University of Guelph, yes.

24 Q And did you comply with those masking policies,
25 Dr. Bridle?

26 A I did. I respect the law, and I respect rules, and so

1 even though I -- you know, what I've shared with you
2 today, I respect those rules and adhere to them, yes.

3 Q I think you mentioned as well that when you went for a
4 hair cut, you or the barber or the hairdresser had to
5 wear masks, and that, I'm assuming, was because of the
6 Chief Medical Officer of Health order or something like
7 that; would that be correct?

8 A That is correct, yes.

9 Q So you observed that as well, that masking requirement,
10 I should say?

11 A Oh, yes, I acknowledged that masking requirements have
12 been implemented in many places, yes, including my
13 public health area, yes.

14 Q Yeah, and more to the point, when you went to see the
15 barber or to get a hair cut, you complied with those?

16 A I did so I'd get my hair cut, yes.

17 Q I think you were very fair in saying, Dr. Bridle, that
18 there were I think some fairly significant areas where
19 you and Dr. Hu were, I think you'd even said, a hundred
20 percent in agreement, and I think that was in the
21 context of masking and persons who are symptomatic and
22 the benefits of masking. I think that's what you said
23 anyhow.

24 I think, isn't it fair to say, that for a
25 chiropractor, that person treating a patient can't
26 definitively know whether the patient is symptomatic or

1 asymptomatic; would you agree with that?

2 A Well, okay, so from a technical -- from a technical
3 standpoint, nobody can know without screening or asking
4 whether somebody is symptomatic. So again, as I
5 explained earlier, but I can explain again because it's
6 a common area where people don't quite understand the
7 distinction, so a sign is something that somebody
8 external to the individual can identify, can use to
9 identify that somebody is sick. A symptom is something
10 that a person experiences that's associated with
11 sickness.

12 So specific -- so nobody -- so, in other words, by
13 definition, nobody upfront can identify whether
14 somebody has a particular symptom, but you can identify
15 if somebody has a particular sign. And again, so --
16 and I can't comment beyond that in terms of
17 chiropractors. I -- that's not my area of expertise.
18 I'm not sure exactly how it works, but --

19 So, for example, in my field of expertise, that's
20 why we've been using the prescreening, and again it's
21 asking the questions. By asking the questions, if
22 people have -- are experiencing any symptoms or showing
23 any signs, then they are not to go in, you know, to the
24 workplace, my workplace, for example. I can't comment
25 on what happens in a chiropractor's office though.

26 Q Okay. I'm not going to take you through all the

1 exhibits that are in front of the hearing relating to
2 mask mandates and mask requirements, but -- and I'll
3 indulge -- hopefully my friend will indulge me a little
4 bit, rather, I'll just tell you that there have been
5 some exhibits from entities like Alberta Health
6 Services and the Chief Medical Officer of Health in
7 Alberta which set out mandatory masking and social
8 distancing, and I'm talking about the typical blue
9 medical masks, not N95s and things like that, and that
10 you referred to Dr. Tam as well.

11 It's probably fair to say, isn't it, that you
12 disagree with those type of mandates?

13 A In the context of asymptomatic individuals, yes. I
14 agree with them in the context of symptomatic
15 individuals for all the reasons that I've stated
16 earlier.

17 Q I'm wondering -- and again you may not have had the
18 chance to review this in detail, I'm not going to take
19 you towards it -- but one of the key documents in this
20 hearing is a Pandemic Directive that the College of
21 Chiropractors created that, among other things,
22 required social distancing and masking.

23 I'm assuming that, in your work, you do have
24 contact with members of regulated professions, perhaps
25 physicians, maybe lab techs, CLXTs, others. Are you
26 familiar with generally the concept of self-regulation

1 for professionals?

2 A Yes, I have, yeah, multiple clinical colleagues, so,
3 yes, through them, I understand this to a certain
4 degree.

5 Q And I don't want to go into a lot of detail, but if you
6 were to look at the Ontario Regulated Health
7 Professions Act, which I understand is an omnibus
8 legislation, it sets up a college like the College of
9 Physicians and Surgeons, the CPSO, and is it your
10 understanding that that organization sets up
11 registration requirements for physicians that they have
12 to meet before they can become registered as
13 physicians?

14 Sorry, you're muted.

15 A So I -- honestly, I can't comment in much detail on
16 that. I mean, I know that my clinical colleagues are
17 licensed by a body, for example, in Ontario, like you
18 said, like the College of Physician and Surgeons of
19 Ontario, but the actual licensing process and the
20 administrative structure and how that's managed, I --
21 I'm sorry, I don't have the expertise to comment on
22 that.

23 Q Yeah, and fair enough. I didn't want to take you
24 there; I was just trying to, you know, get your sense,
25 I mean, in your work, that you're aware of the fact,
26 for example, that a physician has to register with the

1 CPSO before they can practice as a physician.

2 Are you also generally aware that, again, a member
3 of the CPSO has to have annual, continuing competence
4 requirements, has to meet recordkeeping requirements,
5 and those type of things established by the CPSO?

6 MR. KITCHEN: Mr. Maxston, look, we all know
7 where you're going, and tomorrow I have a member of the
8 CPSO up, and I'm not going to object. You're going to
9 ask him these questions, I'm not going to object
10 because he's a member of the CPSO. Dr. Bridle --
11 (AUDIO/VIDEO FEED LOST)

12 THE CHAIR: You've gone -- you're frozen,
13 Mr. Kitchen.

14 MR. KITCHEN: -- have him talk about
15 regulated members when he's not one.

16 MR. MAXSTON: Mr. Kitchen, you just froze
17 there a bit, so I'm not going to proceed with that line
18 of questioning then, that's fine.

19 Q MR. MAXSTON: In your -- as your job and in
20 your area of expertise, I'm assuming you've looked at
21 the Ontario equivalents to, broadly speaking, the
22 Alberta Chief Medical Officer of Health masking and
23 social distancing requirements; is that fair to say?

24 Oh, I think you're muted, sorry.

25 A It's not showing that -- can you hear me?

26 MR. KITCHEN Yeah.

1 Q MR. MAXSTON: Yeah.

2 A Okay, yeah, so I -- yes, yes, is my answer.

3 Q Would it, keeping in mind your comments to me about
4 your visit to the barber and what happened at the
5 university, your university in terms of the masking
6 requirements, would you think that it's important to
7 comply with CMOH orders?

8 A So could you clarify that question? What do you mean
9 exactly, like in which context? I mean, if I want to
10 get food from a grocery store to feed my family, of
11 course, I think it's important to comply so that I can
12 get food.

13 Do I think that I need to be masked in those
14 scenarios? No. Do I take every opportunity to not
15 wear my mask where it's allowed? Yes. You know, so
16 I'm not quite clear. That's how I would answer that.
17 Maybe a more specific form --

18 Q No, I was looking -- I'm sorry, I was looking to ask
19 you some questions about the masking components of
20 Medical Officer of Health orders, but I think you
21 answered that before when we talked about the policies
22 at the University of Guelph.

23 MR. MAXSTON: Those are all my questions for
24 you, Dr. Bridle. Thank you very much.

25 A Okay, thank you.

26 Mr. Kitchen Re-examines the Witness

1 Q MR. KITCHEN: Dr. Bridle, I just have two
2 questions in redirect. When you wear a mask because
3 you have to to get groceries or work (INDISCERNIBLE),
4 do you do so willingly or is it (INDISCERNIBLE)?

5 THE CHAIR: Mr. Kitchen, you're frozen,
6 and you broke up with your question.

7 MR. KITCHEN Okay, I apologize, I'll ask it
8 again.

9 A I did -- I heard the question, but did the rest of the
10 members would like -- would you like them repeated?

11 MR. KITCHEN No, Karoline didn't hear it,
12 so I'll have to ask it again. I apologize.

13 Q MR. KITCHEN: When you wear the mask, you
14 just referred to wearing it to do groceries, you
15 referred to wearing it at work, at the University of
16 Guelph; when you wear it, do you wear it against your
17 will?

18 A 100 percent, yes.

19 Q Do you think the prescreening questions that are pretty
20 typical in your office and would be typical in
21 Dr. Wall's office and any other chiropractor's office,
22 do you think those questions are pretty effective at
23 keeping symptomatic people out of the offices?

24 MR. MAXSTON: Mr. Kitchen, I'm going to have
25 to object to that because Dr. Bridle has already said
26 he knows nothing about chiropractic clinics, so I

1 really don't think he can answer that question, at
2 least --

3 MR. KITCHEN Okay.

4 MR. MAXSTON: -- the second part of your
5 question anyhow.

6 MR. KITCHEN: Point taken.

7 Q MR. KITCHEN: Dr. Bridle, let me ask you it
8 this way: You have -- you said you have prescreening
9 questions for your laboratory; do you think those
10 prescreening questions are effective at keeping
11 symptomatic people away from the laboratory?

12 A Yes, absolutely. So as I explained, symptoms are
13 something that somebody experiences, and the only way
14 to understand whether somebody's experiencing them is
15 to ask questions.

16 So, for example, if you go to a physician, that's
17 what they're designed to do, there are certain signs
18 they can look for. So a sign, again, would be
19 something -- so, example, when they take your
20 temperature, they're looking for evidence of fever.
21 That's something they can objectively assess
22 themselves. You don't have to tell them that you have
23 a fever, and then that's something that's a sign -- or,
24 sorry, a -- yeah, a sign, therefore, of sickness.

25 Symptoms -- and symptoms can precede, can precede
26 a lot of the signs. So that's the best way to actually

1 screen is for symptoms, which is something somebody is
2 experiencing and an objective third party cannot
3 directly observe. So the only way to get that out,
4 whether you go to a physician or anything else is by
5 asking the relevant questions.

6 And the -- so, for example, so the one that's used
7 for my workplace was designed in consultation with
8 physicians, who are experts at asking the relevant
9 questions about symptomology, to assess whether
10 somebody is sick -- and in my experience, that has been
11 very effective. For the first time since those
12 questions were implemented at the university, and it's
13 the first time in the history of my laboratory that I
14 have consistently not seen, not even once, one of my
15 lab members come into work sick, whereas it was a
16 relatively common occurrence prior to that.

17 Q Is there any logical reason to think that if Dr. Wall
18 was to ask the same questions of his patients that it
19 would be any less effective for him than it is for you?

20 MR. MAXSTON: I'm going to object to that
21 too, Mr. Kitchen; it's just beyond his scope.

22 MR. KITCHEN: I disagree. I think it's
23 perfectly legitimate. The way I asked it was is there
24 any logical reason to think it would be any different,
25 so that's not a scope question.

26 MR. MAXSTON: I don't think Dr. Bridle can

1 even comment on whether it's logical or not when he
2 doesn't know what happens in a chiropractic office or
3 what the specific requirements were for any screening
4 that Dr. Wall carried out. I just think it's too far
5 afield of what he can comment on.

6 MR. KITCHEN: Well, Chair, I put it to you;
7 I think it's a perfectly legitimate question.

8 THE CHAIR: Okay, we will caucus and get
9 back to you as quickly as we can.

10 (ADJOURNMENT)

11 THE CHAIR: The Hearing Tribunal has
12 discussed the matter, and we've decided to allow the
13 question.

14 Q MR. KITCHEN: So, Dr. Bridle, I'll just
15 re-phrase it -- or not re-phrase it, re-ask it.

16 Is there any logical reason to think that if
17 Dr. Wall, in his chiropractic office was using the same
18 questions that you've been using that he would have
19 different results?

20 A There would be no reason to expect different results.
21 The expectation, what we were expected to do with ours
22 is make sure -- let's put it this way: As long as the
23 questions are comprehensive enough and thorough enough
24 that a -- the average physician would be able to make a
25 reasonable assessment as to whether or not somebody is
26 or is not infected, that that's going to be an

1 appropriate questionnaire.

2 And just I guess maybe to help for you to
3 interpret, one of the things that the -- well, yeah,
4 let's just leave it at that. That's ultimately the
5 litmus test: Physicians are the experts at diagnosing
6 disease, and if they've designed a questionnaire that
7 would allow them to get the same information that they
8 would out of the individual, should they be a patient
9 in their office, and they're screening for disease,
10 yes, that questionnaire would be university applicable
11 irrespective of the environment.

12 Q And my friend can object to this if he wants, but would
13 you agree with me that those are administrative
14 controls; is that an appropriate term to call those?

15 A Yes.

16 MR. KITCHEN: Those are my questions on
17 redirect.

18 THE CHAIR: Okay, thank you, Mr. Kitchen.
19 I think we'll just take a few brief minutes for a break
20 just to see if the Panel has any questions for
21 Dr. Bridle, so we'll be back with you as quickly as we
22 can. If you could put us in our break-out, thank you.

23 MR. KITCHEN Thank you.

24 (ADJOURNMENT)

25 THE CHAIR: Okay, I think we're all back.
26 Thank you for your patience.

1 Dr. Aldcorn does have one question she would like
2 to ask Dr. Bridle.

3 The Tribunal Questions the Witness

4 Q DR. ALDCORN: Hi, Dr. Bridle. Just
5 regarding the IFR, you commented that in 2019, there
6 was a prediction that the -- that there could be as
7 much as 10 percent with regards to COVID-19 in terms of
8 those who are infectious who get the disease, right?
9 And then you mentioned, in early 2021, studies had
10 shown that it was about .15 percent, and now even less.
11 So I'm curious to know if there's any research or
12 studies or -- to the best of your knowledge, if you
13 knew that there was any percentage given in the time
14 frame that we're concerned about, which would be from
15 May to December 2020.

16 A Yeah, in that -- so that study that I cited in my
17 report includes that time frame. So it would include
18 everything from -- I was assessing everything from the
19 beginning up until -- so the very earliest that it
20 would have included data, and I'm not even certain --
21 I'd have to go back, and I have -- and double-check,
22 but the earliest would have been, you know, like maybe
23 January 2021, but the data would have been all from the
24 start of the declared pandemic up until the end of
25 December for sure.

26 It wouldn't have anything much newer than that,

1 because the way publications work, the publication
2 process, just so you can understand the timing
3 therefore, is normally what happens is when we have a
4 manuscript ready, we submit it to a journal. And then
5 what will happen is an editor will be assigned, then
6 they'll try and recruit reviewers. Once they've
7 identified reviewers for it, that paper gets sent to
8 the reviewers. So there's a review process.

9 Normally reviewer -- so that process -- that
10 process right there often takes a week, and then the
11 review process always takes a minimum of two weeks,
12 depends on the journal. Some like report back in two
13 weeks, some three weeks, and sometimes they don't get
14 them back when requested from reviewers, and they have
15 to solicit them and try to remind the reviewers to get
16 it in.

17 But so the point is, ideally then, they're going
18 to get those initial reports after one month from the
19 initial submission, and almost always, it's very, very
20 rare for a manuscript to be accepted immediately with
21 no revisions. So almost always, if a manuscript is
22 going to be accepted, it is with revisions, and then,
23 depending on how much revision they feel is necessary,
24 that's going to dictate the -- dictate the time the
25 authors have to go back and revise their manuscript.
26 So for example, if they had to generate new data or run

1 new experiments, it's going to be -- it could be months
2 they're given.

3 But for an article like this though, it would
4 usually be a matter of weeks, and then that revised
5 version goes back, and then, often, their reviewers
6 have one final review, and then if they're satisfied
7 with the changes, they'll approve it, the manuscript
8 will be accepted. And then, at that point, it's called
9 what we call in press, and then a short time thereafter
10 it will be published. So --

11 Q So, sorry, so just -- so the question then, it was
12 released or -- in some capacity in 2021. It --

13 A Exactly.

14 Q -- was based on the information from 2020 --

15 A Exactly because --

16 Q -- so the --

17 A -- even though it was several months into 2021, the
18 data that they would have had available when they first
19 submitted it would have been for -- mainly from that
20 duration you're talking about.

21 Q Sure. So in the latter stages of 2020, would we have
22 had -- would you or the population or whatever have any
23 idea that 10 percent wasn't the number that we were
24 looking at in the middle of 2020?

25 A Yes, yes. Yeah, that was very quickly obvious. So,
26 again, what I mentioned is it wasn't a prediction that

1 the infection fatality rate would be 1 to 10 percent;
2 it was that initial like immediate concern that it
3 could potentially be that. It wasn't like any kind of
4 modelling was done. This was high profile public
5 health officials, like Fauci, like Theresa Tam,
6 expressing this potential concern, but we very
7 quickly -- it didn't take much time before we knew, we
8 really started to narrow down the high-risk
9 demographics.

10 And so we knew very early on, again, that the
11 highest risk demographics were the frail elderly, those
12 who are immunosuppressed, those who are obese, and
13 those who have multiple comorbidities. And for the
14 rest of the people, we knew, so very earlier on, that
15 the risk of fatality from infection from this
16 particular virus was quite low, yes.

17 DR. ALDCORN: Thank you.

18 A No problem.

19 MR. KITCHEN: I'm going to ask for
20 permission to ask a follow-up question.

21 THE CHAIR: Okay.

22 Mr. Kitchen Re-examines the Witness

23 MR. KITCHEN: And I'll give you the
24 question, and then you can let me know if you're okay
25 with it.

26 Q MR. KITCHEN: Dr. Bridle, what do you mean

1 by "very early", right? Because it came in March 2020.
2 So the Pandemic Directive came out in May of 2020, so
3 it's important that we know what you mean by what's
4 "very early", that we knew it wasn't going to be as
5 high as 1 percent.

6 MR. KITCHEN And, Chair, is that okay that
7 he answers that?

8 THE CHAIR: Mr. Maxston, do you have any
9 objection?

10 MR. MAXSTON: I don't object.

11 A Yeah, so that's a good question. It was prior to the
12 implementation of the policies that we knew that, in
13 the low-risk demographics, it wasn't going to be
14 anywhere close to 1 percent infection fatality rate.
15 So prior to May, right? The virus was first identified
16 in late 2019. It was only -- it only took a couple of
17 months to start identifying that this was -- so
18 basically what we refer to this as is this is a
19 virus -- we talk a lot about discrimination, you don't
20 want discrimination -- but this is a virus that very
21 much discriminates. And we knew that within a couple
22 of months, meaning, a potentially, a very dangerous
23 virus that would have a high infection fatality rate,
24 would indiscriminately kill people.

25 This virus is very discriminatory. We knew within
26 a couple of months of the -- when it was -- after the

1 virus was first identified. So by "very early", I mean
2 like by January, by the end of January 2020, we already
3 had a good idea that there was a limited number of
4 demographics that were at particularly high risk from
5 this virus.

6 THE CHAIR: I think we should leave it at
7 that. We're talking in generalities now.

8 MR. KITCHEN: I'm going to ask for
9 permission for one more question.

10 Q MR. KITCHEN: Because I want to -- I want
11 you to be able to answer Dr. Aldcorn's question.

12 At what month in 2020 did scientists know that the
13 IFR was going to be below 1 percent?

14 MR. MAXSTON: Mr. Kitchen, I'm going to have
15 to -- I don't want to be difficult here, but that is a
16 very vague question. When we say scientists knew,
17 which scientists, when, how did they know? I think
18 we've explored this a little bit, but I'm reluctant to
19 let it go much further than that, because it's just a
20 broad topic to begin that -- and, of course, in
21 fairness to Dr. Bridle, he can't speak to what other
22 people thought.

23 So I think my request to you is that you've
24 explored this enough, and I think you shouldn't go any
25 further, and I hope you're comfortable with that.

26 MR. KITCHEN: I'm going to ask Dr. Bridle --

1 Q MR. KITCHEN: -- when did you know?

2 A I was quite confident that -- about that by the end of
3 January 2020.

4 MR. KITCHEN: And I'll leave it there. I
5 think that was helpful for answering everybody's
6 questions.

7 THE CHAIR: Okay, I think that brings
8 today to a conclusion. We'll be back at 9:00
9 tomorrow morning. Mr. Kitchen, you can discharge your
10 witness, and thank you very much, Dr. Bridle, for a
11 very long and informative day.

12 A Thank you. Take care.

13 THE CHAIR: So we're back on at 9 with
14 your witness tomorrow morning, Mr. Kitchen, that's
15 correct?

16 MR. KITCHEN: That's right.

17 THE CHAIR: Okay. Very good, well, we
18 will recess until tomorrow morning. Thanks everybody,
19 and we'll see you then.

20

21 PROCEEDINGS ADJOURNED UNTIL 9:00 AM, JANUARY 29, 2022

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1 CERTIFICATE OF TRANSCRIPT:

2

3 I, Karoline Schumann, certify that the foregoing
4 pages are a complete and accurate transcript of the
5 proceedings, taken down by me in shorthand and
6 transcribed from my shorthand notes to the best of my
7 skill and ability.

8 Dated at the City of Calgary, Province of Alberta,
9 this 21st day of February, 2022.

10

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14

Karoline Schumann, CSR(A)

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Official Court Reporter

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IN THE MATTER OF A HEARING BEFORE THE HEARING
TRIBUNAL OF THE ALBERTA COLLEGE AND ASSOCIATION
OF CHIROPRACTORS ("ACAC") into the conduct of
Dr. Curtis Wall, a Regulated Member of ACAC, pursuant
to the Health Professions Act, R.S.A.2000, c. P-14

DISCIPLINARY HEARING

VOLUME 8

VIA VIDEOCONFERENCE

Edmonton, Alberta

January 29, 2022

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1 Proceedings taken via Videoconference for The Alberta
2 College and Association of Chiropractors, Edmonton,
3 Alberta

4

5 January 29, 2022 Morning Session

6

7 HEARING TRIBUNAL

8 J. Lees Tribunal Chair

9 W. Pavlic Internal Legal Counsel

10 Dr. L. Aldcorn ACAC Registered Member

11 Dr. D. Martens ACAC Registered Member

12 D. Dawson Public Member

13 A. Nelson ACAC Hearings Director

14

15 ALBERTA COLLEGE AND ASSOCIATION OF CHIROPRACTORS

16 B.E. Maxston, QC ACAC Legal Counsel

17

18 FOR DR. CURTIS WALL

19 J.S.M. Kitchen Legal Counsel

20

21 K. Schumann, CSR(A) Official Court Reporter

22

23

24

25

26

1 (PROCEEDINGS COMMENCED AT 9:08 AM)

2 THE CHAIR: Well, good morning, everybody.
3 We've got one witness I believe to examine today,
4 Mr. Kitchen, and just before we do that, Mr. Maxston,
5 anything to raise?

6 MR. MAXSTON: No, thank you for asking, but
7 I should mention, Mr. Kitchen, you'll probably speak to
8 this, but he has sent Mr. Lawrence and I his proposed
9 qualification for his expert witness, and I don't think
10 there will be an issue.

11 Mr. Kitchen, I would have responded to you, but I
12 needed to run that by my client, and I just saw it this
13 morning, so I'll let you know that in advance.

14 MR. KITCHEN: Thanks.

15 THE CHAIR: Okay, let's turn the floor
16 over then to Mr. Kitchen, and you can bring your
17 witness in, and I just remind everybody to mute
18 yourself, please, and hopefully we'll have enough
19 bandwidth today that we don't have any interruptions.

20 MR. KITCHEN: All right. So, Dr. Warren,
21 I'll just do some introductions because we have so many
22 people, and I don't know if you can see everybody on
23 the screen. I've got mine on gallery view so I can see
24 everybody.

25 The four Tribunal Members are Dr. Dianna Martens,
26 Dr. Leslie Aldcorn, those are chiropractic members of

1 the Tribunal; and then Mr. Jim Lees and Mr. Doug Dawson
2 are public members of the Tribunal. So there's four in
3 total.

4 Walter Pavlic is the lawyer for the Tribunal,
5 probably won't hear anything from him, but he's the one
6 that advises the Tribunal, so if they caucus, he goes
7 caucusing with them, and don't wonder at that.

8 Mr. Maxston is the lawyer for the -- what I will
9 refer to as the prosecutor in this case. So we have
10 the College, we have the Tribunal, those are separate.
11 The College is bringing the action against Dr. Wall,
12 and that's happening through the Complaints Director,
13 that's David Lawrence. His lawyer is Blair Maxston, so
14 he'll be the one that cross-examines you.

15 And then, of course, there's the Hearings
16 Director, you won't see her, but that's Ms. Nelson.

17 And then have our court reporter, Karoline.

18 And then of course, Dr. Wall is here. You won't
19 see him or hear him, but he's listening. And that's
20 everybody.

21 So with that, Karoline, could you please swear him
22 in.

23 THE CHAIR: Dr. Warren, just before
24 Karoline swears you in, I'll just -- we tell this to
25 everybody, Karoline is a court reporter. She's making
26 a verbatim record of the proceedings, and so we would

1 ask that you try not to speak real quickly. I have no
2 idea whether that's your speech pattern or not, but if
3 you could just keep that in mind, please.

4 THE WITNESS: Sure.

5 THE COURT REPORTER: And please wait for
6 Mr. Kitchen and Mr. Maxston to finish their entire
7 question before you answer. Do not interrupt them.
8 It's just makes the audio very difficult for me, so ...

9 DR. THOMAS WARREN, Sworn, Examined by Mr. Kitchen
10 (Qualification)

11 Q MR. KITCHEN: Dr. Warren, I just have a few
12 questions for you about your background, and then I'm
13 going to tender your qualification, and then we'll go
14 from there, so I don't imagine that it'll take too
15 long.

16 A Sure.

17 Q Dr. Warren, do you have a medical degree?

18 A I do.

19 Q And what have you done for residencies and fellowships?

20 A Sure. So I did four years of medical school at the
21 University of Western Ontario, graduated in 2005. Then
22 I did three years of residency at the University of
23 Ottawa in internal medicine. And then I did two
24 fellowships in infectious diseases and medical
25 microbiology from 2008 to 2011. So I'm Royal College
26 certified in three different specialties.

1 Q Thank you. This may come up in your questioning, but
2 I'll ask it now, can you give us an idea, just briefly,
3 of what infectious disease, what that speciality is?

4 A Sure. So I'm an infectious disease specialist and a
5 medical microbiologist. People can be one or the other
6 or both.

7 So as an infectious diseases specialist, I treat
8 patients with infections, so diseases caused by
9 viruses, bacteria, parasites, fungus. So about
10 two-thirds of my practice is clinical work, taking care
11 of patients with infections, mostly in the hospital but
12 some outpatient work as well. And then about a third
13 of my practice is more administrative-type work. So as
14 a medical microbiologist for ten weeks, I manage the
15 microbiology laboratory in the hospital that I work in.

16 I also am responsible for covering the infection
17 control service at the hospital I'm at for about ten
18 weeks a year.

19 And then my primary administrative responsibility
20 is something called antimicrobial stewardship, and so
21 that's really just monitoring antimicrobial, antibiotic
22 use within the hospital, ensuring that it's appropriate
23 and controlling its use and intervening when needed.

24 Q Excellent, thank you. Are you currently enrolled in a
25 graduate program?

26 A Yes, I'm doing a Masters in science and epidemiology at

1 the London School of Hygiene & Tropical Medicine, which
2 is part of the University of London, England, and I'm
3 in my fourth year, so I should finish later this year.

4 Q Thank you. Do you teach in any capacity?

5 A Yeah, I have an adjunct appointment at McMaster
6 University as an assistant clinical professor, and so
7 in my ten years of full-time practice and my eight
8 years of my appointment with McMaster, I've had all
9 levels of learners from medical students, first-,
10 second-, third-year medical students, all the way up to
11 infectious diseases fellows.

12 Q Now, I know you mentioned you work at the hospital, but
13 could you tell us in more detail what your current
14 occupation is?

15 A Like as an infectious diseases specialist?

16 Q Yes, yeah, exactly, we want to know --

17 A So --

18 Q -- about just what that actually looks like.

19 A Okay. So I have hospital privileges at Halton
20 Healthcare Services, which is a medium-size hospital
21 just west of Toronto. It has three campuses, an
22 Oakville campus, a Milton, and a Georgetown campus.
23 And so I am oncall for 17 weeks a year for infectious
24 diseases, which is 24/7 call, can be quite busy.

25 And then other than that, as I said, I have a fair
26 amount of administrative responsibilities, which is

1 basically the rest of my time, apart from vacation and
2 being oncall. And then I have a small outpatient
3 practice, which would involve things like hepatitis C,
4 latent tuberculosis, HIV management.

5 Q Thank you. Are you a member of the CPSO?

6 A I am.

7 Q Have you been an expert witness in legal proceedings
8 before today?

9 A Yes, I have.

10 Q And have you prepared other expert opinion reports
11 regarding SARS-CoV-2 and/or COVID-19?

12 A Yes. I prepared I think nine expert reports in five
13 provinces for -- regarding COVID-19 for SARS-CoV-2.

14 Q Thank you.

15 MR. KITCHEN Those are all my questions.

16 Mr. Maxston, did you want to ask any questions
17 before I tender the qualification I want?

18 MR. MAXSTON: I don't think so, Mr. Kitchen.
19 Thank you.

20 MR. KITCHEN: Chair, I want to qualify
21 Dr. Thomas Warren as an expert in the areas of
22 infectious diseases and medical microbiology, in
23 particular, SARS-CoV-2, COVID-19, and the efficacy of
24 masking, physical distancing, and other restrictions
25 intended to prevent transmission of SARS-CoV-2.

26 MR. MAXSTON: Mr. Chair, as I mentioned

1 before, Mr. Kitchen provided this to me and my client
2 in advance, and we're not going to object to it.

3 I will repeat our prior comments with respect to
4 Dr. Wall's expert witnesses that we, again, don't
5 believe this is a hearing about mask efficacy and
6 social distancing, et cetera. We've placed that same
7 qualifier for all of Dr. Wall's witnesses as we have
8 before.

9 MR. KITCHEN: And I'll provide the same
10 response: It's borderline nonsensical to say such a
11 thing when the Complaints Director has submitted an
12 expert on the very issue of masking from a scientific
13 and medical perspective, and that was in response to
14 Dr. Wall's experts. So I understand my friend wants to
15 continue to fill the record with that, but I guess I'm
16 going to have continue to fill the record with saying
17 that I don't understand how it makes any sense to say
18 so.

19 THE CHAIR: You're both on the record on
20 that point, so I don't think we need --

21 MR. MAXSTON: And, Mr. Chair, I'm sorry, I
22 just want to make one comment, I've said this before
23 and I'll say it again, we called an expert because
24 Dr. Wall was calling experts, and we didn't introduce
25 Dr. Hu at our own initiative. It was to respond to
26 what we understood would be expert testimony, so I just

1 wanted to be clear about that. We didn't introduce
2 Dr. Hu for anything other than to rebut the expert
3 witness testimony from Dr. Wall. We've covered this,
4 but I wanted to mention that.

5 THE CHAIR: Let's get back on track and
6 deal with Dr. Warren. I just had one question I would
7 like to ask Dr. Warren.

8 The Chair Questions the Witness (Qualification)

9 Q THE CHAIR: Good morning, sir, thank you
10 for joining us.

11 A Morning. Thank you.

12 Q I was just looking at your résumé and your cv, and I
13 noted that peer-reviewed publications, the last one is
14 noted as 2015. Have you shifted your focus away from
15 research in the last few years?

16 A Yeah, usually most people in academia have either one
17 of two streams: One is research-based or
18 teaching-based. And so my appointment with McMaster is
19 a teaching-based appointment.

20 THE CHAIR: Thank you for clarifying that.

21 Ruling (Qualification)

22 THE CHAIR: Okay, I don't know that
23 there's a need for us to caucus to consider approving
24 Dr. Warren as an expert witness in the fields noted.
25 The College has no objection.

26 So, Mr. Kitchen, I'll ask you to continue with

1 your direct examination of Dr. Warren.

2 MR. KITCHEN: Thank you.

3 DR. THOMAS WARREN, Previously sworn, Examined by
4 Mr. Kitchen

5 Q MR. KITCHEN: Dr. Warren, just going to
6 start with a couple standard questions. Do you know
7 Dr. Curtis Wall personally?

8 A No.

9 Q Do you have any financial interest in the outcome of
10 this case?

11 A No.

12 Q And do you understand your duty today to provide this
13 Tribunal with your expert knowledge and opinions in an
14 objective and neutral manner?

15 A Yes.

16 Q And then the last thing is this: Do you understand
17 that if and when, in the likely event we're going to
18 have a break, you and I are not permitted to speak
19 until your testimony is done?

20 A Yes.

21 Q All right, well, I'm going to start with your report.
22 In the second section of your report, and that starts
23 on page 1, you identified three factors that are
24 driving SARS-CoV-2 transmission and mortality and state
25 that those factors are, quote, non-modifiable. Now,
26 I'm going to ask you about the factors, but, first,

1 could you please explain what "non-modifiable" means?

2 A "Non-modifiable" means that they can't be changed. For
3 instance, I speak about a person -- or a person's age,
4 you can't change someone's age or you can't change the
5 age structure of a population. So non-modifiable means
6 it cannot be changed by some sort of intervention.

7 Q The first non-modifiable factor you discuss is the
8 timing of peak virus transmission or wave of
9 transmission. You say the timing is primarily affected
10 by seasonal patterns. First, I want to ask you, since
11 your report is almost a year old now and we're two
12 years in experiencing this with SARS-CoV-2, has your
13 opinion in this regard changed in any way since
14 drafting this report?

15 A It only changed in that I'm more certain of it. In the
16 last nine or ten months since I wrote my report,
17 there's been even much more accumulating evidence to
18 show that SARS-CoV-2 is similar to essentially every
19 other respiratory -- important respiratory infection in
20 humans, in that it follows a seasonal pattern. We can
21 just even see that in our Canadian data that -- and I
22 mentioned it in my report, but other Coronaviruses have
23 their peaks in January, and across Canada, this
24 January, 2022, we have another peak of SARS-CoV-2.

25 Q Now, I know you cited to a lot of literature in your
26 report, of course, and you just said that there's even

1 more literature since, but can you give us an idea of
2 what is that literature that supports your position?
3 Just a -- I know you can't go into every study, but
4 please give us an idea of what that literature is.

5 A Specifically about seasonal patterns?

6 Q Yes.

7 A Yeah, so I quoted, I don't know, probably about a dozen
8 studies or so, yeah, at least seven or eight, that
9 talked about or showed that SARS-CoV-2 follows a
10 seasonal pattern, which was fairly early, because by
11 the time I wrote the report, it had only been around
12 for just over a year, I think 15 months.

13 And so similar to those studies, there have been
14 more studies looking at the timing of SARS-CoV-2 in
15 different jurisdictions. So some of the studies I
16 quoted were country-specific, others were global. And
17 those similar types of studies, because we have one
18 more year of data have continued to accumulate and been
19 published in the peer-reviewed literature.

20 Q These are peer-reviewed academic articles, is that a
21 good way to describe them?

22 A Correct.

23 Q And can you explain how or why these seasonal or
24 cyclical patterns are, in fact, non-modifiable?

25 A Well, the weather is non-modifiable, and so we know,
26 for instance, with influenza, that it kind of usually

1 starts in the southern hemisphere and moves to the
2 northern hemisphere. Maybe potentially the time of
3 year or the exact time in the winter, the colder
4 season, when the peak occurs might be different, might
5 be December one year, might be January the next or
6 February, but it's always kind of in the winter months
7 in the northern hemisphere.

8 And so the climate and the temperature is not
9 something that can be changed, and that affects
10 multiple things. It affects how often people are
11 inside. It affects transmissibility, because the
12 relative humidity in the air affects water droplets,
13 which is, you know, aerosol droplets is one of the --
14 the primary way that SARS-CoV-2 and many other
15 respiratory viruses are transmitted. So those type of
16 factors can't be changed, but we're going to have a
17 winter in the northern hemisphere every year around the
18 same time, you know, between November and March, and so
19 we can expect a peak of respiratory viruses to occur in
20 that time frame.

21 Q So the theory that lockdowns or restrictions work based
22 on the theory of being able to modify that or being
23 able to work notwithstanding that?

24 A The main -- well, the main purpose, I guess, of
25 lockdowns would be to reduce the frequency of contacts
26 and then, therefore, infection, with the goal, you

1 know, it's usually the stated purpose of not
2 overwhelming health care capacity.

3 But in my second point, I talk about population
4 density. And the number of infections in a
5 geographical location is primarily going to be
6 influenced by population density, and I give an example
7 of New York. Like in the first wave, there was a huge
8 number of infections in New York City, because it's so
9 population-dense, and you can't change that. You can't
10 take 8 million people in New York City and put them in
11 upstate New York, distribute them along upstate New
12 York. So you're still going to have 8 million people
13 in a small number of burrows in New York City, and even
14 though there's a lockdown, you still have large
15 apartment buildings with people in very close quarters.
16 So you're not modifying the population density, which
17 is the most important factor.

18 Q So the idea behind restrictions is not that
19 restrictions can change that factor but that
20 restrictions can work notwithstanding the presence of
21 that factor?

22 A That's the idea. The idea would be by having a
23 lockdown restriction, you're reducing the number of
24 people that you would come in contact with and,
25 therefore, the number of potential infectious contacts
26 or the statistical risk of someone being infected.

1 What I'm arguing in this and what I think some of
2 what the literature clearly shows in the studies that I
3 quoted is that it has a negligible effect in a place
4 that is already population-dense.

5 And so you have a rural location, those people
6 already are going to come into contact with much fewer
7 people. Let's just say, you know, give a number of 8
8 or something per day, whereas you have a
9 population-dense place like New York City, I'm just
10 throwing it out there, but you have people on a random
11 day coming into contact with 80 people, you know what I
12 mean.

13 And lockdown is modifying that slightly, like
14 you're taking in a rural location, 8 down to 5, and
15 then New York City, 80 down to 60. You still have a
16 very population-dense area. When you go out to buy
17 groceries in New York City, you're passing by lots of
18 people, and so you can't modify that population
19 density. And that, as I showed in the studies I
20 quoted, is a very important factor to predict the
21 number of infections in the current wave.

22 The timing is going to be predicted by season.
23 The number of infections is going to be predicted by
24 population density, and the mortality is going to be
25 predicted by the age structure.

26 Q So is part of the reason why we keep getting wave after

1 wave after wave because the cyclical pattern just can't
2 be stopped even by intense interventions?

3 A Yeah, SARS-CoV-2 is now the fifth seasonal Coronavirus.
4 There have been four prior to SARS-CoV-2, and now it's
5 the fifth. And it will continue to cause infections
6 and waves in a seasonal pattern just like the other
7 four do.

8 And so just like we can't prevent influenza or
9 other seasonal Coronaviruses, we can't prevent the
10 waves on a population level, we're not going to be able
11 to prevent SARS-CoV-2 waves. We haven't been able to
12 in the past two years, and we won't be able to going
13 forward.

14 Q So at this point in time, are any attempts, any human
15 attempts to try to stop SARS-CoV-2 from continuing as
16 the fifth Coronavirus, are they just futile?

17 A Yeah, to stop it circulating within the community like
18 globally, yeah. Like trying to stop it, the whole
19 notion of zero COVID makes no sense. It can be done
20 for short periods of time in places like New Zealand,
21 which can -- are literally in the middle of the ocean
22 and can hibernate themselves from the rest of the
23 world. But even there, you see places like Australia
24 that were able to maintain that for periods of time,
25 but now it's circulating in Australia like anywhere
26 else in the world.

1 And so, yeah, it would be utterly futile to say
2 that we tried to stop the circulation of SARS-CoV-2
3 right now, like on a global level within the community.

4 Q So even if an entire nation went into, you know, a
5 complete, you know, locked in your house kind of
6 lockdown for a year on end, it wouldn't matter, because
7 as soon as you lifted that, Coronavirus would come in;
8 is that what you're saying?

9 MR. MAXSTON: Mr. Kitchen, I'm sorry, I
10 don't want to interrupt, but I got the sense on the
11 last three or four questions that there's a lot of
12 lead-in, and I don't want to cramp your style here, but
13 I think there's a lot of lead-in on some of these
14 questions. I wonder if you could consider maybe
15 rephrasing them a little bit.

16 MR. KITCHEN: That's fine.

17 Q MR. KITCHEN: Dr. Warren, just give me a
18 second; you've already answered so many of my
19 questions.

20 So let's talk about the -- I mean, you've already
21 touched on this, but let's talk about the third factor.
22 And I think I understand this better now, you say the
23 third non-modifiable factor is just how old people are.
24 But the first question I have for you to help us
25 understand is what is infection fatality ratio?

26 A Okay, let me just bring that up here on my report.

1 Q Yeah, it's on page -- end of page 2, it's the third
2 portion of that section.

3 A So the infection fatality ratio, so that's the number
4 of people with the infection that died or the
5 percentage. It's a ratio, so it would be a percentage.

6 Q And do you have any idea roughly what that is right now
7 with COVID?

8 A It's unchanged from what I say in my report. So in my
9 report, I say that persons over 80, the IFR is
10 approximately a thousand times greater than the IFR in
11 those under 20, and so the age of a patient is by far
12 the most predictive measure of the risk of mortality.

13 Q In your opinion, is the IFR of people above 80 more
14 relevant than the overall IFR?

15 A Well, I think the IFR in any age group is going to be
16 important, so if we look at -- if we compare the
17 mortality risk in persons under 20, I think that helps
18 shape policy for that age group, so that's school-age
19 people. And we know and it's clear from the literature
20 now, it was when I wrote my report, but it's much
21 clearer now, that the actual risk of death from
22 SARS-CoV-2 infection is lower for that age group,
23 persons under 20, than for seasonal influenza.

24 And so when you're considering policy in that age
25 group, that's important to look at. It's also
26 important to look at what the IFR is in other age

1 groups as well, but it's important to be able to break
2 that down. And so, likewise, when we look at the IFR
3 in persons over 80, that helps us form a policy for
4 that age group, whether it's care homes, nursing homes,
5 retirement homes. It matters what the IFR is in other
6 populations, but it's very helpful to break it down,
7 because each age group and demographic is going to have
8 different policy implications, because policy
9 implications for a school should be very different than
10 a policy implication for a nursing home.

11 Q We've heard in the proceedings so far that the IFR
12 overall for all age groups for COVID is about 0.15 or
13 less now, but what we've heard, at least at one point,
14 it was 0.15. Do you have any reason to agree with that
15 number?

16 A No, that's roughly accurate. I would say it's probably
17 lower now, having gone through the Omicron wave.
18 Omicron has been much less severe with regards to
19 mortality. There are various factors regarding that,
20 but, yeah, that number is roughly accurate. Again, it
21 really depends. When you talk about an IFR in a
22 sub-Saharan African country, which has a much lower
23 population, it's going to be quite different.

24 So in statistics, we use age -- like there's a way
25 of age-standardizing when you compare different
26 countries, and that would always have to be done when

1 you compare or when you discuss these things, because
2 if you calculate an IFR of the Canadian population,
3 without age-standardizing it and then comparing it to
4 another country like say Nigeria, which is much
5 younger, you're comparing apples to oranges. And so
6 there's clear statistical methods if you want to do
7 that comparison.

8 And so generally, when you talk about an IFR
9 overall globally, well, then you have kind of
10 standard -- well, what's your standard population
11 scale, and then you normalize it to that. So it's not
12 an easy answer, but that's a roughly good ballpark
13 number, but I would say it's maybe slightly lower now.

14 Q Okay. So if I'm understanding you, in sort of
15 nonscientific language, the more old people you have in
16 your society, the higher the IFR in that society?

17 A Yeah, absolutely. If you're calculating it just based
18 on your country, yeah.

19 Q And it's lower in Nigeria because they have less old
20 people?

21 A Yeah, the age structure is different. So the
22 proportion of, say, persons in over 70 in a younger
23 country, and that would often be countries in
24 sub-Saharan Africa or different places in Asia, it's
25 going to be different, yeah.

26 And people discussed this with regard to the

1 Omicron wave in South Africa, because the South African
2 population is quite a bit younger, and so people
3 rightly said, okay, well, we need to compare apples to
4 apples here, rather than apples to oranges. And there
5 are standard statistical ways of kind of doing that
6 comparison. There -- and I won't get into that, but
7 you can still do it.

8 Q So when I look at your report, you say 95 percent --
9 we're in Canada -- 95 percent of deaths are in persons
10 over 60. So do I understand correctly then that 95
11 percent of what contributes to that overall IFR of 0.15
12 is from people over 60?

13 A That's right.

14 Q So if we took those people out of the equation, instead
15 of 0.15, we'd have something that might look like
16 0.00000 et cetera; is that accurate?

17 A Yeah, it would be -- if you look at the IFR of only
18 persons 60 and under, it's substantially less, yes,
19 that's right.

20 And again -- and then -- you know, it's
21 affected -- there are other factors, right? There are
22 comorbidities, and, you know, the CDC had a good study
23 just recently that was published that just -- that
24 looked at both age but then comorbidities as well. The
25 risk of death increases significantly when you go from
26 zero to one comorbidity and then to two and then to

1 three.

2 So you have someone who is over 80 with, you know,
3 two or three comorbidities, their risk of death is very
4 high and substantially higher than -- orders of
5 magnitude higher than someone, you know, much younger
6 with no comorbidities. And, you know, statistically,
7 it's closer to zero once you get below a certain age
8 with no comorbidities; it's for all intents and
9 purposes zero.

10 Q Okay. So the IFR differs dramatically over age groups
11 then?

12 A Yes.

13 Q Now, and this has been a big issue in this hearing, the
14 overall IFR, was it ever much higher than this 0.15
15 figure even in the beginning?

16 A Well, it's changed, so if you -- it can be tracked over
17 time, and what you'll see is that, very early on, it
18 was very high because the number of infections detected
19 was much lower very early on because testing was
20 limited, but quite soon after the first wave, the IFR
21 came down significantly.

22 So if you look at the very beginning when people
23 were (INDISCERNIBLE) in the spring of 2020, it was
24 quite high, but over time -- I mean, you could -- there
25 are graphs of this, but over time, the IFR has been
26 going down and down and down, and actually, you know,

1 quite significantly dropped in the Omicron wave,
2 because you have a whole bunch of infections but
3 relatively fewer deaths, and so it's been going down
4 over time.

5 Q That IFR rate early on, so let's say early 2020, is
6 that a highly reliable figure?

7 A No, because it was -- in statistics, you know, we talk
8 about things like bias, like so that would be selection
9 bias. And so early on, it was only the most evident,
10 so symptomatic, the sickest who were being tested, and
11 so you had a selection bias early on.

12 But as with -- in most things in statistics, the
13 larger sample size, the more accurate it's going to be.
14 And so now that we've got, you know, hundreds of
15 millions of cases worldwide that we can reliably make a
16 much better estimate as to what the true IFR is.

17 Q Is it possible that, in early 2020, a very large number
18 of people were infected, but nobody really knew about
19 it?

20 A Yes. It's hard to know that for sure, because there
21 are a number of different factors, one of which just
22 being limitations of testing, particularly in different
23 places in the world.

24 Even in our institution, I remember for the first
25 few weeks at least, if not longer, like we had quite
26 significant limitations on who we could test, who we

1 could only run a certain number of tests per day. But,
2 yeah, there have been other studies that have been done
3 subsequently to say and estimate at least how many
4 other infections are there apart from the ones that
5 we've actually picked up with positive testing, for
6 instance.

7 The estimates varied from, again, the country and
8 various separate testing procedures or protocols, or,
9 you know, who can be tested, who not. Because even
10 here in Ontario, we've changed who's going to be
11 tested. Our Chief Medical Officer of Health says
12 that -- now said, you know, if you have minor symptoms
13 and, you know, are otherwise healthy and stuff, you
14 don't necessarily have to be tested, you just assume
15 you have COVID and stay home. So over time there has
16 been changes to testing protocols and stuff, and so
17 that's going to change how many people are actually
18 detecting.

19 So certainly very early on, there would have been
20 a fair number of people who had the infection but were
21 not detected, because we know the asymptomatic rate is
22 about 10 to 20 percent as well, I said that as well.
23 So at least early on, unless they were close contacts
24 and similarly infected, they probably weren't being
25 tested.

26 Q Now, obviously any IFR is, I guess, concerning or

1 upsetting, because that ultimately means people die,
2 but can you help us understand, give us a figure of
3 what would be considered in the medical community as a
4 dangerously high IFR?

5 A Well, you know, that's a bit of a tricky question, but
6 like I think what we're seeing now, I think one of the
7 important things to say with regards to the IFR of
8 SARS-CoV-2 is that, overall, what we're seeing is that
9 the IFR is approaching seasonal influenza, and seasonal
10 influenza varies quite a bit from year-to-year, and
11 some years are very bad, other years aren't.

12 And actually they're related, because what happens
13 is if you have a bad flu year, because many elderly
14 people, no matter what, are -- in the end, are going to
15 die of a respiratory tract infection. Canada's
16 greatest physician, William Osler, kind of referred to
17 it as -- respiratory infections, at least overall, as
18 the old man's friend. It was just kind of something
19 that just took off the elderly. So whether it's
20 bacterial pneumonia, influenza, Coronaviruses, the
21 frail elderly and, you know, with heart disease or
22 cancer or other things that have debilitated them, it's
23 the heart disease or the cancer that's debilitated
24 them, but the thing in the very end, the last few days,
25 that they might actually die of, is going to be a
26 respiratory tract infection. And so it's very common

1 in that age group.

2 And so influenza, we know that if you have a bad
3 influenza year, the next year is often going to be
4 light, and one of the reasons is that the previous
5 severe season has, unfortunately, killed many of the
6 most vulnerable, and so you've now removed a good
7 proportion of the most vulnerable from the population,
8 and so the next year, the flu, at least in that
9 population may be -- the IFR at least may be relatively
10 low. And so there's multiple different factors going
11 on here.

12 But what we're seeing is that now, overall, the
13 IFR of SARS-CoV-2 is approaching and very similar to
14 seasonal influenza.

15 Q So when you say a bad year, so the IFR for influenza
16 fluctuates then?

17 A Absolutely from year-to-year. So you -- and during
18 pandemic years, the IFR is going to be very high. So
19 if we're just talking about 1919 to 1920, like the 18
20 months from late '17 to, you know -- or late 2018 to
21 2-thousand -- or, sorry, 1918 to 1920, during the
22 Spanish the flu, the IFR would be huge, but there are
23 other years when influenza IFR is quite low. And so
24 you can talk about it on a yearly basis or a strain
25 basis, or we can talk about it over years or decades.
26 And if we kind of generally talk about it over years

1 and decades, then the IFR of SARS-CoV-2 is now
2 approaching the IFR of influenza.

3 But, yes, the estimated mortality of influenza
4 year-to-year can change by two or three times in a
5 season even in Canada. And, again, that's affected by
6 multiple factors. One of the factors, as I said, is
7 the previous year and the proportion of vulnerable
8 people, but it's also going to be the natural mutation,
9 the strains of influenza. We would call them strains.
10 Now, you know, we call them for SARS-CoV-2, it's
11 variants, but it's the exact same process. It's
12 natural mutation of a respiratory virus.

13 Q Right, but you used the word "pandemic" in describing a
14 bad influenza year. Are you aware of what number,
15 what -- you know, the IFR we know for low influenza
16 must be somewhere around 0.15, but what's the number,
17 roughly, for a bad influenza year or a pandemic
18 influenza year? What's the IFR rate? I mean, you
19 know, it could be 50 percent, it could be 25 percent.
20 You know, we don't know because we don't look at this
21 on a daily basis, and so I -- you know, it would be
22 very helpful to have some sort of number to work with.

23 A Yeah, I don't know the exact number for Spanish flu,
24 but the most kind of reasonable estimates for the
25 Spanish flu is that between 50 and 75 million people
26 died, so we're talking an IFR in the global population

1 was not that high, so we're talking an IFR of at least
2 1 percent in that case, if not higher.

3 Q Okay, so 1 percent is high?

4 A Well, it would be -- you know, I think the global
5 population at that point was about 2 billion, so we're
6 talking an IFR probably at that time of about 2
7 percent. Yeah, and these are just rough estimates. I
8 know that the most conservative estimates of the
9 mortality was about 50 million, so that's an example.

10 Q So has the IFR of COVID ever exceeded the IFR of a bad
11 flu year?

12 A Yeah, certainly early on. And with different variants
13 and as it starts to circulate, it's -- it doesn't
14 happen all the time, but the general way a virus
15 circulates is that it attenuates as it goes through a
16 population. So SARS-CoV-2 was a new virus in the human
17 population, and there's some cross-protection from
18 seasonal Coronaviruses, there's some cross-immunity,
19 but because it's a new virus, early on, it's going to
20 be more severe.

21 But what we've seen, especially with the Omicron
22 variant, and what happens with many new virus
23 infections within a population is that they attenuate
24 over time, because it's to the evolutionary advantage
25 of that virus to do that, because it infects more
26 people.

1 Just like one of the reasons we don't see massive
2 Ebola outbreaks is because it kills too many people too
3 quickly, and so it just burns itself out.

4 So we saw that with the Spanish flu. The flu we
5 have now is a descendant of that flu. And what
6 happened is, over time, the virus itself attenuated
7 itself, so as it just started passing through just
8 millions of people, it became less severe. And one of
9 the reasons for that is that -- a virus -- the
10 evolutionary advantage for a virus is to find kind of
11 that balance between causing some disease but not
12 killing the people too quickly, and so we've seen that
13 with SARS-CoV-2 as well.

14 It would be expected. It's not unexpected at all
15 for a variant like Omicron to occur, because Omicron,
16 for a variety of reasons, but one of the primary ones
17 it that it has less severity, infects way more people,
18 and that's expected.

19 Q Okay, you said early on -- I need you, if you can, to
20 try and give me months and years -- so what would be --
21 you said, you know, it was severe early on, well, when
22 was that, and when did that period end?

23 A Well, we know, looking at the variants that there was a
24 variant, even -- I don't know if I referenced it in my
25 report, but there was a variant even just within the
26 first few weeks of the pandemic that quickly switched.

1 I can look up the name. It wasn't given a name like
2 Alpha, Beta, or Delta and stuff. It was given a name
3 based on the base pair change. It was 'D' something,
4 something, changed to 'G' something, I think. It was
5 where the mutation was. So as the variants changed,
6 they're going to have different IFRs, and we've kind of
7 seen that. It does seem as though Delta was a little
8 more severe than, say, Alpha. But that change started
9 very early on, within weeks, and then we started seeing
10 things like Alpha and then Delta and now Omicron.

11 And so very early on, the IFR is going to be high,
12 because the most -- again, various reasons, but the
13 most susceptible are going to be dying, and then once
14 you eliminate those -- the most frail and -- who have
15 been infected from the population, you also have a less
16 frail population, and so that's one reason. I don't
17 want to oversimplify it here. One is inherent to the
18 virus itself. There's a difference between Delta and
19 Omicron, and so the IFR is going to change between the
20 variants, but the population itself is going to change.
21 And so if you have a complete naive population early in
22 the pandemic, that's going to change once the first
23 wave goes through, because, all of a sudden, the
24 frailest population are no -- are, unfortunately, no
25 longer in the population because they've died, and so
26 you have a population change. And these are just two

1 factors.

2 It's complicated. I think one of the risks, at
3 any point, is oversimplifying, but those are two very
4 important factors.

5 Q Thank you. When did the first wave end roughly in
6 Canada?

7 A Well, would have been the late spring of 2020, and I
8 don't have the graphs ahead of me, but I certainly
9 think by May absolutely.

10 Q At what point did the data indicate that the IFR was no
11 longer severe or high or whatever word you want to use?
12 You used the word "severe"; at what point did the data
13 indicate that the IFR was no longer severe?

14 A Well, it was within a couple months as we gathered more
15 data. By the end of the first wave, the idea of the
16 dramatic difference in mortality between the young and
17 the old was evident, and by the end of that first wave,
18 you know, within the first kind of three months, we had
19 a rough estimate at that point of what the IFR would
20 be, and then since then, it's been just trending down.
21 Again, as more and more people get infected, and,
22 unfortunately, the -- you know, the oldest, the
23 frailest have already died, the IFR has been trending
24 down.

25 Q Would you say the official definition of a pandemic is
26 objective or subjective?

1 A Well, I think any definition, you know, you can get
2 pedantic about it, but SARS-CoV-2 is clearly a
3 pandemic. Some people define it as, you know,
4 affecting multiple continents. Some people will argue
5 the first pandemic was the Antonine plague in the '160s
6 because it occurred in Africa, Europe, and Asia. And,
7 at least based on the records we have, we don't know of
8 any other infection before then that occurred on three
9 different continents. So it depends on how you define
10 your terms, but I think it's clear that SARS-CoV-2 is a
11 pandemic; there's no doubt about it.

12 Q Is it pandemic because it's "pan" because it's global?

13 A Well, yeah. It comes from -- you know, "pandemic" just
14 comes from the Latin root of "pan", which is all, and
15 "demos", which is people, and so it's all people.
16 We've seen that. Like it's even on Antarctica. I
17 think this is the first pandemic in history that's been
18 on all seven continents.

19 Q Is there no severability criteria for determining
20 something is or is not a pandemic?

21 A Yeah, you know, I think for something like seasonal
22 influenza, you have global infections every year, you
23 have waves every year, and so you would talk about
24 severity, so we would have a pandemic when -- in the
25 scientific literature about influenza, we talk about
26 antigenic drifts, which is the small changes that occur

1 year to year, and then antigenic shifts, which is the
2 major changes.

3 And, generally, when there's an antigenic shift,
4 we have a pandemic because we have a significant change
5 in the virus, which then you have a large proportion of
6 the population which don't have good cross-reactive
7 immunity. And so whether it's swine flu in 2009 or
8 previous pandemics in the 20th century, like 1968 and
9 there's been others, but at least in influenza, yeah,
10 it's not occurring on -- everywhere in the world,
11 because that occurs every year, but it's a major change
12 that increases the symptomatic infectivity, so
13 morbidity as well as mortality.

14 Q So some years, influenza is severe enough to be
15 pandemic and other years, it's not; do I have that
16 right?

17 A Correct, yeah.

18 Q So you said that COVID was severe enough in the
19 beginning to be, you know, at least as bad as a
20 pandemic influenza, but is it now at the point of
21 seasonal influenza? Is that a proper way to
22 characterize it?

23 A Yeah, once it becomes endemic, that's a good question.
24 Again, some of the definitions are going to be
25 arbitrary. You'll talk to some experts now who will
26 say, oh, COVID's already endemic, others will say no.

1 You know, a lot of people will say, okay, with Omicron,
2 that's what we're seeing now, it's endemic, we have so
3 many people infected. And others will say, well, no,
4 we can't call it endemic.

5 There's essentially uniform agreement that it will
6 be endemic, it's just kind of defining where that's
7 going to be is somewhat arbitrary. But, yes,
8 SARS-CoV-2 will be endemic, and whether you want to say
9 that that's now or whether it's going to be three, six
10 months from now, it's I think relatively arbitrary how
11 you say it. It was pandemic; it's going to be endemic.
12 Where you define that cutoff, I don't think it's easy
13 to kind of say one particular --

14 How I would define is that we start seeing a
15 different respiratory virus predominantly, because we
16 haven't seen massive waves of influenza, and that's not
17 unusual. So like in the hospital, we see different
18 respiratory viruses at different times, and so we have
19 a usual wave of influenza, say, in January, it's after
20 influenza leaves that we're going to see some of the
21 other important respiratory viruses in the waves of,
22 say, parainfluenza or human metapneumovirus.

23 And how I would define the endemic state of
24 SARS-CoV-2 is once we start seeing the return of waves
25 of other important respiratory viruses, maybe it's in
26 the spring with human metapneumovirus, I don't know,

1 but once that occurs, when we're having more cases of a
2 different respiratory virus, I think we can safely --
3 to me, that's an objective criteria of how to kind of
4 define the endemicity of SARS-CoV-2.

5 Q At what point in time did you become confident that
6 SARS-CoV-2 was going to be endemic?

7 A Once you have community transmission on every
8 continent, yeah. So it would have been within weeks of
9 the pandemic.

10 Q Okay, but just to clarify then, that would place you in
11 January 2020?

12 A No, no. Like early April 2020.

13 Q Okay, so just to clarify, by early April 2020, you
14 looked at the data and thought this is going to be
15 endemic?

16 A Yeah, absolutely.

17 Q So at that point, attempts to completely stop the virus
18 are futile?

19 A Yeah, absolutely.

20 Q At that point, were attempts to slow it down
21 theoretically possible to work?

22 A No. I think each different thing can be judged based
23 on the evidence, and that's what I do in my report. I
24 think most interventions had little or no effect, and
25 the evidence is bearing that out. We know that from
26 previous similar infections and -- but each different

1 intervention would have to be judged on its own merits,
2 so whether it's masking or lockdown, kind of
3 shelter-in-place, or, you know, testing in isolation,
4 each of those factors can be judged on its different
5 merits. But I think what we've clearly seen is that
6 the interventions put in place have not had a
7 significant effect.

8 Q And you do realize that many people say that they have
9 had a positive effect?

10 A Yeah.

11 Q And you disagree with them; is --

12 A I do.

13 Q -- that fair to say?

14 A Yeah.

15 Q And now, generally speaking, correct me if I'm wrong,
16 but at least in Canada, aren't the vast majority, if
17 not all, you know, public health agencies and
18 government bodies and medical officers of health saying
19 that, look, these measures did work over the last two
20 years; isn't that right?

21 A Yeah, there's lots of people claiming that, but it can
22 be debated endlessly as to what actual effect they did
23 or did not have.

24 Q Well, at least for you personally, is there a debate
25 happening?

26 A Yeah, there's actually really starting to be a debate

1 both in society generally but in the academic
2 literature as to what effect these different measures
3 had or didn't have, and again each one needs to be
4 judged based on the merits of each different
5 intervention.

6 But, yeah, both in the general public, I think,
7 globally, we're seeing an openness to debating and
8 seeing what the actual risk and downsides have been to
9 each individual intervention, but we're seeing that in
10 the academic literature as well.

11 Q In your experience, have the public health agencies and
12 medical officers of health in Canada been open to
13 having that debate.

14 A You know, I think most of the public health agencies in
15 Canada have had similar strategies and have not kind of
16 differed too much from themselves. I think if you look
17 at somewhere like Europe or the United States, which
18 have similar numbers of jurisdictions, a few dozen
19 jurisdictions in each of them and there's been wide
20 differences, and so looking at different states and
21 comparing them and looking at different countries in
22 Europe and comparing them can be helpful. But, again,
23 that has to be done carefully, because, as I mentioned
24 in my report, just doing that is the lowest level of
25 evidence, and it kind of commits the ecological fallacy
26 in statistics.

1 But, anyway, I do see quite a change in, you
2 know -- for instance, right now, a big debate, you're
3 seeing it in all sorts of media, whether it's the
4 New York Times or The Atlantic but also in the academic
5 literature just this week about, you know, masking
6 school age children. Like the New York Times and The
7 Atlantic, you know, having articles this week, it's
8 just been in the last few days, saying, yeah, the
9 evidence just isn't there, you know, we don't need to
10 be masking young school age children in schools. And
11 we're seeing these kind of studies come out in the
12 medical, the academic literature as well.

13 And I think what happened in the past is that, in
14 the absence of a lot of that evidence, assumptions were
15 made, and we -- you know, the term for that is called
16 medical reversal, and it's very difficult, once
17 assumptions are made, to reverse kind of course, and so
18 you're gathering a lot more information now and seeing
19 both the risks and benefits of various different
20 interventions.

21 Q You just talked about how, once assumptions are in
22 place, they're very difficult to reverse or change;
23 does that help to explain why the public health
24 agencies in Canada sort of refused to listen to experts
25 like you and cease the restrictions?

26 A Yeah, you know, there are many different reasons for

1 why things occurred, yeah. You know, that's a whole
2 other topic, why one group was listened to and one not.
3 But that evidence is accumulating now, and so that's
4 why you're seeing a lot of jurisdictions treat this
5 very differently. Once that evidence is becoming more
6 and more clear, more and more robust, you're seeing a
7 lot less restrictions.

8 Q Those assumptions you mentioned, are they, for the most
9 part, false or wrong or inaccurate?

10 A Well, again, it really depends on what you're talking
11 about I think. If you talk about, say, again masking
12 children, there's next to no studies in that. We can
13 talk about studies in masking adults. The masking of
14 healthy children, there was just no studies prior to
15 the pandemic, but the assumption is, well, masks are
16 good for health care workers in high-risk settings,
17 they must be good for children.

18 And as evidence accumulates, there should have
19 been more. There -- no randomized control trials of
20 children were done in the pandemic when they should
21 have been, they should have done cluster-randomized
22 trials of different schools and classrooms, just like
23 they did the cluster-randomized trial in Bangladesh,
24 and then we could have quantitated. But the assumption
25 was made, oh, they must be good, so we're going to do
26 it, but then as the evidence accumulates, we learn more

1 that there is no benefit, and so we shouldn't be doing
2 it.

3 In fact, there's lots of harms with regards,
4 particularly, with emotional and cognitive learning in
5 children if you mask both the children and the
6 teachers.

7 Q Now, I'm going to ask you a little bit about one of
8 those assumptions, and that's asymptomatic
9 transmission. So this is on page 3 of your report, the
10 third section. You say in your report that the rates
11 of transmission from asymptomatic persons is
12 substantially less than from symptomatic persons. So
13 the first question I have for you, of course, is has
14 the data or your opinion changed on that in the last
15 year?

16 A No, it has not changed.

17 Q Now, what do you mean by "substantially less"? Give us
18 an idea of how much less asymptomatic transmission is
19 than symptomatic.

20 A Well, I note a number of studies, but I think the most
21 important one would be study 53, because it's a
22 meta-analysis of household transmission, and household
23 transmission is, by far, the most important location of
24 transmission. So some estimates are as high as 80
25 percent of all transmission occurs within the
26 household, and that makes sense, this is where people

1 are in intimate contact with each other. So this study
2 I think is very helpful and very reliable.

3 So it's looking at household transmission, which
4 is the most important factor or place where
5 transmission occurs. It had a large number of
6 participants, close to 80,000, and the difference
7 between -- and it can be controlled. Like a household
8 is kind of like a unit, and so, again, I think this was
9 a very good study and very representative of the
10 literature and reliable, and it showed that the
11 difference between symptomatic transmission and
12 asymptomatic transmission was about 25 times. And so I
13 think that would be where I would -- you know, get that
14 word "substantial".

15 Q Thank you.

16 THE CHAIR: Mr. Kitchen --

17 MR. KITCHEN Yes.

18 THE CHAIR: -- I just wonder, is there a
19 point, a logical point in your approach where we could
20 take a short break?

21 MR. KITCHEN: Yes, I was planning to after I
22 finished asymptomatic transmission, and I don't think
23 I'm going to be on that very much longer --

24 THE CHAIR: Okay, thank you.

25 MR. KITCHEN -- so just a couple more
26 minutes.

1 Q MR. KITCHEN: Dr. Warren, you further say
2 that asymptomatic transmission does not warrant being
3 considered a significant contributor to the overall
4 transmission burden. Now, maybe that's obvious based
5 on what you just said, but can you just explain why
6 that's your opinion?

7 A So it can be -- my opinion can be considered in a
8 number of domains. The first is just the number
9 itself. So if we're talking about something that's 25
10 times less important, I think that's one domain. The
11 other domain, you know, relates to the point we've
12 already discussed, which is the fact that the virus is
13 going to be around forever, and kind of related to that
14 is the idea of treating an asymptomatic person as
15 diseased. I think that has huge, kind of moral,
16 philosophical, whatever implications. And so you have
17 something that's going to be around forever, you can't
18 treat the entire population, you know asymptomatic, as
19 potentially infected with regards -- just on a moral --
20 in my opinion, of course, but on a philosophical level,
21 you can't -- it's dangerous I think, societally, to be
22 treating everybody who otherwise looks healthy as a
23 potential germ carrier for an infection that's widely
24 prevalent and going to be around forever.

25 Q But is it, nonetheless, scientifically accurate?

26 A What's scientifically accurate?

1 Q That there are a large number of asymptomatic healthy
2 people going around that, you know, are harbouring
3 something that can make people really sick, and they're
4 likely to transmit it even though they're healthy?

5 A Well, I think it's just best to use numbers like I use
6 in my report. Like I think the best evidence that we
7 have is that asymptomatic transmission is 25 times less
8 than symptomatic transmission, and to me, that -- you
9 know, that's -- statistically that's a relatively large
10 number. I'm happy to call that substantially
11 different.

12 Q So it's not a good assumption that -- that most healthy
13 people could transmit this thing?

14 A No, I don't think it's justified, based on the
15 evidence, that we should be treating every healthy
16 asymptomatic person as a potential -- potentially
17 infected with SARS-CoV-2. You know, I think -- again,
18 everything to be qualified, if you're talking about
19 someone who is in very close contact, you know, of
20 course. And so, of course, there's going to be
21 exceptions to the rule, but it just proves the rule.
22 But I think, generally, at a population level, I don't
23 think the evidence warrants treating everybody in the
24 population who is asymptomatic as a potential
25 transmission risk for SARS-CoV-2.

26 Q Now, I'm going to come to masking after the break, but

1 just help me out, isn't that the assumption behind
2 mandatory masking of all healthy people? Like
3 (INDISCERNIBLE) --

4 A That's -- yeah, that's certainly one of the assumptions
5 for masking the healthy general public, absolutely.

6 Q Almost done before we break. Now, as you know, Dr. Hu
7 on page 6 of his report says your opinion regarding
8 asymptomatic transmission is, quote, contradicted by a
9 CDC report which says that 60 percent of COVID
10 transmission is asymptomatic. Now, Dr. Hu does not
11 provide the citation for this report, but are you aware
12 of what report he is referring to?

13 A No, I'm not aware.

14 Q Do you find that strange that he didn't cite to the
15 report?

16 A Well, I can't comment specifically on that, but
17 generally if you're going to cite a number or a
18 statistic or discuss a number or statistic in either
19 the academic literature or a formal document such as
20 this, you would provide a reference, like I did with
21 all of mine.

22 Q Well, do you think the -- I guess you've already
23 answered this, but, just to clarify, do you think the
24 balance of the scientific literature that is available
25 supports your opinion that symptomatic transmission is
26 way more prevalent than asymptomatic?

1 A Yes, that's what I state in my report, and I don't --
2 my opinion has not changed, that symptomatic
3 transmission is substantially more important than
4 asymptomatic transmission.

5 MR. KITCHEN: So that's it for me for the --
6 you know, we can break now, and then I'll have some
7 more when we come back. I'm, you know, probably
8 halfway through, maybe a little less, but close to
9 halfway through.

10 THE CHAIR: Okay. Thank you, Mr. Kitchen.
11 And, Dr. Warren, we're going to take a 15-minute break,
12 and you can put your connection -- you can mute and
13 turn your camera off during this period, but please
14 don't break the connection to the meeting and don't
15 speak with Mr. Kitchen, and we will see everybody in 15
16 minutes. 25 to 11 I think.

17 (ADJOURNMENT)

18 THE CHAIR: Mr. Kitchen, the floor is
19 yours once again; we'll resume your direct examination
20 of Dr. Warren.

21 MR. KITCHEN: Thank you.

22 Q MR. KITCHEN: Dr. Warren, from pages 3 to 5
23 of your report, you discuss the evidence for lockdown
24 measures, generally speaking, including physical
25 distancing. Prior to the year 2020, was there much
26 scientific evidence or academic literature in support

1 of the effectiveness of physical distancing?

2 A No, there was essentially none, and that -- I think I
3 gave a quote in -- yeah, there's a systematic review
4 published in -- it was a Cochrane systematic review,
5 and towards the end of page 4, I quote: (as read)

6 There was only one randomized controlled
7 trial of quarantine and no trials of
8 screening and (INDISCERNIBLE) or for physical
9 distancing.

10 So the highest level of evidence, as I discussed in
11 other parts of my report, are randomized controlled
12 trials or meta-analysis of randomized controlled
13 trials, and there was just none of that evidence with
14 regards to various lockdown measures prior to the
15 pandemic.

16 I can discuss that one randomized trial that they
17 discuss there, but -- in a quote. There was a
18 randomized controlled trial in influenza in Japanese
19 persons. What they basically randomized Japanese
20 workers to is that home quarantine while they were
21 symptomatic or not. And what it found is it had no
22 significant difference on overall rates of influenza.

23 So what happened is these Japanese workers, who
24 were quarantined at home, did -- their offices, their
25 co-workers had lower rates of influenza, but it was
26 counter-balanced by higher rates of influenza within

1 these quarantine workers' families. And so in the end,
2 it made no overall difference, because it just shifted
3 the number of infections from one place to the other.

4 And there are some interesting papers out there to
5 suggest the same thing happened in COVID-19, because
6 the household is already the highest -- or the most
7 likely case -- a place of transmission, when you have a
8 whole bunch of people sheltering in place, either
9 you're just transferring infections from one place to
10 the other, or, in fact, there's some people that would
11 argue that infections may have been increased because
12 of that.

13 Particularly in congregate settings, because
14 you're -- places like nursing homes, group homes, other
15 places where people are living but within close
16 proximity to others that we have these shelter-in-place
17 restrictions, it may actually increase the numbers of
18 infection.

19 But, again, the evidence there isn't clear.
20 There's lots of people kind of debating that, but prior
21 to COVID-19, there was essentially no evidence for the
22 positive effect of various different lockdown measures,
23 including physical distancing, isolation -- or, you
24 know, sheltering in place.

25 Q So is it basically there was a hypothesis that this
26 could work, and then that hypothesis was implemented;

1 is that sort of what happened back in the -- you know,
2 early 2020 in Canada?

3 A Yeah, there are a lot of different things going on
4 here, I'm happy to talk about that, but, number one, a
5 lot of the decisions were based on modelling. And as
6 part of my Masters, I've done some modelling courses.

7 And one of the key metrics in modelling is this
8 factor called Beta, which is just the average number of
9 interactions a person in the model is going to have
10 with other people. And by changing that one number in
11 modelling, at least, you can change the size of waves
12 or the number of infections and things like that.

13 So because a lot of decisions were based on
14 modelling, and that one factor is so important in the
15 modelling, the idea was if we can decrease the number
16 of interactions people have with other people, then
17 we're going to greatly decrease the number of
18 infections. Again, I think there's various problems
19 with that: Number one, the idea that most transmission
20 occurs in households and kind of really isn't
21 considered in that; number two, as I talked about in
22 population density, in very population-dense areas,
23 even sheltering at home, you're actually not reducing
24 the number of -- significantly reducing the number of
25 people, other people you are going to interact with,
26 because you're still going out to walk your dog, you're

1 still going to the grocery store. You know, if I'm in
2 downtown Toronto, and I'm walking two blocks to the
3 nearest grocery store, I'm interacting with a lot of --
4 I'm going by a lot of people, and -- anyway. So that's
5 one thing number one.

6 Then the other issue is that policies were
7 going -- at least early on, very early on, were going
8 to be heavily influenced by what happened with
9 SARS-CoV-1. And what happened with that infection is
10 that various different quarantine -- there were no
11 lockdowns, but that infection was able to be controlled
12 with various public health measures, mostly just the
13 usual stuff: Sick patients are kind of quarantined to
14 learn better; testing and tracing, so testing and
15 tracing all of their contacts. But that infection,
16 didn't last long, occurred -- recurred briefly in
17 various places like Singapore and different cities in
18 China and stuff.

19 But I think early on, because it wasn't that long
20 ago, it was I think only 16 years previous, a lot of
21 the policy was heavily influenced from that, and
22 pandemics have a deep kind of social history, right?
23 Like when you talk about things like the Black Death,
24 in a lot of places in Europe, you know 50 percent of
25 the population died from that pandemic and from plague,
26 and there have been many others and stuff as well.

1 So deep within the societal consciousness, you
2 know, there's fear of major infections. And in some
3 cases, in different infections historically, lockdown
4 or lockdown-like measures have worked, and you think of
5 things like smallpox and quarantine. So you had, you
6 know, a boat with -- you know, you think of 1720s
7 Boston, and there's evidence, you know, of this, you
8 have a -- and there's no smallpox in Boston, but you
9 have a boat coming in over from England where there's
10 people with smallpox on it, well, that boat is
11 quarantined, it's locked down in the harbour for
12 several weeks until there's no more transmission of
13 smallpox. And I can give many other examples from
14 history.

15 And so it's a complicated issue with regards to
16 lockdown, quarantine, things like that, so I think
17 those are kind of the three main ones that I just
18 addressed.

19 Q Thank you. I mean, I guess you've touched on this, but
20 just to be specific, has the evidence, you know, over
21 the last two years substantiated the theory that
22 physical distancing is effective?

23 A No, but, again, it's a hotly debated topic because we
24 don't have the best evidence. The best evidence is
25 randomized controlled trials, and those trials could
26 have been done. And, in fact, in small instances, they

1 have.

2 So most of the evidence, what we're doing is
3 ecological studies, so comparing one jurisdiction to
4 the other. And as I mentioned with regards to masks,
5 there's all sorts of statistical problems with that.

6 And, you know, debating various different lockdown
7 measures kind of with the type of evidence we have is a
8 whole other discussion, but the best evidence,
9 randomized controlled trials, which should be done for
10 everything, we just don't have that evidence.

11 But I give an example of one that was done, and
12 it's something that should have been done more, so in
13 Massachusetts, they did a randomized controlled trial
14 of school children of 3-foot distancing versus 6-foot
15 distancing, and there was no difference. Okay, so it
16 was a cluster-randomized trial, much like the
17 Bangladeshi mask study, so you randomized classrooms
18 versus -- rather than people. That's the standard way
19 of doing this type of intervention. And they showed
20 that there's no difference between 3 feet and 6 feet.

21 And so that study kind of proved the point that
22 that type of study can be done and should have been
23 done everywhere throughout the pandemic, looking at a
24 variety of different interventions. And when that type
25 of study is done, what it will show, and what it showed
26 prior to, as I talked about with that Japanese worker

1 study in influenza, which I think was 2010 or so,
2 somewhere around there, when those types of studies are
3 done prior to COVID and the very few that have been
4 done during, they don't show much of an effect of these
5 different lockdown-type procedures.

6 Q Thank you. Now, I want to ask you some questions about
7 masks. On page 5 of your report, your section on the
8 evidence regarding masks, you refer to, quote, healthy
9 people, and I think we've touched on this, but just to
10 be clear, for you is asymptomatic the same as healthy?

11 A Well, asymptomatic, I think you're -- yes, I guess.
12 Again, it's depends on how you define your terms. If
13 we're talking asymptomatic with regards to SARS-CoV-2,
14 they could be unhealthy otherwise. They could have
15 heart failure and diabetes and advanced-stage cancer; I
16 wouldn't call them healthy, but they're asymptomatic
17 with regards to respiratory symptoms.

18 Q So healthy in regards to not having cold flu symptoms?

19 A Right, yeah.

20 Q Okay. Is a mandate that all chiropractors wear a mask
21 at all times in their office, is that effectively a
22 mandate that all asymptomatic chiropractors wear a mask
23 at all times in their office?

24 MR. MAXSTON: I'm going to have to object to
25 that, Mr. Kitchen. I think that's a pretty central
26 question for the Hearing Tribunal to decide.

1 MR. KITCHEN: Well, you're going to have to
2 explain that.

3 MR. MAXSTON: Well, we can't ask this
4 witness to comment on the College's mandate and its
5 broader implications of it. I think your question is a
6 little too broad, Mr. Kitchen.

7 MR. KITCHEN: Well, I'll rephrase it again,
8 just -- not rephrase it, but say it again, because I'm
9 struggling with that. I'm asking him is it logically
10 accurate that a mandate that all chiropractors wear
11 masks at all times in their office is a mandate that
12 all asymptomatic chiropractors wear a mask at all times
13 in their office? I'm asking if those two things are
14 logically equitable. That's got nothing to do with any
15 determination that the Tribunal has to make.

16 MR. MAXSTON: I guess you can take this
17 witness to the Pandemic Directive, Mr. Kitchen, and you
18 could ask him to comment on that, but I'm not sure I
19 agree with you. I think that that's a broader question
20 that goes to I think one of the conclusions the
21 Tribunal is going to have to make based on the issues
22 you are raising.

23 MR. KITCHEN: That being --

24 THE CHAIR: Mr. Kitchen, the first part of
25 your question is all chiropractors, right?

26 MR. KITCHEN: Right. And I, you know -- I

1 thought this was not contentious. Maybe my friend can
2 tell me. I mean, as far as I know, there's no
3 disagreement here that the Pandemic Directive says that
4 all chiropractors must wear a mask at all times while
5 in their office.

6 Do you take issue with my characterization,
7 Mr. Maxston?

8 MR. MAXSTON: The Pandemic Directive says
9 what it says in terms of chiropractors having to wear
10 masks when they treat patients. But I think, in
11 fairness, you'd have to take this witness to the actual
12 wording in the Pandemic Directive and ask him what his
13 interpretation of it is, and I might have some
14 objections I suppose to that. But I think your
15 question, as it's framed, I just think is too
16 general --

17 MR. KITCHEN Okay.

18 MR. MAXSTON: -- or relates to one of the
19 issues this Tribunal's going to have to decide on.

20 I don't have a problem with you asking questions
21 about masking and asymptomatic patients, you know,
22 that's not -- I'm not going to object to that, of
23 course.

24 MR. KITCHEN: Well, do you have any
25 objections to me reading to him what the directive says
26 in that portion?

1 MR. MAXSTON: I don't think I would. I
2 think I would have objections to you asking him about
3 the -- I want to say it, how that applies in the
4 chiropractic office vis-à-vis a chiropractor and
5 patients.

6 MR. KITCHEN: Well, at least for this
7 question, I'm not asking.

8 MR. MAXSTON: Yeah. Well, as I said, I
9 think it's probably better to take him to the Pandemic
10 Directive if you want to ask questions about the
11 meaning and intent of the Pandemic Directive. That's
12 all I'm saying here is it just seems to me that this is
13 a little bit of a bigger picture issue that the
14 Tribunal's going to have to decide on.

15 THE CHAIR: Would it be possible to put
16 that directive up on the screen?

17 MR. KITCHEN: I don't know if Ms. Nelson can
18 do that quickly. The only reason I don't want to --
19 I'm just trying to save time.

20 MR. MAXSTON: And, Mr. Kitchen, you know, it
21 says what it says --

22 MR. KITCHEN: Yeah.

23 MR. MAXSTON: -- I'm not -- if you want to
24 ask your client about whether he thinks that directive
25 is, you know, scientifically supported, you've been
26 doing that already, I suppose, indirectly; I'm just a

1 little concerned about saying -- you know, asking him
2 to draw a conclusion about this specific directive in
3 the context of, I guess, the charges that are in front
4 of the Tribunal.

5 MR. KITCHEN: Well, let me ask a series of
6 open-ended questions, and maybe we can resolve this.

7 Q MR. KITCHEN: Dr. Warren -- my friend can
8 intervene if he thinks this is a problem -- but there
9 are approximately 1150 regulated chiropractors in
10 Alberta. That's somewhere in the record; I don't think
11 that's contentious. Is it possible that -- well, is it
12 possible that all of them are going to be symptomatic
13 at exactly the same time?

14 A I don't totally understand the question, but obviously
15 not; I don't think there would be 1100 people
16 symptomatic at the same time.

17 Q And I can tell you this because it's in the record, I
18 don't think it's contentious, chiropractors are not
19 actually in the directive. I can't say precisely right
20 now. Certainly in the relevant time period here which
21 we're talking about, which is about May 2020 to
22 December 2020, chiropractors weren't, in fact, allowed
23 to be in their office if they were symptomatic, okay?
24 So if there's a requirement -- and I'll read it to you
25 if I have to, but, again, I don't think I'm
26 mischaracterizing it -- if there's a requirement that

1 chiropractors wear a mask while in their office
2 treating patients, and that requirement is static or
3 universal, is that not a requirement that asymptomatic
4 chiropractors wear a mask at all times in their office
5 when they're treating their patients?

6 A So from what I understand from the question, I'm not
7 again entirely sure, but it sounds like the directive
8 says that chiropractors may not practice or be in their
9 office if they're asymptomatic [sic], and presumably
10 that's the same for their patients as well with regards
11 to COVID symptoms; and so I think the question then is
12 if they're not allowed to be in their office or
13 practicing -- seeing patients, if they're symptomatic,
14 then, by definition, they're wearing a mask as
15 asymptomatic persons while performing the chiropractic.
16 Is that correct? And so that's what you're asking?

17 Q That's what I'm asking, yes.

18 A Yes, okay.

19 Q I'm going to ask you a few questions about health care
20 settings and non-health care settings, but let's first
21 talk about non-health care settings. You say in your
22 report that when limited to the strongest types of
23 evidence, RCTs as we've discussed, there is no evidence
24 in support of healthy or asymptomatic people wearing
25 masks in non-health care settings. You've already
26 explained all that.

1 Just to clarify, because I know that, you know,
2 this is an issue with Dr. Hu, there are multiple
3 peer-reviewed publications that support your position
4 on that?

5 A Yes, so as I state in my report, pages -- and page 5
6 primarily, so prior to COVID, there was studies of
7 randomized controlled trials of masking asymptomatic
8 persons. Most of the studies were relatively small.
9 Some showed marginal benefit, others didn't. And when
10 those -- when randomized controlled trials are put
11 together and all of the evidence and all of the
12 patients are compared in one big group, it's called
13 meta-analysis. And there's three meta-analyses, all of
14 them done just prior to COVID, in fact, one of them,
15 the Cochrane review, done during COVID but was only
16 including studies done prior to COVID that showed there
17 was no difference.

18 And so that's what happens, when you have
19 randomized -- and the randomized controlled trials
20 looking at masking healthy people primarily to prevent
21 influenza were relatively small, and they're
22 contradictory. Some would say, yeah, there's some
23 marginal benefit, others no.

24 And so the standard way of kind of deciding the
25 issue is a meta-analysis. And three meta-analyses said
26 that the bottom line is that there is no evidence of

1 masking healthy persons in the community to prevent
2 respiratory tract infection, and that was primarily
3 influenza, but not -- see, that's tricky, it was
4 primarily influenza, but it was influenza-like illness,
5 ILI, which is a very standard, more or less symptomatic
6 definition than a laboratory based definition, because
7 never in history have we done such extensive testing on
8 a respiratory virus than we've done on SARS-CoV-2,
9 COVID-19.

10 Q Now, to your knowledge, have there been RCTs done since
11 writing your report, you know, on masking in the
12 context of COVID?

13 A Yeah, so in my report, I mention one randomized
14 controlled trial done early in Denmark --

15 Q Yeah.

16 A -- with regards to masking, and it showed no
17 significant difference. And since then, there has --
18 there's been two performed, one of -- so one was in
19 Africa, I forget the exact country, that has -- even
20 the preliminary results haven't been published, but it
21 just finished I think in November, Guinea-Bissau I
22 think is where it -- anyway, I don't want to say for
23 sure -- but it was a -- I think a large
24 cluster-randomized trial as well.

25 But there was a large study that's been discussed
26 in the media for the last few months, done in

1 Bangladesh. It was a cluster-randomized trial of over
2 300,000 persons in Bangladesh. And so what they did is
3 they randomized villages to wearing masks or not,
4 rather than persons, but the number of -- total number
5 of people was over 300,000.

6 It's interesting that study was finished last
7 summer and published on the study investigator's
8 website I think at least September 1st, but it hasn't,
9 as far as I'm aware, even appeared in a preprint form,
10 much less peer-reviewed literature, but it's widely
11 discussed in the media, and there are certainly some
12 conclusions that can be taken from the data that's
13 available.

14 Q And what would those conclusions be?

15 A So the bottom-line conclusions were that -- so they
16 cluster-randomized some villages to cloth masks and
17 some villages to medical masks, and the overall
18 benefit, if you include both those groups, was very
19 small. So the absolute risk reduction -- I can just
20 bring it up here -- the absolute risk reduction was
21 from .76 percent down to .69 percent, so a 0.7 percent
22 reduction. That's the absolute risk reduction.

23 So what that says is that -- and so there's some
24 important features to consider when we're talking about
25 this study. One of the most important things is what
26 was the primary end point. So the primary end point

1 was not death, was not hospitalization -- at least in
2 the initial report, they don't even mention that -- the
3 primary end point was serologically confirmed symptoms,
4 so people who had symptoms of COVID and then had a
5 serology test indicating that they had the infection.
6 Okay, so it's really produced -- it's really a study of
7 where the end point is infection, okay?

8 And in the control group, no masks. The rate of
9 infection was .76 percent, and in the treatment group,
10 overall, it was .69. So relatively low rates of
11 infection in both, but then we can compare them. So
12 that's important.

13 But then when they broke that down into the
14 treatment, and they broke it down into cloth masks
15 versus medical masks, the cloth masks actually had no
16 effect, no benefit whatsoever statistically. And then
17 when they look at surgical masks only compared to
18 control, which is no masks; in controls, again, it was
19 .76 percent, in surgical mask villages, it was .67
20 percent. So for an absolute risk reduction of .9
21 percent.

22 And in randomized controlled trials, the absolute
23 risk reduction is a very important number, because when
24 we take the inverse of it, so we just 1 divided by the
25 absolute risk reduction, we get what's called the
26 number needed to treat; so if we did the same thing in

1 the study that they did, how many people would we need
2 to treat without intervention to get one effect.

3 So if we take .09 percent and do the inverse of
4 it, it's approximately 1100, just over 1100. And so
5 what you need to do is take 0.009 and then take the
6 inverse. So 1 divided by 0.009, you get 1100, okay?
7 And so what that said -- and the study went on for
8 eight weeks; you can find that in the "Methods".

9 So what that tells us is we need to -- in a
10 general healthy population, we need to have 1100 people
11 wear a mask for eight weeks to prevent one infection,
12 not one death, not one hospitalization, but one
13 infection. So 1100 people wearing a mask for eight
14 weeks to prevent one infection, and that's a remarkably
15 high number. Like if there's any sort of intervention
16 that we're studying in cardiology or infectious
17 diseases or, you know, in my -- like with antibiotics
18 and bacteria or, you know, cardiology, that number is
19 remarkably high. Generally something over -- between
20 50 to 100 is high, but anything over that -- like
21 anything under 50 would be kind of low.

22 And it's not a hard outcome. It's always
23 important to say what's the outcome. And maybe it is
24 worth masking 1100 people for eight weeks to prevent
25 one death, but it's not; it's masking 1100 for eight
26 weeks to prevent one infection.

1 So that's the best evidence we have in SARS-CoV-2

2 Q Thank you. Now, on this vein, Dr. Hu compared
3 conducting RCTs on masking in the context of COVID and
4 health care workers to conducting RCTs on parachutes in
5 the context of people jumping out of airplanes. You're
6 aware of that, right?

7 A Yeah, I read that.

8 Q What's the likelihood that a person who jumps out of a
9 plane without a parachute will live?

10 A Presumably zero.

11 Q What's the likelihood that a person who contracts COVID
12 will live?

13 A Depends on the age group, but, overall, in all persons,
14 it's probably over 99 percent.

15 Q Is it reasonable to compare the strength of evidence in
16 support of the effectiveness of parachutes to the
17 strength of the evidence in support of the
18 effectiveness of masks?

19 A No, not at all. This is how we answer questions in
20 medicine; we do randomized controlled trials, and those
21 randomized controlled trials have been done with masks
22 and health care workers in lots of other contexts,
23 including other important infections like influenza.

24 Yeah, there have been randomized controlled trials
25 looking at is a cloth mask similar to a medical mask in
26 health care workers in influenza, and it showed cloth

1 masks -- and just that study too, I don't know, it was
2 done 10, 15 years ago, showed cloth masks are -- yeah,
3 cloth masks were useless for health care workers. The
4 medical mask was better for the health care worker
5 taking care of a patient with influenza.

6 We've looked at masks in a lot of surgical
7 contexts. So there's lots of places in the hospital,
8 especially -- like prior to COVID, there's a lot of
9 places in the hospital, a lot of contexts, where masks
10 were not indicated, and it was studied. Yeah, I think
11 a lot of surgical indications, they've tried to prevent
12 surgical site infections with wearing masks, and there
13 was no benefit.

14 We've looked at a lot of -- some pretty good
15 studies published in the New England Journal and JAMA I
16 think, again prior to COVID, in the context of
17 influenza or influenza-like illness, comparing N95s to
18 surgical masks for health care workers taking care of
19 persons with ILI, the most -- prime-most influenza, and
20 there was no difference, and so --

21 And I know that one of the main authors of that
22 study was at McMaster, Mark Loeb, and he tried to do a
23 randomized controlled trial in COVID, but just there
24 was such a default assumption that N95s would be better
25 for treatment of COVID that, as far as I'm aware, that
26 they were not able to actually do that study, because

1 the assumption was made, even though I think in the
2 absence of evidence, what you do look at is similar
3 context, and in this case, similar context done by the
4 same authors, looking at N95s versus surgical masks in
5 the context of influenza showed that there was no
6 difference. And so I think it was very reasonable,
7 from a clinical equipoise, statistical equipoise to
8 ethics to do that study in SARS-CoV-2 as well.

9 So there's been lots of randomized controlled
10 trials in health care workers to define who and who
11 does not need to wear a mask, and who and who does not
12 need to wear certain types of masks, lots of areas
13 where masks are not needed for health care workers,
14 including in infections, think of things like
15 c. difficile or MRSA, we don't mask health care
16 workers, but we make them gown and glove because of the
17 route of transmission is not the respiratory tract.

18 Q Dr. Hu is adamant that mandatory masking in a health
19 care setting prevents the spread of COVID, although
20 he's less certain about community settings. You refer
21 to a large body of evidence in your report that
22 mandatory masking of healthy people does not work at
23 all in community settings, we've been discussing that,
24 but do you have any reason to think that although
25 masking of healthy people is completely ineffective in
26 community settings, it might, nonetheless, be highly

1 effective in health care settings as Dr. Hu says?

2 A Sorry, I was looking at my report. Can you just
3 restate that?

4 Q Sure. So, you know, Dr. Hu says, look, they're really
5 effective in health care settings, probably effective,
6 but less effective in community settings. That's
7 basically his position. Your position, in your report,
8 is that, well, look, it's completely ineffective in the
9 healthy community, in the non-health care setting. So
10 even though that's your opinion, and you have all this
11 scientific evidence to back it up, do you, nonetheless,
12 think that Dr. Hu might be right in that, even though
13 it's not effective at all in the community setting, it
14 could be really effective in the health care setting?

15 A Well, yeah, masks are effective in the health care
16 setting, if that's what you're asking. Masks are
17 effective in a health care setting, yeah, because it's
18 been studied, but, again, it's totally
19 context-dependent. And everything is context-dependant
20 and should be studied with regards to its context. So
21 we know, because we did the studies, that for taking
22 care of influenza patients, health care workers should
23 wear a medical mask, which is a three-ply mask. It was
24 compared in a randomized controlled trial to cloth
25 masks, and it was superior, and it was control -- and
26 it was compared in multiple randomized controlled

1 trials to N95s, and there was no difference. So an N95
2 was not needed, so a medical mask, no worse than an N95
3 medical mask, no -- certain better than cloth, and so
4 that context is clearly established. Health care
5 workers taking care of patients who have influenza-like
6 illness should wear a medical mask.

7 And so -- and there is definitely context in the
8 health care environment where masks have shown, through
9 randomized controlled trials, which are the highest
10 level there is, that they're helpful, they're
11 beneficial, but that evidence just does not exist in a
12 community setting.

13 And also prior to COVID, studies have been done in
14 other health care settings within the hospital with
15 other types of infections that show that masks aren't
16 universally necessary all the time, and it's totally
17 context dependent.

18 Q Right, so the effectiveness of the masks is dependent
19 on the context of there being interactions between a
20 symptomatic patient and a health care worker?

21 A That's correct.

22 Q Let me ask you a few questions about, you know, the
23 issue with health care settings and non-health care
24 settings, and I know we've touched on this, but in a
25 health care setting like a hospital, are there a large
26 number of symptomatic people expected to be present?

1 A Yeah, absolutely. That's -- hospitals are -- have
2 lots, very high rates of symptomatic persons, and,
3 again, it depends on what you're talking about.
4 Just unhealthy, yeah, they have all sorts of aches and
5 pains, and, you know, heart attack, stroke, the -- but
6 also symptoms from respiratory virus, and, again, it's
7 going to depend on the season, because, in the middle
8 of the summer, we don't really see much viral
9 respiratory -- viral respiratory tract illness, but we
10 do see that, you know, in the winter months. So,
11 again, it's going to depend on those other factors that
12 I talked about as well.

13 Q And that's been your experience working at the hospital
14 you work at?

15 A Yeah.

16 Q And, forgive me, but hospitals are -- are they designed
17 to receive patients symptomatic with a potentially
18 infectious illness?

19 A Yeah, there are other factors other than masks,
20 obviously, there's ventilation, there's how rooms and
21 wards are designed, there's cleaning, so lots of
22 evidence about different cleaning things. So, you
23 know, we have three main types of cleaners:
24 Ammonium-type cleaners and bleach-type cleaners and
25 peroxide; we talk about each of the different pros and
26 cons of those, so -- and then different types of

1 ventilation systems: You have negative-pressure
2 ventilation for certain infections like tuberculosis
3 that are not required for other important respiratory
4 infections like influenza.

5 Yeah, you have kind of distance between patients,
6 whether they're in their own room or whether they can
7 be divided by, you know, just a screen; you have other
8 personal protective equipment like gloves or gowns.
9 Yeah, there's a variety of different factors that are
10 built into kind of the design and how a hospital works.

11 Q Are there any important differences between a setting,
12 a health care setting or any setting, where symptomatic
13 people are regularly present and then a setting where
14 symptomatic people are not present and only
15 asymptomatic people are present?

16 A Yeah, I think so. Like, you know, there's -- I think
17 of something like a hospital, even in that case, you
18 know, there would be scenarios where it doesn't make
19 sense to have everybody masked, even in the context of
20 COVID. Like if you have an outpatient clinic, say a
21 mental health clinic, where you have a psychiatrist,
22 who is obviously healthy, he or she is not allowed to
23 come to work if they have symptoms, and a healthy
24 patient, you know, let's say with some anxiety issues,
25 and there's cognitive behavioural therapy, which is --
26 you know, they're talking, you have a context like

1 that, it's occurring in a hospital, but really that
2 context, from a transmission risk point of view, can be
3 considered like any other context within the
4 population; and so you have them sitting 3 feet apart,
5 they're just talking, they're both healthy, the risk of
6 transmission, I would say it's even less than, say,
7 that patient after discussing anxiety issues with the
8 psychiatrist, going and getting their hair cut, because
9 the person trimming their hair or giving them a haircut
10 is actually closer to them than the psychiatrist.

11 And so even within the hospital, it's completely
12 context-dependent. Even in kind of health care
13 settings, it can be a relatively arbitrary definition.
14 Yeah, it occurs in a hospital, but what's the actual
15 risk, like how are these people physically relating to
16 each other, what are their symptoms, and what's the
17 actual risk?

18 So I would argue that the actual risk for the
19 scenario I provided, you know, would be the same as
20 essentially a similar type of scenario within the
21 general public. Whereas it's completely different if
22 you have symptomatic people on a ward that then -- the
23 benefit of masking is theoretically there but then also
24 proven by previous randomized controlled trials and
25 influenza disease.

26 Q Thank you. Dr. Warren, where you work, are you

1 currently required to where a mask because of COVID
2 even when you're asymptomatic?

3 A Yes.

4 Q And are there any similar or extra requirements from
5 the CPSO to wear a mask because of COVID even when
6 you're asymptomatic?

7 A I'm not sure. I'm not sure entirely what you're
8 asking, but I think most of the policies that I would
9 follow, because I'm in infectious diseases, so I'm
10 taking care of COVID patients and stuff, so I think
11 most of the policies would be from my hospital rather
12 than the CPSO. Yeah. Sorry, I'm just not entirely
13 sure what you're asking there.

14 Q Well, I mean, certainly the general understanding is
15 that most regulatory bodies, health professional
16 regulatory bodies across the province have fairly
17 sweeping requirements that their members wear masks
18 regardless of their symptoms. You know, the College of
19 Chiropractors has it, the College of Physicians and
20 Surgeons of Alberta has it. So I'm just asking if
21 you're aware if the College of Physicians and Surgeons
22 of Ontario has a requirement like that.

23 A Oh, I'm sure they do, yeah. Yeah, and it probably
24 doesn't really impact me because I'd be doing it
25 anyway, taking care of patients with infections, so --
26 but, yes, I'm sure they do. I haven't read it in

1 detail, but it wouldn't impact me like it might impact
2 some other people who wouldn't routinely be wearing a
3 mask anyway in the course of their work.

4 Q Okay, so do you now wear a mask a whole lot more now
5 than you used to prior to COVID just because of the
6 type of work you do?

7 A Yeah, absolutely. Yeah, I have to wear a mask in all
8 contexts now, whereas before, it was context-dependent.

9 Q And do you think the requirements now are equally
10 rational or equally logical to what they were before
11 when they were context-specific?

12 A Well, as I discussed earlier, the evidence base is not
13 there. And as I discussed earlier prior to COVID, the
14 requirement or need for masking, different types of
15 masking was based on the context. And in many of those
16 scenarios, it was actually studied, the most important
17 scenarios, things like TB and influenza. So now
18 there's a requirement for masking in every context, but
19 it's not substantiated by evidence.

20 Q In the new context, where you are required to wear a
21 mask, do you, in fact, wear a mask even though you
22 didn't used to before COVID?

23 A Yes, I wear a mask at all times when I'm in the
24 hospital. But the type of mask I wear is still
25 different based on the context. So it can be a Level 1
26 mask in certain areas. When I'm actually in my office

1 with my door closed, I'm by myself, I don't wear a mask
2 because I don't have to. But in other areas, if I'm
3 just going to Tim Hortons to get a coffee, I just wear
4 a Level 1 mask. In many clinical contexts, I can wear
5 a Level 3 and then an N95 in certain clinical contexts.

6 Q When you wear a mask to go to Tim Hortons, do you do so
7 because there's a law that requires you to do so?

8 A Yes.

9 Q Do you disagree with that law?

10 A I would say it's not based on evidence, universal
11 masking. And so I would say when I'm standing in line
12 at Tim Hortons, I would say that's similar to like a
13 community setting. Presumably, you know -- well, yeah,
14 people who have symptoms are not allowed to be in line
15 at the Tim Hortons as you are at the hospital. If
16 they're symptomatic patients, they need to, you know,
17 reside in the rooms, and symptomatic staff are not
18 allowed to come, not allowed to have symptomatic
19 visitors, that kind of stuff. And so that would be
20 considered community context, so as I've kind of argued
21 in and out of places, the evidence base just is not
22 there to say that that is required.

23 Q I'm nearing the end, believe it or not. I just have
24 some more questions about Dr. Hu.

25 Now, from your observations, has the transmission
26 of COVID decreased in jurisdictions of mandatory

1 masking as compared to jurisdictions with no masking?

2 So, you know, the classic example would be California

3 and Florida. Have you seen COVID transmissions

4 decrease in California because of mandatory masking?

5 A Yeah, again, so this is a huge other wide body of

6 literature and fraught with all sorts of methodological

7 and statistical problems, but what work there is out

8 there, there is no difference with regards to masking.

9 You know, I think people can know that intuitively.

10 Like we've had in Canada all of these mask mandates for

11 15 -- yeah, probably 15, 16 months before Omicron hit,

12 and then, you know, it just blew through the society,

13 didn't make any difference.

14 I think intuitively no, but when we do ecological

15 studies, which, again, have all sorts of methodological

16 problems, I would argue that the evidence shows that

17 there is no effect on transmission. And the best ones

18 are, you know, looking at the different states, because

19 you have 50 different states or Europe, because you

20 have a similar health care systems, relatively similar

21 population, things like that. And, no, I would argue

22 that it does not.

23 Q Dr. Hu has stated that every country that has imposed

24 masking has experienced decreased transmission of

25 COVID. Do you disagree with him?

26 A Yeah, I don't know what that assertion is based on.

1 I'd love to kind of know what study he's referring to
2 in that.

3 Q Well, that's my next question. So you're not aware of
4 any academic literature that would support such a
5 claim?

6 A No. Again, there's a wide literature in that, but it's
7 fraught with all types of problems, and so one of the
8 kind of classic fallacies is the progression toward the
9 mean, and we see this all the time where in the middle
10 of a wave, stuff is done, and then the cases come down,
11 and then it's attributed to whatever was done, but
12 that's just statistically wrong because there's always
13 going to be a regression toward the mean. A wave is
14 going to go up, and then it's going to come down, and
15 you have to have a control group to decide whether your
16 intervention -- those are kind of before/after
17 ecological studies, which are even lower than, you
18 know, ecological studies with regards to the value of
19 the evidence. It's essentially -- it's
20 hypothesis-generating at most, but very low quality of
21 evidence.

22 And whatever -- what evidence there is out there,
23 can be -- because it's some very low methodological
24 quality, it can often be twisted all sorts of different
25 ways. And there is -- and there is hundreds of
26 publications in that area with low methodological

1 qualities, so ecological studies or before/after
2 studies, which, by definition, are low methodological
3 quality, showing both sides.

4 So there's lots showing one side, lots showing the
5 other, but the best evidence is randomized controlled
6 trials and meta-analysis that there's no benefit in
7 masking a healthy general population.

8 Q Well, I'm going to ask you if that's what Dr. Hu has
9 done. I'm going to tell you what he said. He said
10 that the lockdown restrictions imposed in Alberta in
11 November and December of 2020, he said that those
12 lockdown restrictions did not cause the initial rise in
13 cases during the lockdown but did cause the eventual
14 drop in cases. So did Dr. Hu do there what you just
15 described?

16 A Yeah, there's no statistical epidemiologic way of
17 making that conclusion, because there's all sorts of
18 problems with it, but -- before/after, like you have
19 all sorts of bias and confounding, especially
20 confounding, and that conclusion just can't be made
21 statistically, it's just not good practice, that that
22 is not a high level of evidence because there's so many
23 confounding factors.

24 And we just know, and we've seen this all over the
25 world now for two years that you have waves that go up
26 and waves that come down, in many cases no matter what

1 you do. We've seen that in different provinces in this
2 wave. You know, provinces like Quebec who had the most
3 extreme measures are having more per capita cases than
4 places like Saskatchewan, which are having many fewer
5 restrictions.

6 And I would argue I know exactly why Quebec is
7 having more cases than Saskatchewan because the
8 population weighted density in Quebec is much higher.
9 You have a lot of people living in a relatively small
10 area in Quebec. So it's predictable why they're going
11 to have more cases than Saskatchewan. And every
12 jurisdiction in Ontario follows the same pattern we're
13 seeing in other places, which is that the most
14 important factor for number of cases is population
15 weighted density.

16 And it's not just overall area divided by the
17 people. So you look at places like Ontario, most
18 people don't live up in the north; it's population
19 weighted density, which is a specific measure. So you
20 take -- so the idea is you take any random person in
21 that population, how many people live near them. It's
22 not take the whole area of Ontario and divide it by the
23 people. That's just population density. But the
24 people of Ontario are not evenly spread over the entire
25 province.

26 Population weighted density is a statistical

1 method of determining if you take a random Ontarian,
2 how many, on average, people is that person near within
3 like, say, a square kilometre. And that measure is, by
4 far, the best predictor of how many cases you're going
5 to have. And we see that -- you have provinces that
6 have low population density have lower numbers of
7 cases. Populations with high -- provinces with high
8 population density, like Quebec, having very large --
9 Ontario as well, most people in Ontario live in the
10 corridor between Windsor and Ottawa, and it's
11 relatively population dense.

12 Q You said earlier something about reversal. You said it
13 was very difficult to reverse (INDISCERNIBLE) trend.
14 Does that help to explain that even though this data
15 you're talking about is so obvious, does that help to
16 explain why Quebec continues to do something that is
17 very obvious doesn't work?

18 A Yeah. So it's difficult once there's an established
19 practice, and we know this from thousands of years of
20 history in medicine, it's very difficult once there's
21 an assumed standard of practice to change practice.
22 Now, I deal with that on a daily basis, and I have been
23 for almost 11 years of practice now in antimicrobial
24 stewardship, because my main role is to convince
25 people, okay, we don't need to treat people with
26 pneumonia with 14 days of antibiotics anymore. We've

1 had lots of randomized controlled trials that say three
2 to five days is okay. But people are still practicing
3 what they learned in med school 25, 30 years ago.

4 And so effecting that change is very challenging,
5 and there's all sorts of books written about that and
6 things like that. And so once a practice is assumed to
7 be beneficial, even early on in the -- when there's
8 clear evidence to the contrary, it's very difficult for
9 medical practitioners, it's a psychological thing, you
10 know, just part of humans and who we are as well, to
11 change practice.

12 Q Is that what's going on generally with COVID now?
13 We've got this practice in place, you know, revolving
14 lockdowns must be effective because we thought they
15 were going to be in the beginning, even though the data
16 shows they're not, we must keep doing them because we
17 thought they were effective. Is that -- you know, the
18 example that you gave with treating pneumonia, is that
19 what's going on with COVID?

20 A Well, you know, it's a very complicated topic. As I
21 mentioned before, it needs to be looked at in the
22 historical context as well, because as a -- you know,
23 as human populations, we have gone through massive
24 events that have decimated our populations that is
25 still historically remembered in our social
26 consciousness. And as I said, so you think of things

1 like the Black Death, as I said before, historically
2 some sorts of quarantine, especially for things like
3 smallpox and plague, frankly, have worked. Like when
4 you kind of cut yourself off from the world, that
5 actually saves a lot of lives with regards to smallpox
6 and plague.

7 And so a lot of these things have very deep-rooted
8 factors that come into play, but one of them is this
9 medical reversal idea, and others kind of -- you know,
10 the idea of some costs, like once you've invested
11 billions or whatever dollars in something, you know,
12 you really want that to work.

13 And it's political, right? Like it just comes
14 down to politics, a philosophy of how things are done,
15 whether you're interventionist or not, and people are
16 interventionists in the economy, people are
17 interventionists in the climate, people are
18 interventionists in medicine, and to some degree,
19 that's a political question as well. So there's many
20 different factors.

21 I think there's a few problems that have occurred
22 over the -- I think everybody will admit this that
23 there's been some major problems that occurred over the
24 last couple years. One is that, you know, we haven't
25 subjected or made decisions based on enough evidence,
26 and I think many people would agree on that, but I

1 think also that it's things are oversimplified. So I
2 don't want to be one person that says, well, people do
3 this because of one reason; I think it's very complex.

4 Q Right. Dr. Hu said quite a few times in his report and
5 in questioning that the evidence supporting the
6 effectiveness of masks is, quote, overwhelming and,
7 quote, there's heaps and mounds of evidence. Do you
8 find these statements to be reasonable?

9 A If he's referring to in the community, then, no,
10 absolutely not, but I -- quite the opposite actually.
11 So I don't have that direct quote in front of me, but
12 if he's referring to masking healthy persons in the
13 community, no, I would completely disagree with him.

14 Q Well, you know, to be fair, he's saying it in the
15 context of health care settings --

16 A But, again, it's context-dependent, so, yes, for health
17 care providers taking care of patients with influenza
18 or influenza-like illness or tuberculosis or, you know,
19 certain -- the context, then, yes, there is lots of
20 evidence, but there's also lots of evidence for the
21 fact that masks are not required in lots of health care
22 contexts as well.

23 Q On page 7 of his report, Dr. Hu says that the issues of
24 asymptomatic transmission, of symptomatic transmission,
25 and the severity of COVID are not salient to the issue
26 of the effectiveness of masking.

1 A Sorry, can you say that again?

2 Q Sure. And you might want to have it in front of you,
3 on page 7 of his report, it's actually in the bold text
4 in the third paragraph there of page 7, he says: (as
5 read)

6 The severity of COVID-19 right through
7 transmission of --

8 A His report, sorry, Dr. Hu's report?

9 Q Yeah.

10 A Okay. Let me just bring it up. Page 7?

11 Q Page 7, yeah, there's the bold text.

12 A Okay, got it here.

13 Q So he says: (as read)

14 The severity of COVID-19 rates of
15 transmission amongst asymptomatic infected
16 individuals, testing, et cetera, none are
17 salient to the question at hand around
18 whether or not masks provide benefit in a
19 health care setting.

20 Do you disagree with him?

21 A I just have to look at this.

22 Q Now, mind you, we don't have a definition of "health
23 care setting" of course, but ...

24 A No, I wouldn't agree at all. Like whenever we decide
25 or whenever we're thinking conceptually about whether
26 health care workers should wear masks, the severity of

1 the infection, the rates of transmission of the
2 infection, whether asymptomatic persons can transmit,
3 all of those are very important as to whether masks
4 should be used in that context. I'm not arguing that
5 masks shouldn't be used in a health care context. I
6 would define that like as a hospital, you know, but
7 health care providers should wear a mask when taking
8 care of a patient who is symptomatic with COVID-19.
9 I'm not disagreeing with that at all.

10 But this statement is not true, like whenever we
11 think of, even in the health care environment, whether
12 someone should be masked, we think of the severity of
13 the infection, we think of the rates of transmission,
14 we think of whether someone who is asymptomatic can
15 transmit, absolutely.

16 Q I want to take you back to your comparison of a year of
17 COVID death numbers to a year of vehicle fatality
18 numbers. I think you do this on the bottom of page 2
19 and the top of page 3 of your report.

20 A Right.

21 Q Now, the first question I have for you is, and you may
22 not know this, but when did COVID-related deaths in
23 people under the age of 60 first start occurring in
24 Canada in 2020?

25 A Oh, it would have started occurring very early, yeah.

26 Q "Very early" being?

1 A April.

2 Q So I'm going to ask you some obvious questions, bear
3 with me. How many months are there between April 2020
4 and April 2021?

5 A 12.

6 Q And how many months were in the year 2019?

7 A 12.

8 Q Now, in your report, you say that there were 1,010
9 COVID-related deaths in people under 60 years of age as
10 of April 16th, 2021, and that there were 1,191 motor
11 vehicle fatalities in 2018 in people under 55 years of
12 age. Do you still hold the opinion that the risk of
13 death from COVID to people under the age of 60 between
14 April 2020 and April 2021 was less than the risk of
15 dying from a motor vehicle accident?

16 A Yeah, absolutely. And, in fact, the first -- when I
17 kind of look at the number -- what you need to do is
18 look at basically the average number of deaths per day,
19 and in this analysis, I'm actually being generous,
20 because the first death in Canada I think was around
21 March 9th, 2020, and so what you're talking about is
22 over 13 months of data until April 16th, 2021, and
23 there were less deaths in that age group than just 12
24 months of persons -- and, again, it's under the age of
25 55. So not only am I doing it longer with regards to
26 COVID deaths, I'm -- have a slightly larger age group.

1 So the number -- and if you continue that on, and
2 you always have to -- the denominator is important,
3 like you always have to divide it by the number of
4 days, and I counted from the day of the first COVID
5 death in Canada, and this holds today, so the number of
6 deaths in Canada in persons under 60, if we divide it
7 by almost two years, the number of deaths per day on
8 average is less than what we would expect in that same
9 age group, persons under 60, the number of deaths due
10 to motor vehicle accidents.

11 Q Thank you. On page 6 of his report, Dr. Hu stated that
12 you committed a, quote, factual error. He said your
13 comparison was fallacious and unscientific. He went on
14 to say that no scientist, doctor, or epidemiologist
15 with a basic understanding of disease patterns would
16 make this comparison.

17 Now, on cross-examination, Dr. Hu retracted his
18 accusation that you have no basic understanding of
19 disease patterns, but how do you respond to his claim
20 that you made a factual error?

21 A Well, the mistake he made is he continued to accrue
22 patient numbers without dividing -- without changing
23 the denominator. So he changed the numerator without
24 changing the denominator. What I was saying was that
25 in a year, and it was actually more, the numerator was
26 1,000 -- what did I have -- 1,010, that was my

1 numerator, and my denominator would have been about a
2 year, it was actually 13 months, but it was a year. In
3 his report, he continues to increase the numerator, so
4 1,475 as of June 29th, but then he has to increase the
5 denominator as well. And if you change the denominator
6 to the June 29th, so approximately 16 months, you're
7 finding the same thing: You're finding the average
8 numbers of death per day in that age group is still
9 less. So it's --

10 And, you know, saying it's fallacious and
11 unscientific, well, it's very important, we do this all
12 the time in medicine; like if we're talking to people
13 that have a potential rare effect of a drug or, you
14 know, a particular intervention, like my obligation is
15 to provide the patient with informed consent, and part
16 of that informed consent is providing a contextual
17 risk. This is done all the time. It's done all the
18 time at population health bubbles as well, because
19 everything in life has a risk, you know. Me walking
20 into my bathtub or shower has a risk, you know; there
21 are certain numbers of people that die every year
22 because of that. And getting struck by lightning or
23 whatever and --

24 In fact, driving a car is one of the riskiest
25 things in, you know, persons under a certain age that
26 they can do in Canada. It's one of the major

1 preventable causes of death. And so it's always
2 used -- not always, but often used as a way of
3 contextualizing a risk of death, and I think it is very
4 helpful in COVID-19. If you have people under 60,
5 that's all persons under 60, all persons under 60,
6 their risk of dying of COVID is actually lower than
7 their historical risk of dying in a car accident.

8 And, again, you can talk about sub groups and
9 things like that if you have -- if you're talking about
10 healthy people under 40 with no risk factors, like
11 you're talking about a phenomenally lower risk actually
12 with no kind of comorbidities and lowering the age
13 group and stuff. But it's routinely done in many areas
14 of life, not only medicine, to contextualize a risk.

15 Q Just a couple more questions. In your experience as an
16 infectious disease specialist, do government bodies
17 tend to be more factually accurate than non-government
18 bodies regarding scientific issues?

19 MR. MAXSTON: Mr. Kitchen, I'm sorry to
20 interrupt, but I struggle with how that falls within
21 the efficacy of masking and other qualifications. I
22 think that's almost political, sociological. I know
23 where you're going, but I wonder if you could think
24 about rephrasing that, because that's awfully broad and
25 really doesn't speak to efficacy of masking; that's
26 governmental society.

1 MR. KITCHEN: No, I'm simply asking if the
2 evidence he's seen for government bodies and the
3 evidence he's seen from non-government bodies, if the
4 scientific evidence -- if governments tend to be more
5 right than non-government bodies.

6 MR. MAXSTON: Well, it's pretty open-ended,
7 which governments, what evidence, provincial, federal,
8 municipal. I mean, that's a pretty broad question,
9 Mr. Kitchen. That's my concern.

10 MR. KITCHEN: I can narrow it down to
11 specific governments, if you let me do that.

12 Q MR. KITCHEN: Well, Dr. Warren, I'm not
13 going to ask you about the Alberta government because
14 you're not in Alberta, but the Ontario government,
15 generally speaking, in your -- and you've only be doing
16 this for 11 years, so in your 11 years of infectious
17 disease experience, do governments tend to be more
18 factually or scientifically accurate in Ontario, the
19 Ontario government, does the Ontario government tend to
20 be more factually or scientifically accurate than
21 non-government bodies?

22 A What do you mean by "non-government bodies"; like what
23 would be the comparative group?

24 Q Independent scientists, private universities, people in
25 bodies that are clearly unrelated to government.

26 A Yeah, again, that is a hard question to really answer,

1 because it all depends. Like I've seen it every single
2 different way. Sometimes I've seen how the
3 Government's just way behind the times. Other times,
4 they're way more accurate than a different -- like,
5 again, it's completely context-dependent, so I really
6 can't answer that question, to be honest with you.

7 Q Do you think a scientific or medical proposition or
8 theory is likely to be more accurate because it comes
9 from a government source?

10 A I don't personally think that, no. I always look at
11 the underlying data, so the primary evidence. So, you
12 know, if you talk about historical analysis, the
13 primary evidence is people who were there in that part
14 of history or the archeological evidence or whatever.

15 You know, in scientific stuff, it's the studies,
16 it's the bench research or the randomized controlled
17 trials, yeah. So that's how I would form my opinion.

18 So what different bodies say, governments,
19 whatnot, like that would be part of kind of how I think
20 about things, but it's certainly not the most
21 important, but I would want to look at the primary
22 evidence, and that's what I did in my report.

23 Q So is the most important thing what the evidence and
24 the data says?

25 A Absolutely.

26 Q What if government disagrees with that evidence and

1 data?

2 A Well, governments have, you know -- throughout the
3 history of medicine, there's all sorts of examples of
4 when governments got it wrong, different medical bodies
5 got it wrong. You know, data is always accumulating,
6 and so -- but, you know, lots of times they get it
7 right, but, of course, they're going to get it wrong.
8 Governments or any sort of political body or
9 educational institution or even scientific community
10 are not going to be infallible. Like there's lots of
11 people that make mistakes, and evidence is going to
12 change, you know, and they're influenced by a variety
13 of factors. They are -- and things are influenced by
14 cultural factors, things are influenced by political
15 factors, so, yeah, it's a very complex thing.

16 (AUDIO/VIDEO FEED LOST)

17 THE CHAIR: Can we just --

18 MR. KITCHEN We've lost --

19 THE CHAIR: Yeah.

20 MR. KITCHEN I only have one more question,
21 so if we get Dr. Martens back, then I'll be done.

22 THE CHAIR: Okay, we'll just wait a
23 moment; I'm sure she'll be reconnecting.

24 (DISCUSSION OFF THE RECORD)

25 Q MR. KITCHEN: Dr. Warren, thank you, you've
26 been very patient with me. My last question for you

1 is, as a medical professional working with infectious
2 diseases, have you found the information or opinions
3 regarding COVID restrictions coming from government
4 sources such as the Public Health Agency of Canada to
5 be well supported by real scientific evidence or not so
6 well supported by real scientific evidence?

7 A So with regards to COVID-19?

8 Q With COVID restrictions.

9 A Yeah, I -- again, it's a complex question, but, in
10 general, I would disagree with a fair amount of what my
11 Provincial government has done. Like they've
12 admitted -- you know, they were taping up children's
13 playgrounds in two different waves, it just makes no
14 sense.

15 But, again, it all depends on what we're talking
16 about. Some things I do agree with, certain quarantine
17 and testing and various treatment things I do agree
18 with, other things I don't, but anything that I would
19 have had issue with would have been found in my report.

20 Q So you don't agree with the masking and physical
21 distancing, I take it?

22 A Yeah, my position is as it is in the report, and that
23 would be quite different than what has occurred in my
24 jurisdiction.

25 MR. KITCHEN: Well, those are all my
26 questions.

1 Now, I know it's getting close to lunch, but I
2 suspect Mr. Maxston's going to be quite brief, and so I
3 propose that we go until lunch, but I leave that with
4 Mr. Maxston.

5 THE CHAIR: I was just going to ask you,
6 Mr. Maxston, if you have some idea of how long you
7 might be.

8 MR. MAXSTON: I think I'll be 15 minutes, I
9 don't know, depending on how, you know, again
10 Dr. Warren might respond, I might have some follow-up
11 questions. My sense is, and I leave this up to you to
12 decide, but people would probably, and I invite
13 Dr. Warren's comments and your colleagues', we probably
14 want to plow through into the lunch hour and maybe try
15 to finish any redirect and any questions from the
16 Tribunal before we break for lunch. Now, that's -- I
17 don't want to see us going till, you know, 1:25 and
18 missing lunch for everybody, but my sense is maybe we
19 should try to press ahead here for 15 or 20 minutes,
20 see where we're at. Mr. Kitchen may have some
21 follow-up. Let's just try to make as much progress as
22 we can before maybe 12:30 or something like that.

23 THE CHAIR: I agree with you, and I see a
24 very vigorous nod from Dr. Warren; I think he's
25 supportive of that. I'm going to suggest that we just
26 take a 5-minute stretch, bio break now, and we'll come

1 back, and we'll -- nose to the grindstone and try and
2 see where that takes us, okay?

3 MR. LAWRENCE: Sorry, can I just -- Amber,
4 can you stick us in a break-out room? I just want to
5 chat with Blair for a few minutes.

6 THE CHAIR: Think we'll be back at 10
7 after 12, because I do anticipate there's going to be
8 some discussion, so we'll see everybody in 15 minutes.

9 (ADJOURNMENT)

10 THE CHAIR: So we're back in session, and
11 Mr. Maxston has some questions on cross-examination for
12 you, Dr. Warren.

13 A Okay.

14 Mr. Maxston Cross-examines the Witness

15 Q MR. MAXSTON: Afternoon, Dr. Warren.

16 A Afternoon.

17 Q It's noon here now as well, so that's universal. Thank
18 you for taking your time out of a Saturday. I don't
19 have a lot of questions for you.

20 I just wanted to start off by confirming a few
21 things you said to Mr. Kitchen, and the first was that
22 the, I think, the infection fertility ratio varies over
23 time; is that correct?

24 A Infection fatality ratio, yes, not fertility.

25 Q Thank you, not -- yes, thank you. And the IFR for
26 COVID, I think you said exceeded a bad influenza year

1 when COVID-19 first began in Canada; is that correct?

2 A Yeah, so what I was saying is that very early on,
3 because it was really only symptomatic cases being
4 detected and tested for, and there was still a very
5 vulnerable population, the IFR was quite high. But
6 over time, as COVID has infected more and more people,
7 there have been different strains, including especially
8 Omicron, the IFR has continued to drop over the past 21
9 months or so --

10 Q Yeah.

11 A -- so --

12 Q I think that --

13 A -- I think it's graphed out in a number of places, and
14 it's declining over time.

15 Q I think you might have said that in April or May of
16 2020, that was the first wave for COVID-19, and that's
17 when the IFR would have been its highest; is that fair
18 to say?

19 A Correct, yeah.

20 Q You had a discussion with Mr. Kitchen about the word
21 "pandemic", and I think you said that COVID-19 is
22 definitely a pandemic, and you supported that by saying
23 that this is the first time we've seen a virus on all
24 seven continents; is that correct?

25 A Correct.

26 Q You also said that there's going to be some debate

1 about when it's becomes endemic, and I think you said
2 the decision about when it's going to become endemic is
3 arbitrary, is that your evidence?

4 A Well, yeah, different people are -- you see some people
5 saying now that it's endemic, others are going to say,
6 well, there's these and these criteria. There's no
7 established criteria. I gave kind of what I think is a
8 reasonable thing, which is that once it's replaced with
9 a different virus, not entirely, because COVID-19 or
10 SARS-CoV-2 will continue to circulate indefinitely, but
11 once the predominant virus is something else in most
12 regions, I think that's a good place to say, well, it's
13 now endemic.

14 Q You're kind of leading --

15 A There's no established -- sorry, there's just no
16 established definition as to when the pandemic ends and
17 when the endemic phase begins.

18 Q And you're kind of leading me to my next question,
19 which was inasmuch as it's going to be arbitrary, it's
20 probably going to be subjective as well, isn't it?

21 A Yeah, you can use whatever term you want, arbitrary,
22 subjective, yeah.

23 Q You had, a number of times, interactions with
24 Mr. Kitchen about how science has evolved with respect
25 to each virus or pandemic, and that there is discussion
26 and debate within the scientific community, and I think

1 you referred to different studies, and Mr. Kitchen took
2 you through that. While that debate is occurring --
3 and I'll be more specific, while that debate was
4 occurring in Canada when COVID-19 started and is still
5 continuing, it's up to governments to make decisions
6 though and orders in terms of how we respond to the
7 pandemic; is that fair?

8 A Yeah, that's the role of government is to make
9 decisions.

10 Q Yeah, and what I'm getting at there, I believe this is
11 consistent with what you said, the CMOH, and I'll use
12 Ontario, for example, but it's the same here, it's the
13 CMOH that issues those public health orders that the
14 public is required to follow; is that fair to say?

15 A Yes, the CMOH does have an important role -- or
16 that's -- the CMOH has had an important role in Canada
17 in different jurisdictions and provinces, but, yeah,
18 it's still the government itself as well making certain
19 things mandatory and usually will do so with
20 consultation of the CMOH.

21 Q And I'm not trying to be cagey here, I'm just trying
22 to -- I want to be clear that there's a distinction
23 between the scientific debate, which has people on both
24 sides or multiple sides of an issue, versus the
25 decision-making, which is done by government and other
26 government entities, I suppose. That's really what I'm

1 getting at.

2 A Yeah, I would agree with that. I would agree with that
3 a hundred percent, because policy is always very
4 different than scientific rationale, and so --

5 Q Right.

6 A -- there's lots of policy decisions that have been made
7 that are not justified by science.

8 Q Yeah, and I think -- you know, I was talking with you
9 about CMOH orders, but I'm thinking in Alberta, and I
10 know -- I'm pretty sure they had these in Ontario, we
11 had various re-opening requirements issued by
12 government. If you wanted to open your gym, your
13 salon, what have you, there were certain requirements
14 that have to be followed, and I think you probably
15 agree that, despite the scientific debate going on,
16 businesses had to follow those requirements if they
17 wanted to re-open?

18 A Yeah, that would be their decision, but, yeah.
19 Absolutely.

20 Q You had a very I think fulsome discussion with
21 Mr. Kitchen about you and wearing of masks, and I think
22 you said to him that you are required to wear a mask at
23 work when you're asymptomatic regardless of, you know,
24 symptoms; that was your evidence, I think?

25 A Yeah, when I'm working in the hospital, I'm required
26 to -- except when I'm in my own private office --

1 Q Right --

2 A -- with the door closed.

3 Q -- right. And in fairness --

4 A (INDISCERNIBLE)

5 Q -- I'm really concerned about the situation where
6 you're treating patients, because that's what our
7 hearing is talking about, and I think you were pretty
8 candid about that. Mr. Kitchen mentioned to you CPSO,
9 College of Physicians and Surgeons of Ontario,
10 requirements for masking, and I think you said -- he
11 asked you whether you knew whether they had any, and
12 you said, I'm sure they do. And I think you indicated
13 you would follow them if they applied to you, and in
14 fact, I think you said you are following them when you
15 wear a mask in the hospital. Is that fair to say?

16 A That's correct.

17 Q Would you agree that, as a member of the CPSO, you
18 can't pick and choose which of their requirements for
19 your practice applies or doesn't apply for you?

20 A I don't have a choice in the matter, no. The CPSO and
21 various other regulatory bodies can make requirements,
22 my hospital can make requirements of something that I
23 don't agree with or I think is not based on evidence --

24 Q That was going to be my next -- sorry, were you
25 finished?

26 A Yeah.

1 Q Yeah. That was going to be my next question was, you
2 know, there's situations, and I think masking might be
3 one of them, where you would disagree with your
4 regulator or maybe a hospital policy where you're at,
5 but your evidence I think is that you, nonetheless,
6 would follow those requirements?

7 A That's correct.

8 Q Mr. Kitchen and you engaged in a discussion about
9 government and non-government bodies, and he asked you
10 some questions about that. I just want to be clear,
11 you gave some answers about your knowledge of the
12 Ontario experience, but you don't have any knowledge of
13 the Alberta experience in terms of how CMOH orders were
14 issued or weren't issued; that's correct?

15 A I have some knowledge of Alberta, but certainly nothing
16 like I would have here in Ontario, because -- like you
17 know, this case or whatever else, I've got some
18 knowledge of Alberta, but not nearly as much as I would
19 have of Ontario.

20 Q And I think, again, and I'm not trying to be critical
21 here, I just think it's factual, Dr. Hu, in his
22 testimony and his expert report, was directly involved
23 in working with the CMOH office on certain aspects of
24 their orders in Alberta; is that your understanding?

25 A I know nothing about Dr. Hu.

26 Q You had a discussion about, and Mr. Kitchen can correct

1 me if I'm paraphrasing his words incorrectly, but I
2 think generally he asked you about whether government
3 or non-government entities can be -- are more accurate,
4 or less accurate, or more correct or less accurate, you
5 know, when we compare them, and I think you were pretty
6 candid in saying that it's fairly divergent, and lots
7 of times government gets it right, and lots of times
8 non-government entities get it right; is that fair to
9 say?

10 A Yeah, it's a very complex issue, and it's such a broad
11 question that I don't think any kind of sweeping
12 statements can be made.

13 MR. MAXSTON: Those are all my questions,
14 Dr. Warren. Thank you for your time.

15 A Thank you.

16 MR. KITCHEN And I --

17 THE CHAIR: Thank you.

18 MR. KITCHEN: -- just have two in redirect.

19 THE CHAIR: Okay.

20 Mr. Kitchen Re-examines the Witness

21 Q MR. KITCHEN: Dr. Warren, you said there's
22 no established criteria for establishing an endemic.
23 Is there any established criteria for establishing a
24 pandemic?

25 A I think the -- yes, there would be, you know,
26 established -- you know, the WHO, different

1 organizations would have definitions for a pandemic,
2 however you want to define a pandemic. SARS-CoV-2 is a
3 pandemic, and there are certainly more definitions or
4 clearer definitions for when there is a pandemic and
5 when it's been established than when an infection
6 transitions from pandemic to endemic.

7 Q How come only some flu years are pandemic and some
8 aren't? I don't want you to -- I don't want to rehash
9 what we did earlier. You said something about --
10 something I didn't, frankly, understand. I think
11 something about how the virus has changed. That's what
12 I'm trying to get at. Is there --

13 A Yeah. So year to year, influenza changes, it mutates,
14 we have different strains. It's equivalent to
15 SARS-CoV-2, how we have different variants. They're
16 both very -- they're similar viruses; they're RNA
17 viruses; they mutate at approximately the same rate.

18 So in influenza, year to year, there's something
19 called antigenic drift, which are minor changes that
20 produce the seasonal yearly influenza. Every few
21 decades, there's an antigenic shift, so not drift but
22 shift, and that's a major reassortment of a virus,
23 which generally causes more widespread illness, more
24 severe illness, because many people in the population
25 do not have sufficient immunity, and so that's, you
26 know, swine flu 2009 would be kind of the last example

1 of that. The Spanish flu from a hundred years ago is
2 another example. And there were I think three or so
3 other pandemic influenza years in the 20th century.

4 Q When we go from variant to variant in COVID, is that a
5 similar thing, or is that different?

6 A So that would be, if you want to make it analogous to
7 influenza, that would be the antigenic drift part of
8 influenza, and so that would be the -- kind of the
9 yearly fluctuations, and we'll continue to have that,
10 there'll be a new wave after Omicron, something of a
11 new variant. In influenza, we called it the yearly
12 strain. And so that's what the analogy would be with
13 influenza. The variants are new -- are analogous to
14 influenza antigenic drift.

15 Q And that's what we referred it to, COVID-19 or
16 SARS-CoV-2, is one big long event, they don't -- we
17 haven't chopped it up; we refer to it as one big long
18 thing, that's -- because there's only drifting not
19 shifting?

20 A That's correct.

21 Q Last question I think, if government has a role to
22 impose measures to protect the public, do they also
23 have a corresponding role to remove those measures once
24 it's clear that they don't work or cause more harm than
25 good?

26 A I think any policy decision needs to be based on

1 evidence, and I think the more significant a policy
2 decision is, the more evidence should be behind it,
3 because if you're going to make a policy decision that
4 significantly impacts people's lives, there should be a
5 lot of good evidence for that.

6 And so same with changing policy decisions, any
7 time a policy decision is changed, it should be based
8 on evidence. And again, I think the burden of proof,
9 the more significant the policy decision, the more the
10 higher burden of proof is on the evidence that that
11 policy decision is based on.

12 Q And are you seeing that evidentiary burden being met
13 for things like masking and distancing?

14 A Yeah, yeah, for sure. With regards to masking for
15 sure. Like a lot of places -- a lot of places like
16 Denmark, the UK, Ireland, many places in the States, a
17 lot of jurisdictions are getting rid of masking because
18 there's no -- like the evidence just isn't there.
19 There was an assumption, and so the policy decision was
20 based on an assumption, that I would argue flawed
21 assumptions, but as evidence accumulates, jurisdictions
22 are now starting to get rid of mask mandates, for
23 example.

24 Q Logically speaking, if the virus is the same and the
25 scientific evidence is the same between Florida and
26 Alberta or between Canada and Denmark, then can it

1 logically be said that Canada's decision to keep
2 masking in place is based on science, or is it based on
3 something else?

4 A Well, I argue in my report I don't think that -- I
5 would argue in my report that there was never a
6 justification to mask healthy persons in the general
7 public. That evidence base was never there. I argued
8 that from the meta-analyses and studies in flu, and
9 that evidence continues to be accumulating specifically
10 for SARS-CoV-2.

11 Q So is it fair to say that places that are removing mask
12 restrictions are following the science, and places that
13 aren't are ignoring it?

14 A Yeah, I think the word "the science" has been way
15 misused in --

16 Q (INDISCERNIBLE)

17 A -- this last two years, so I won't use that term, but I
18 would say the --

19 Q How about the evidence?

20 A The evidence, I would say the evidence never has --
21 there has been no evidence that masking the general
22 public is of any benefit, the healthy general public.

23 Q So at some level, isn't it required of governments that
24 are continuing to impose mask mandates that they're
25 ignoring the evidence?

26 A Again, policy and evidence-based decision-making are

1 often very different things. Policy is informed by
2 many other factors other than evidence.

3 MR. KITCHEN: Thank you. Those are my
4 questions in redirect.

5 THE CHAIR: Okay. Dr. Warren, the Members
6 of the Tribunal may have questions for you. We're just
7 going to take a 5-minute break while we discuss what
8 questions, if any, we have for you. So if you can just
9 bear with us for 5 minutes, I don't think we'll be any
10 longer. Thank you.

11 (ADJOURNMENT)

12 THE CHAIR: The Hearing Tribunal is back
13 in session. And, Dr. Warren, we'd like to thank you
14 very much for your time and your expertise and your
15 testimony today. Members of the Tribunal do not have
16 any additional questions for you. We appreciate you
17 participating in this process, and Mr. Kitchen will
18 discharge you, unless there's anything else.

19 There's just one matter I would like to ask of the
20 College. Ms. Nelson, we are concerned over finding two
21 consecutive dates, and we would really appreciate
22 seeing the Doodle poll go out as soon as possible,
23 knowing how much pressure there is on various people's
24 calenders, so we'll look forward to getting that in the
25 near future.

26 And unless there's anything else, I'll declare the

1 hearing closed until we meet again, and we will meet
2 again sometime in the spring.

3

4 PROCEEDINGS ADJOURNED

5

6 CERTIFICATE OF TRANSCRIPT:

7

8 I, Karoline Schumann, certify that the foregoing
9 pages are a complete and accurate transcript of the
10 proceedings, taken down by me in shorthand and
11 transcribed from my shorthand notes to the best of my
12 skill and ability.

13 Dated at the City of Calgary, Province of Alberta,
14 this 22nd day of February, 2022.

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Karoline Schumann

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Karoline Schumann, CSR(A)

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Official Court Reporter

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