Action No.: 2001-14300
E-File Name: CVQ22INGRAMR
Appeal No.: _____

IN THE COURT OF QUEEN'S BENCH OF ALBERTA
JUDICIAL CENTRE OF CALGARY

BETWEEN:

REBECCA MARIE INGRAM, HEIGHTS BAPTIST CHURCH,
NORTHSIDE BAPTIST CHURCH,
ERIN BLACKLAWS and TORRY TANNER

Applicants

and

HER MAJESTY THE QUEEN
IN RIGHT OF THE PROVINCE OF ALBERTA
and THE CHIEF MEDICAL OFFICER OF HEALTH

Respondents

H E A R I N G
(Excerpt)

Calgary, Alberta
February 22, 2022

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L. B. Grey, QC (remote appearance)	For Heights Baptist Church, Northside Baptist Church, E. Blacklaws and T. Tanner
N. Parker (remote appearance)	For Her Majesty the Queen in Right of the Province of Alberta and The Chief Medical Officer
N. Trofimuk (remote appearance)	For Her Majesty the Queen in Right of the Province of Alberta and The Chief Medical Officer
B. LeClair (remote appearance)	For Her Majesty the Queen in Right of the Province of Alberta and The Chief Medical Officer
M. Palmer	Court Clerk

THE COURT: Good morning.

MR. PARKER: Good morning, Justice Romaine.

THE COURT: Good morning. So are we ready to proceed with Dr. Bhattacharya?

MR. GREY: Good morning, Madam Justice. It's Leighton Grey. I understand that Dr. Bhattacharya is waiting in the other virtual room so the clerk will just need to let him back in.

THE COURT: Okay. Well, is there anything else we need to do before we call him in? Mr. Parker?

MR. PARKER: I don't think so at this point, Justice Romaine. Thank you.

THE COURT: Okay. Okay. Then let's go.

THE COURT CLERK: I don't see him waiting in the virtual room.

THE COURT: Perhaps, Mr. Grey or Mr. Rath, you could email him and find out if there is a problem.

MR. GREY: I have a -- Madam Justice, I have a text from him just now and I've asked him to -- to log in.

THE COURT: Okay.

THE COURT CLERK: He is now admitted.

THE COURT: So, madam clerk, will he show up on our screen?

THE COURT CLERK: Yes, he should, My Lady.

THE COURT: Okay.

DR. BHATTACHARYA: I apologize, Your Honour, for being late. I had trouble finding the link.

THE COURT: No problem. Good morning, doctor.

DR. BHATTACHARYA: Good morning.

THE COURT: Do you understand you're still under oath?

JAYANTA BHATTACHARYA, Previously Sworn, Re-examined by Mr. Grey

A I do.

THE COURT: Okay. Thank you. Okay. Mr. Grey.

MR. GREY: Thank you, Madam Justice.

Q MR. GREY: Good morning, Dr. Bhattacharya. Can you hear me okay?
A I can.

Q Excellent. Doctor, when we left off my redirect questioning of you last week, about a

week ago, I was asking you about a study at Johns Hopkins that had been recently released. Madam Justice has made a ruling concerning that so I'm not going to ask you any further about that particular study. However, I do want to draw your attention back to the line of questioning that Mr. Parker had pursued with you about the Savaris study. Do you recall that, sir?

A Yes.

Q And, in fact, Mr. Parker had -- had pointed your attention to a number of the studies and authoritative scientific articles which questioned the -- the opinion that was stated in the Savaris study. Do you recall that?

A Yes.

Q But I recall your evidence in response to that, that you were steadfast in the view that, in fact, the Savaris opinion had actually, in the aftermath in the outcome, had become the prevailing view. Does that -- does that accurately describe what you said?

A Yes.

Q Now, you're -- I expect you're aware, sir, that there were some -- some other studies that were contemporaneous with the time period that the court is dealing with in this application which formed a similar opinion to the Savaris study; is that true?

A Yes.

Submissions by Mr. Parker (Objection - Savaris Report)

MR. PARKER: I'm going to object. This is not proper redirect, Justice Romaine.

THE COURT: Okay. Mr. Leighton -- I'm sorry, Mr. Grey?

MR. GREY: I'd like Mr. Parker to please explain the -- what he has stated is not really a proper objection, just simply stating it's not proper redirect does not really give me anything to respond to. Perhaps if he could expostulate a bit upon that.

THE COURT: Okay. Thank you. That's true. Mr. Parker?

MR. PARKER: Yes, Justice Romaine. I did ask about the Savaris study and a retraction and documents that were the basis of that retraction. I believe the clarification and explanation on that is appropriate redirect. We have now moved on to questions about other studies contemporaneous with Savaris and that does not appear to be directed to explaining or clarifying evidence that arose during my cross-examination of Dr. Bhattacharya and so the objection is on that basis.

MR. GREY: All right. Yeah. Okay.

MR. PARKER: Sorry, I'm told I froze there. Did you hear what I said, Justice Romaine?

THE COURT: You did freeze, but I think it was right at the end of your comment. Mr. Grey, did you understand what Mr. Parker had said?

MR. GREY: I do, and I thank my friend for that clarification and I can now respond, I think.

THE COURT: Okay.

Submissions by Mr. Grey (Objection - Savaris Report)

MR. GREY: Madam Justice, what I'm attempting to do is to (INDISCERNIBLE) what I understood your ruling to be concern the Johns Hopkins study. At that time I understood what your ruling was was that that study was admissible because it was not relevant to the time period that we're dealing with for the purposes of this application. I understood that Mr. Parker's objection to the admissibility of that study was that it is essentially retrospective and that that study -- because that study would not have been available to his client, the Alberta Government, (INDISCERNIBLE) time, that that study was not relevant. Do I have that correct so far? Is that the crux of what your ruling was?

THE COURT: That's correct.

MR. GREY: Okay. During the course of that, however, I heard Madam Justice state that if there were other studies that were -- that were contemporaneous with the time period that we were dealing with, that -- that those would be relevant. I also heard Mr. Parker state during the course of his submissions, and I'm quoting him roughly, that he would have no difficulty with those studies being made part of the evidence and so what I'm doing here is I'm giving Dr. Bhattacharya, who is an expert and the best -- in the best position to provide evidence about these studies, to be given the opportunity to go back and clarify and to give evidence about these other studies that were referenced in his evidence. I also want to state that Mr. Parker spent a great deal of time in the course of his cross-examination of Dr. Bhattacharya on this particular point and so it is very important, not only for the applicant but I think also for the Court, to have a full hearing of -- of this evidence and so for the reasons stated I submit that this is proper redirect of the witness. Those are my submissions. Thank you.

THE COURT: Okay. Mr. Grey, can you tell me, you say that these studies that you are going to put to Dr. Bhattacharya are studies that have been referenced in his report, all of them?

MR. GREY: No, they are not ones that -- they are not all ones that had been referenced -- referenced in his report. They -- they were -- two of them were actually ones that were referenced in the Johns Hopkins report.

THE COURT: And they were published about the time that we're talking, about the time at issue?

MR. GREY: That is correct. One of them is actually, but I want to cover with the witness, is the Douglas Allen (phonetic) report, which has already been brought up in these proceedings. That one is from April of 2021.

THE COURT: Okay. And the other one, so we know what we're dealing with.

MR. GREY: There's one -- yes. There is a study that is called the impact of the COVID-19 Pandemic and Policy Responses on Excess Mortality. That is a study from the National Bureau of Economic Research. The issuance date of that was June of 2021.

THE COURT: Okay. Mr. Grey --

MR. GREY: And then --

THE COURT: Yeah.

MR. GREY: Sorry?

THE COURT: Go ahead.

MR. GREY: Sorry. Sorry, I didn't mean to interrupt you. I'm sorry. There was one other one, only, that is from the 21st of July, 2020.

THE COURT: Okay. I'm going to allow you to ask questions with respect to those three articles, but I'm going to allow Mr. Parker to respond to them because they don’t fit clearly in the category of redirect but, given the comments that were made previously, I'm going to allow you to do this.

MR. PARKER: Sorry --

MR. GREY: (INDISCERNIBLE)

MR. PARKER: -- can I ask a question, Justice Romaine? The comments made previously, are those my comments or whose comments are we -- are you referring to?

THE COURT: I believe that Mr. Grey suggested that I made comments that other studies that were contemporary (sic) would be relevant and that you had responded that you had no difficulties with these orders. That's what Mr. Grey has advised me.

MR. PARKER: And I'm not sure that --

THE COURT: With those studies.

MR. PARKER: -- that's an accurate description of what I said. We did take issue with the relevance of a study released after the second and third waves. If the objection here -- my friend has dealt with relevance and said, Well, these studies are relevant because they came out during the relevant time period, the first, second or third wave, but that, with respect, doesn't deal with the issue of putting in new studies on redirect. He's referred to the Douglas Allen paper or study and that being in evidence, my recollection is he put the abstract of that study to Mr. Long and indicated that he should adopt it, which you then interjected. The NBER study he referred to has been sent to us this morning by Mr. Rath's office indicating that they wish to put that study to Dr. Bhattacharya in redirect and then there was reference to a July 21, '20 study and that may be another one of the papers we received from Mr. Rath this morning. He sent three new papers that I understand are not in evidence and he wishes to put to Dr. Bhattacharya on redirect. And so while we dealt with relevance of the Johns Hopkins paper because of the timing of that paper relative to when the impugned orders are challenged and while these papers could have been relevant if they had been put in the evidence of Dr. Bhattacharya, either in his primary report or in his surrebuttal report on July 30th if it was appropriate, again the objection is that putting in new evidence, new studies in redirect is not appropriate and so I just wanted to be clear that that was the basis of the objection. Thank you.

MR. RATH: My Lady, if I may. This is Mr. Rath -- this is Mr. Rath speaking.

THE COURT: M-hm.

Submissions by Mr. Rath (Objection - Savaris Report)

MR. RATH: The studies were not sent by our office this morning, they were sent by Mr. Grey's office this morning. But with regard to my friend's objection, I'd like to speak to it briefly because it's also going to impinge on the redirect that we intend to do, so there's no reason not to deal with -- have to deal with the same (INDISCERNIBLE). One of (INDISCERNIBLE) we'll be putting these studies or referring to these studies to Dr. Bhattacharya is that my friend Mr. Parker was extremely aggressive in his cross-examination of Dr. Bhattacharya with regard to the Savaris study and the degree to which Dr. Bhattacharya had allegedly misrepresented himself to the Court in the context of his evidence insofar as he didn't indicate to the Court that the Savaris paper had been retracted, et cetera, et cetera. Clearly, to the extent that all of these studies, in effect, agree with the Savaris study and completely put the Savaris study into the mainstream as opposed to scientific evidence that has somehow been retracted or outside of the scope of actual scientific evidence and as it goes to Dr. Bhattacharya's credibility, which my friend aggressively and insultingly attacked through his cross-examination, it would be our submission that all of these papers, in fairness to the witness, need to be put to the witness given the line of attack and line of questioning by Mr. -- that my friend Mr. Parker subjected Dr. Bhattacharya to. Those would be our submissions. Thank you.

Ruling (Objection - Savaris Report)

THE COURT: Okay. I agree that new studies are not appropriate for a re-examination, however, these studies appear to be directly connected to the issue of the Savaris study and the fact that it had been retracted so I am going to allow the questions on these three articles specifically. I am not opening the door to wide-ranging presentation of new studies that were not part of Dr. Bhattacharya's study report by making this determination. And I am also going to give Mr. Parker a chance to respond to it. Okay.

MR. PARKER: And, sorry, the response will be for the cross-examination --

THE COURT: Yes.

MR. PARKER: -- as a result of --

THE COURT: Yes.

MR. PARKER: -- this redirect? Okay.

THE COURT: Yeah.

MR. PARKER: And I understood, Justice Romaine, that this isn't evidence that's going in to buttress the earlier evidence of Dr. Bhattacharya in regard to the Savaris study, but you've indicated that you're letting these studies in in redirect for questions because, as I understood, you said they are directly connected, these papers are directly connected to the issues in the Savaris study? I just wanted to --

THE COURT: No.

MR. PARKER: -- make sure I understood.

THE COURT: No. Because they are connected to the cross-examination relating to the status of that study and the fact that it had been retracted.

MR. PARKER: Well, and I -- I just -- to the extent that my friends are saying these are papers that relate to that retraction, that is not correct. I put my -- I put to Dr. Bhattacharya the papers that were footnoted in that retraction and predated the studies that were footnoted in that retraction criticizing Savaris and so, if my friends are saying that these papers that they've identified deal directly with the issues raised in -- criticisms raised about Savaris, then that's not my understanding. I'm going to just listen very carefully and there will likely be further objections if their questions go beyond what I envisioned your ruling is because I just don't think, with respect, that -- that these papers are directly connected to the reason that Savaris was retracted.

MR. RATH: And, My Lady, if it helps my friend, my -- my response to his objection goes directly to my friend's aggressive attack on Dr. Bhattacharya's credibility and I think it's appropriate that Dr. Bhattacharya be allowed in redirect to refer to studies that both support his opinion and the Savaris study given my friend's aggressive assault on the good doctor's credibility and --

THE COURT: Well --

MR. GREY: My Lady, may I try -- (INDISCERNIBLE)

THE COURT: Yes, go ahead, Mr. Grey.

MR. GREY: I beg your pardon.

THE COURT: Go ahead.

MR. PARKER: Go ahead, Mr. Grey. I wanted to respond to -- to Mr. Rath. Go ahead, Mr. Grey.

MR. GREY: Well, go ahead, Mr. Parker. I don't want to cut you off. Go ahead, finish your thought.

MR. PARKER: No, no, you go ahead, sir, please.

MR. GREY: My Lady, what I'm hearing from Mr. Parker is an objection to the ruling that you made on his original objection. We're going to get awfully bogged down if that's the way we're going to proceed here. I think what I'd like to be able to do is simply proceed with the line of questioning and, if Mr. Parker has further objections, he can bring those to the Court's attention and we'll deal with them as we go. That's what I would suggest, respectfully.

THE COURT: Yeah. I agree, Mr. Grey, let's go with respect to these papers and Mr. Parker will have an opportunity to cross-examine on them.

MR. GREY: Thank you.

MR. PARKER: Sorry, can I just -- and not to belabour this but, again, the -- the scope of the redirect on these papers, Justice Romaine, I wanted to understand it because I don't want to object unnecessarily, but I'm -- I want to understand the basis that these papers are being put to this witness in redirect. If I could just seek to get clarification on that, please.

THE COURT: Okay. Mr. Grey, my understanding is that this relates to the retraction of the Savaris study in that these are papers that support the theory of the retracted study just to indicate that there are other studies out there that were not retracted. Is that basically what you're trying to accomplish?

MR. GREY: Yes. And just so it's clear, Madam Justice, the -- the thrust of the cross-examination that Mr. Parker had pursued was, firstly, to -- we spent a lot of time on the point that Dr. Bhattacharya had made, at one point he had said that this was the best study he had seen on this particular topic and -- and then Mr. Parker spent a lot of time showing Dr. Bhattacharya that -- that -- he made the point that the Savaris study had been retracted and then other studies were put to Dr. Bhattacharya in attempt to have Dr. Bhattacharya adopt the idea that the Savaris study was incorrect. And so this is the point, is that in -- in -- to a large degree that I submit misled -- is misleading evidence and it's a point that I think ought to be clarified and it, therefore, is a subject of proper redirect. So that's my purpose is to give Dr. Bhattacharya a full opportunity to clarify his evidence

on this point given the way that that evidence was put to him by Mr. Parker. I hope that clarifies the issue.

MR. PARKER: And my response would be, if you go to the papers that are mentioned in the retraction of Savaris, then that would be appropriate. If there -- but these are -- this is putting in new evidence through redirect on a subject that doesn't need explain or clarifying. These papers existed at the time of the primary and surrebuttal report. They could have been entered along with that report, along with the other studies that were referenced, but the doctor chose not to do so. He chose to put in Savaris, referring to it as another study, knowing that there were issues in terms of criticisms at the time. In any event, I've -- I've put the respondents' position on the record and we will object as appropriate, Justice Romaine. Thank you.

THE COURT: Okay. Thank you. Go ahead then, Mr. Grey.

MR. GREY: Thank you, Madam Justice.

JAYANTA BHATTACHARYA, Previously Sworn, Re-examined by Mr. Grey

Q MR. GREY: Dr. Bhattacharya, I'd like to refer you firstly to the Douglas Allen study. Have you read that, sir?
A Yes, sir.

Q It is, in fact, referenced at page 8 of the applicants' materials, the responding brief of the applicants that was filed with the court September 21st of 2021 at paragraph 31. Could you, Dr. Bhattacharya, describe for the Court what your understanding (INDISCERNIBLE) that the thrust or the crux of that study, the Allen study?
A So the -- the Allen study is a -- is a study that was put forward by a professor at Simon Fraser University, a distinguished economist as I understand. He reviewed a large number of papers on -- on the effects of lockdowns in terms of the mortality, saving -- the extent to which they save -- save lives regarding COVID, as well as some of the collateral harms from -- from the lockdowns in terms -- in terms of the public health effects of them, including a wide range of outcomes. The final conclusion from that study is that the lockdowns were -- that were implemented in the -- in the early days of the pandemic were not particularly effective in saving lives though and had enormous public health consequences, negative health consequences. The -- the -- it's -- the paper is not a traditional meta-analysis, although I think it's a -- it's a fine paper. What it's primarily doing is looking at this -- this large literature, increasingly -- increasingly large literature and attempting to lay a framework of thinking about how to evaluate the papers in it and then doing an analysis of the existing papers at the time and where they fit. The results are consistent with the Savaris study in terms of the effects of -- of

lockdowns on -- on mortality for COVID-19 as well as large other -- large literature that's come on since the Savaris study as reviewed in, for instance, that Hopkins paper we've been assessing.

Q Thank you. Dr. Bhattacharya --

MR. PARKER: Sorry, I'm going to again object on the same basis. This just confirms that this has nothing to do with clarifying or explaining the criticisms and the retraction of the Savaris study, rather, it is an attempt to put in new evidence, new studies that simply come to the same ultimate conclusion as the Savaris study does on the effectiveness of NPIs. So, again, the objection is consistent with what I said before. This is not appropriate evidence -- appropriate questioning for redirect.

MR. GREY: Madam Justice, may I respond?

THE COURT: No, you don't have to, Mr. --

MR. GREY: Or do you need to hear from me? Okay.

THE COURT: No, I don't have to hear from you, Mr. Grey. Thank you, Mr. Parker, for putting your position on the record again, but I'm going to stand by my decision to allow limited re-examination on these three papers. Go ahead, Mr. Grey.

MR. GREY: Thank you.

Q MR. GREY: Dr. Bhattacharya, the next paper I'd like to draw your attention to is a paper entitled Evaluating the Effects of Shelter in Place Policies During the COVID-19 Pandemic. Are you familiar with this study, sir?
A Yes, I am.

Q I see that it was approved on February 24th of 2021. It was received for review on September 18th, 2020. Is that your understanding, sir?
A I'd have to look at the -- the -- okay.

Q It's -- it's on the screen now, sir. Can you see it?
A Oh, yes. Yes, I see it. Yes.

Q All right. And so have you read this study?
A I have, yes.

Q Okay. Could you tell us, in essence, what -- what the crux of this study -- what it tells

us?

A So this is a study that was published in the proceedings of the National Academy of Sciences, a very prestigious journal. It's -- it's, again, written by some very senior authors. The -- the study looks, again, at the -- the evidence that the shelter in place orders that were put in during the first wave of COVID-19, whether that correlated with -- with outcomes like mortality from COVID-19 and as well as some other outcomes. Like the Savaris study and like other -- other studies that have looked at this carefully with the (INDISCERNIBLE) methods that -- that are appropriate, I think, they find no correlation between the implementation of these lockdown orders and mortality and, particularly, there's no -- it's very difficult, they conclude, just to -- to say with any confidence that -- that they -- that the shelter in place orders led to reductions in -- in mortality. And then they -- then they have some good -- some good evidence about why that might be the case and, in particular, they say that -- that the shelter in place orders had an uneven effect on society. While some people can abide by them, you know, because they don't lose their jobs by staying at home, others cannot and, in fact, mobility has a very -- the shelter in place orders have a very different effect on mobility depending on the -- the situation of individuals that are -- that are affected and so that's why they speculate there wasn't large correlation between the shelter in place orders and mortality rates.

Q Thank you.

MR. PARKER: Justice Romaine, can I enquire whether -- and I'm sorry to interrupt, but we're now putting in new studies that were not in evidence and I'm told that I'll get a chance to cross-examine on these, but I'm wondering as I hear this, because again my objection was this doesn't go to the reasons for Savaris being retracted, there's no explanation and clarification being sought on that issue, instead we're putting in new studies into evidence and in addition to the right to cross-examine on this, I'm going to raise will we have the opportunity to also put in further evidence of this nature?

THE COURT: Okay. Mr. Grey?

MR. GREY: Well, actually, My Lady, Mr. Parker has already done that. They've already submitted a Madewell -- the second Madewell study. That was put to the witness on cross-examination. That study as -- it is retrospective in the same sense that the John Hopkins one -- Johns Hopkins one is because it was published outside of the timeframe that this Court has specified at the scope of the hearing. We had never seen that study, it was never provided to us before Mr. Parker cross-examined on that and Mr. Parker has put us on notice that he intends to attempt to have that study entered as a full exhibit in these proceedings.

In answer to his -- to his question, we would -- I can't speak for Mr. Rath, but I would not object to putting into evidence of any relevant study if -- if it assists the Court in making a proper determination. My interest, as I've said previously, is putting the best evidence before the Court in order to -- to find the truth and that's what I see is the purpose of this trial. And so I hope that that responds adequately to the objection, but if -- if there are additional questions you have for me on that point, I'm pleased to answer them.

THE COURT: Mr. Parker?

MR. PARKER: In terms of the Madewell study -- the Madewell second study, that was an updated study of one of the key studies in Dr. Bhattacharya's report, the study that said he -- that he has said cinched his changing view on asymptomatic and presymptomatic transmission and cinched what he said was the correct view that risk of transmission was very low, close to zero. It stands very separate, that is the Madewell second study, in terms of the issues and the timing. It stands very separate and apart from what is happening here, which is my friend has rounded up several more studies from the relevant time dealing with the effectiveness of NPIs. That evidence should have been put in during the primary and, if appropriate, surrebuttal reports of Dr. Bhattacharya, they were not and, again, they're clearly being put in for the ability to argue that, although Savaris was retracted, here's some more studies that were not retracted and support the overarching idea of the applicants that NPIs are not effective in reducing mortality. So, again, the Madewell study we can deal with as appropriate, the Madewell second study. We say it should clearly go in. It completes the arc of Dr. Bhattacharya's testimony on this critical point and, indeed, we have said he has time to review that study and can appropriately review it and comment on it during these proceedings. But, again, simply putting in further studies that could have been put in in earlier evidence to buttress the earlier evidence is not appropriate in redirect and, if we're now, as my friend says, in a place where we're going to put in new evidence so the best evidence is before you, then that destroys the whole basis of the original procedural order that was hammered out over three meetings with Justice Kirker which put in place the timeline for filing evidence by the parties in this proceeding. So, again, the concern is that we're putting in new evidence and I ask the question will we be allowed to put in new evidence in response. My friend says he doesn't take issue with that, but I'm saying, well, the problem with that is where does that leave us, we're opening up the proceeding as a result of this?

THE COURT: First of --

MR. RATH: May I response, My Lady?

THE COURT: No.

MR. RATH: Sorry, go ahead.

THE COURT: I'm sorry. First of all, I have no intention of opening up the proceeding to new papers and articles that have not been listed in the specific expert reports of the expert.

MR. RATH: My Lady, this -- this is Mr. Rath --

THE COURT: Mr. Rath, I'm not --

MR. RATH: -- (INDISCERNIBLE) ask my --

THE COURT: Mr. Rath, I'm not finished, please. Okay.

MR. RATH: My Lady, this is Mr. Rath --

THE COURT: Mr. Rath, I'm not finished.

MR. RATH: -- (INDISCERNIBLE) approximately every second word (INDISCERNIBLE)

THE COURT: Oh, so you can't hear me? Is that the problem, you can't hear me?

MR. GREY: I can hear you just fine, Madam Justice. I'm not sure --

MR. PARKER: I can hear you fine, Justice Romaine.

THE COURT: Okay.

MR. PARKER: Thank you.

THE COURT: Okay. The reason that I allowed these three articles to be put to the witness was because of submissions made to me --

MR. RATH: (INDISCERNIBLE) My Lady, we're having a connection issue here. I'm not trying to interrupt you.

THE COURT: No. Okay. So you can't hear me?

MR. RATH: (INDISCERNIBLE) connection issue (INDISCERNIBLE) every second word, My Lady, and I heard only about half of what Mr. Parker said. I don't have video (INDISCERNIBLE) That's correct, My Lady.

THE COURT: Okay. Well, both Mr. --

MR. RATH: And I only got ...

THE COURT: Both Mr. Parker and Mr. Grey can hear me, I understand, just fine. So that makes me think that the problem is on your side, Mr. Rath.

MR. RATH: Every second word, My Lady. And we don't have video for anybody else, including the Court. We have little triangles in the corner of everybody's ...

MR. PARKER: If my friend Mr. Rath has the little yellow triangles in the corner, I think that's a bandwidth issue at his end is my understanding.

THE COURT: Hm.

MR. RATH: Can we try logging out and logging back in, My Lady --

THE COURT: Yes.

MR. RATH: -- just to try to rectify the problem. I have our --

THE COURT: Yeah.

MR. RATH: -- technician with me right now.

THE COURT: Yeah, go ahead.

MR. RATH: Can you hear me?

THE COURT: Yes.

MR. RATH: Hello?

THE COURT: Yes.

MR. RATH: If we can log out and log back in, My Lady, that might help.

THE COURT: Go ahead.

MR. RATH: Our apologies, My Lady. It appears that we're back. Thank you.

THE COURT: Okay. Thank you. Okay. What I was saying is that I have no intention of opening up this hearing in cross-examination or redirect to new studies that have not been cited in the expert report, but I did so in this particular case because from what was said to me by Mr. Grey, I believe that these articles would have a connection to the retracted Savaris study. If in fact they don't, then they won't have any relevance to me ultimately so that can be a part of argument. Because of the fact that they are new, I have also said that I will allow Mr. Parker to cross-examine on them. So can we just continue on that basis?

MR. GREY: Thank you, Madam Justice.

THE COURT: Okay.

Q MR. GREY: Dr. Bhattacharya, can you still hear me okay?
A I can.

Q All right. I'd like to refer you next, sir, to a study called The Impact of the COVID-19 Pandemic and Policy Responses on Excess Mortality. This one is issued on the -- in June of 2021. This -- is this a study that you're familiar with, sir?
A Yes.

Q Okay. Could you please comment on this one in the same context I asked you about earlier, that is in terms of the Savaris study and your views about the effectiveness of NPIs?
A Sure. So this is a study by -- again, by an experienced team, including a dean at the University of Southern California. It's a frequent (phonetic) study, it was published in -- in the National Bureau of Economics Research working paper series, which you're only allowed to publish in if you're an invited member of the National Bureau of Economics Research. The study looks at the correlation between shelter in place orders in -- again, in the first wave and excess mortality, which is all cause deaths, not just simply COVID-19 deaths. It -- it -- the analysis looks both at the country level of a very large number of countries as well as at the state -- US state level. The primary finding of the study is that there is no correlation, again, between the -- the imposition

of (INDISCERNIBLE) excess mortality, in fact, to the extent that there is a correlation, it seems to -- that the imposition of these orders actually increased mortality.

Q Thank you, sir. Sir, the -- the last study that I want to draw your attention to was published in -- on the 21st of July, 2020 and it's entitled A Country Level Analysis Measuring the Impact of Government Actions, Country Preparedness and Socioeconomic Factors on COVID-19 Mortality and Related Health Outcomes. Are you familiar with this study, sir?

A Yes.

Q Okay. So could you please comment on this study in the same context as my previous question?

A Sure. So this is a study that -- early study that attempted to address what factors might correlate with why some countries had high COVID-19 mortality and why other countries did not. So it's -- it's an exploratory study, a correlational study. The primary outcomes of the study -- the primary (INDISCERNIBLE) of the study included a wide range of factors that were hypothesized at the time as having important explanatory power for why -- why some countries did worse than others. The -- the -- one of the incidental results from this paper is that the shelter in place orders and the stringency of the -- of these shelter in place orders had no correlation with the outcomes in terms of the mortality of -- of COVID-19 outcomes, whereas demographic factors like -- like age and comorbidities actually did have some correlation with -- with COVID-19 outcomes.

Q Okay. So how do, in your -- or do the -- the findings of this particular paper correlate with what was in the Savaris study?

A I think all of these studies correlate strongly with the results of the Savaris study. They corroborate the result and find the same -- they differ in quality, for instance, I think this particular paper, this Chaudhry paper, is -- is not as high quality as the Savaris study, whereas some of the other studies I think at this point I'd say are -- are at least as good as the Savaris study, if not better, with more sophisticated methods. This -- this particular study is an early study. The striking thing is that these studies find -- have a very difficult time documenting any correlation whatsoever between the shelter in place orders and COVID-19 mortality outcomes.

Q Thank you, sir. Dr. Bhattacharya, you were presented with a series of questions from Mr. Parker under cross-examination about a number of papers that seem to present consistently the same authors. I have these as Meyerowitz-Katz, Flahault and Besancon. I had the impression, and I'd like you to comment on this, sir, that -- that this was in the context of a rather raging intellectual debate between one -- one scientific camp and -- and another. Could you -- could you comment on that, please?

A Yeah. I mean I think -- I think that -- that the -- the scientific literature on the -- the effects of COVID-19 policies like lockdowns on outcomes has generated quite a bit of controversy in the scientific literature. And then you characterize as camps, I think that's -- that's fair, that there are -- there are scientists on one side who very strongly believe, I believe have prior beliefs, that COVID-19 restrictions have lifesaving effects and other scientists who, looking at the evidence, disagree. And so what -- what we're talking about, really, is a major scientific fight over the effects of these COVID-19 orders, these lockdowns, on -- on outcomes. I characterized it, I think, during the cross-examination as substantively is a fight between people who tend to prefer looking at modelling kind of actuals, that is looking at models and saying, Okay, here's how many people would have died if -- what the model implies if we had not done the lockdown, and then attributing whatever real (phonetic) outcomes to that -- to that versus real world kind of actuals. And so what you're seeing is, essentially, is like a skirmish in that fight where some people will -- some people on one side will -- will say, Okay, this study doesn't -- isn't particularly high quality, that side isn't particularly quality on one side, whereas -- but the major fight is between the modelling kind of factuals and the -- the people who prefer the modelling kind of factuals, the people who prefer the real world kind of factuals. The -- my reading of the literature on the real world kind of factuals is it does not support in broad -- you know, broad strokes the idea that these shelter in place orders save lives.

Q In your experience, is this type of fulsome academic debate among scientists at all unusual?

A It's -- I mean, over -- over controversial issues, it's very, very common. What's not common is -- is the -- the demand for retractions and other things like that when -- which (INDISCERNIBLE) disagree with is modelling choices or choices by econometric methods around it, that's unusual.

Q During the course of cross-examination, Dr. Bhattacharya, you were asked about infections and cases. I wonder, could you please clarify the clinical distinction between infections and cases in the context of COVID-19?

A Sure. So an infection is somebody who has the virus that is -- that is in them and it may or may not cause symptoms. It may or may not lead to outcomes for the patient that they -- that they perceive. A case is -- is somebody who, in my view, has shown up and been identified, either by a medical -- in a medical setting or in a public health setting, as somebody who has COVID-19, or has COVID-19 disease, rather.

Q Okay.

A Just -- just to clarify, that means that there may be people who are infected who never show up -- the attention of public health authorities or -- or medical -- medical folks, so they're infected but not a case, not counted as a case, whereas basically everyone who's

a case is presumably infected.

Q Thank you. You were asked during cross-examination, you were -- a study was put to you that we've called the second Madewell study. Do you recall that, sir?
A Yes.

Q Okay. And in the course of that, my notes indicate there was mitigation in there that -- that there was a percentage of 20.2 for symptomic individuals. Do you recall that?
A Yes.

Q I'm not clear, though, however, based on one of the questions precisely what that number means. Could you please clarify that for me?
A Sure. So my understanding of that number, which is consistent with the first Madewell study as well, is that among the people who in contact tracing studies were identified as cases. The -- the contact tracing studies looked at people in the same -- living in the same household. Now, they were not just simply cases, but cases that had -- showed symptomic disease, people who had symptoms that are consistent with COVID-19. And the 20.2 number is what fraction of the -- in those cases did it -- what -- did it result in family members living in the same household also becoming sick with COVID-19, that's one -- roughly one in five.

Q And there was also a number that was put to you from that study about asymptomatic cases and there was a range of 3.0 to 3.9 percent. Could you clarify what those numbers mean in the context of that study?
A Sure. So that -- in the context of that study and in the update -- in the original study it's the same, same concept. The question is, among the set of people who are identified as having COVID-19 but having no symptoms consistent with COVID-19 other than the -- the presence of the virus as detected presumably by a lab test, the -- what fraction of the time do other members of the household become sick with COVID-19 or become infected with COVID-19. And so the original study found that it was .7 percent in the -- based on the -- these contact tracing studies. The update added in some more studies that were published in between and that number went from 1 to -- either 3 or 3.9. I'm still actually not clear exactly on the distinction between those two numbers in the study, but somewhere in that range, presumably because, you know, the -- the studies that they added in in between had higher rates than the .7 percent in the original study.

Q So in your view, does the second Madewell study -- does that represent a significant difference or disparity between the -- the original study?
A No. I think the key outcome is the same. There's a large difference between the -- the probability of passing the disease on to somebody in the same household if you are symptomic than if you're asymptomatic. In the original study, it was 18 versus .7

percent and in the updated study is 20 versus, you know, 3 or 3.9 percent. Asymptomatic individuals are still quite unlikely to pass on the disease to -- to an individual in the same household according to the updated study. One -- one thing about that updated study that's important is that it includes -- it includes studies that happened during later waves so it's possible and, you know, seems likely explanation for why you see this -- this .7 versus .3, which is -- is not a very large difference, actually, but that -- that later variants might have been more transmissible than the previous variants. But, as I said, I think for instance that the omicron variant is much more transmissible.

Q You had -- you had mentioned, sir, in answer to Mr. Parker's questioning, expressed a view that COVID policies should be specifically aimed at protecting the most vulnerable. Do you recall that, sir?
A Yes, sir.

Q And I recall you saying -- you describing this as a terrible pandemic.
A Yes. Yes.

Q And that was in the context, I believe you said that, really, there's no way to prevent all risk of harm to everyone in the population.
A Yes. That's accurate.

Q But you also said something that I don't think was fully clarified under cross-examination and that is you said that -- that COVID-19, and NPIs in particular, are -- most adversely impact the poor. Was that your evidence?
A Yes.

Q Could you please clarify that -- that answer? Why is -- why is that your opinion?
A So it's twofold and I think it's different for developing versus developed countries. In -- in developing countries, the impact of -- of NPIs in places in richer parts of the world, including Canada, had an impact on -- on the economies of these poor countries. It's linked, in my mind, because the -- the economies of poor countries depends on the proper functioning of economies of -- of richer countries. One consequence of this is that the -- according to, for instance, the World Bank, tens of millions of people are now in dire poverty that would not have been but for some of these policies. There -- there's evidence, for instance, by a UN report that hundreds of thousands of children are dead from starvation in poor countries as a consequence, again, of the -- of the economic damage caused by the adoption of very stringent -- very stringent NPIs and very stringent lockdown policies by -- by western countries. So -- so in that sense, it's -- it's the poor of the -- of the -- in poor countries that are the worst hit.

In -- in developed countries as well, the people who are best able to -- to cope with the -- the harms of the lockdown are people whose -- don't lose their jobs if they -- if they don't lose -- they don't lose their jobs as a consequence of the lockdowns. Those are people, generally, that are richer, that can replace their jobs in -- you know, in the workplace with work from home, whereas the poor members of society, working class tend not to be. Just if you -- and as a result, it's poor people in places that had lockdowns that have -- that suffer and die from COVID-19 at higher rates. For instance, there's evidence from -- in Toronto that the richer neighbours of Toronto had a substantially lower -- during the first and second waves, had much -- substantially lower death rates from COVID-19 than residents of Toronto in richer -- in poorer neighbourhoods.

Q So is it your evidence then that the NPIs that place restrictions upon the public, generally, don't do much to protect the most vulnerable? Is that -- does that sum up your point on this --

A Yes.

Q -- picture?

A I think -- I think the -- the idea that NPIs by -- NPIs and shelter in place orders and the other lockdown orders are protective on the -- the most vulnerable from the disease, I think the evidence belies that, that we've seen enormous, you know, some 70, 80 percent of the deaths have happened among people that over the age of 80 despite these shelter in place orders. And so it's -- and so -- I'm sorry, over the age of 65 despite these shelter in place orders. And so the idea that shelter in place orders can somehow protect everybody is just not true. The -- the theory is that you can use them to suppress the transmission of the disease and -- and slow it down, that may be (INDISCERNIBLE) I don't -- I don't actually believe that's true, but the idea that they are effective in protecting the vulnerable is false and, in fact, in terms of the collateral harm they do, they -- they actually I think cause harm to the vulnerable.

Q Thank you, sir. Mr. Parker had asked you about vaccines and I recall your evidence being that the vaccines do not stop disease transmission in the context in COVID-19. Was that your evidence, sir?

A Yes, sir.

Q Okay. And in this context you had given the evidence -- the opinion that, for example, closing schools does nothing to reduce the risk to the most vulnerable populations. Is that your evidence?

A Yes. That's my evidence.

Q The question I want you to clarify, though, doctor, is in the context of comorbidities you talked a lot about age being a significant risk factor, but -- and I know this may be

difficult, but when you're weighing comorbidities as a risk factor versus age, which is the -- which is more significant or are they -- or are they equal? Could you -- could you clarify that point?

A Sure. Age is the single most important comorbidity that matters. Roughly speaking, for every 7 years of age, the infection fatality rate doubles and so the risk of dying from COVID is -- increases exponentially with age. So, you know, if someone is 50 versus someone who's 57, the 57 year old will have double the risk of dying if they're infected. The -- the effect of comorbidities like obesity and diabetes have also increased the risk of dying with -- with COVID, but not as steeply as age. So, for instance, someone who's obese or morbidly obese, roughly speaking, it's as if they -- they -- their -- they've aged 7 years, so it's -- you know, their risk will double. But the -- but the, you know, 64 year old thin person will have roughly the same mortality rate as someone who's 57 and -- and obese. Right. So it's -- it -- the comorbidities matter, but they don't matter as sharply as age does. Age is the single most important risk factor and there's a reason why -- it's the reason why such a large fraction of the deaths had been among people who were older.

Q And -- and is that why it's your opinion that NPIs or any measure to prevent death, morbidity --

MR. PARKER: Objection. Leading.

MR. GREY: Can I finish the question, please, Madam Justice?

THE COURT: Yes. Finish the question, please.

MR. GREY: Thank you.

Q MR. GREY: Dr. Bhattacharya, is -- is that why, what you just said, is that why you've given the opinion that NPIs need to focus upon the most vulnerable members of the population?

A Yes. I think that --

MR. PARKER: Objection. Leading.

THE COURT: Please, doctor. Mr. Parker?

MR. PARKER: The objection was it's a leading question. It's not (INDISCERNIBLE) for question in redirect examination.

THE COURT: It certainly is a leading question. Mr. Grey?

MR. GREY: It was -- it was summarizing his earlier evidence, though, My Lady, on a crucial point and the question does not suggest the -- does not suggest the answer. It's perfectly open to the witness to -- to give an answer that's contrary to what is stated in the question. I was simply summarizing his earlier -- his earlier evidence and trying to clarify a point that was made under cross-examination.

THE COURT: Okay. Mr. Grey, could you please try to reword your question so that it is not as leading?

MR. GREY: Certainly.

Q MR. GREY: So, doctor, based upon your -- your previous answer, is it your view that NPIs need to be focussed upon the most vulnerable populations --

A Yes.

Q -- members of the population?

A Yes, I do. I think that -- that the most vulnerable are people with -- who are older and certain -- maybe some certain members of the younger population who have a confluence of chronic conditions that really do expose them to high risk if they're -- if they're infected. I think that's a limited number relative to the older population. Public health resources are -- are finite, the attention of the public is finite and by disbursing public health attention to low yield items (phonetic), in effect it -- it's -- there's opportunity costs in terms of harming older people and other people with -- with chronic diseases predisposed with bad outcomes by not protecting them. In particular, the idea that suppressing community spread automatically protects these older populations is just not true and so that's -- that's why I very strongly support protection -- the concentration of resources in protecting the most vulnerable people who are most likely to die if they're infected.

Q Thank you, doctor. In the course of your questioning by Mr. Parker, you had given the evidence, as I -- in my notes it indicates that it's your opinion that extending lockdowns has actually prolonged the process toward what was described as equilibrium, which appears to be synonymous with herd immunity. Is -- is -- could you clarify that? Is that what's meant by the term equilibrium in that context?

A Yes. So the -- what herd immunity looks like in the context of COVID-19 is similar, I think, to what herd immunity looks like in the context of the other coronaviruses. It doesn't -- in equilibrium here doesn't mean that the virus goes away, it doesn't mean that we -- there aren't more ways. What it means is that the -- that the population at large has substantial immunity to the virus, that is protection against the infected and

that -- against (INDISCERNIBLE) disease by dent of previous infection and recovery or by dent of vaccination. And the -- the -- and (INDISCERNIBLE) also protection against disease spread. The -- the equilibrium is going to be seasonal, so you'll see seasonal -- seasonal outbreaks of COVID-19 just the same way we see seasonable outbreaks of other coronaviruses and regional, different regions may have different -- may be hit at different times. The lockdowns, if they do anything, they delay the time to which that -- that equilibrium comes. Whether that equilibrium comes or it doesn't come -- when it comes, it's not a question of if it comes, the question is when it comes. We have no technology to stop it from coming (INDISCERNIBLE) don't do that. The lockdowns are not a technology that will prevent the equilibrium from eventually happening. The question -- at best what they do is they -- they delay the onset of that point.

Q And, sir, upon what -- what data do you base that opinion?

A So, if you look now at the efficacy of lockdowns, it's very clear that the lockdowns cannot stop disease spread. The disease is spread despite the imposition of -- of lockdowns almost everywhere. And almost everywhere lockdowns have (phonetic), there's -- nevertheless the disease has spread. We actually don't have the technology to stop the disease from spreading. It will spread. At best, what the lockdowns can do is, as I said, delay them for a short while at great costs, but not stop them from -- stop the disease from spreading. If we had -- there was hope, I think, initially that the vaccines might provide a way to stop the disease from spreading, but unfortunately the vaccines are not capable of that. The vaccines -- you can be vaccinated and still get the disease. That happened to me, it's happened to many, many people. There's -- the breakthrough infections from the vaccines are quite common and vaccine efficacy against infection, after a few months, drops to something like 20 percent or lower. So the vaccines don't stop infection. The vaccines do prevent severe disease, which is a really -- which makes them quite useful for focussed protection and why it's so important for public health to vaccinate older people, especially in other people with chronic diseases that put them at high risk if they were to get infected. So you can protect the population with the vaccines, but you cannot stop the disease from spreading with the vaccines.

Q How early did the scientific community become aware of what you just said?

A So I think that we're --

MR. PARKER: Objection. This is not something that was raised in cross-examination. Again, it is not a proper question for redirect.

THE COURT: I agree. I agree, Mr. Grey.

MR. GREY: (INDISCERNIBLE) I'll leave that point, Madam

Justice. Thank you.

THE COURT: Okay.

Q MR. GREY: Dr. Bhattacharya, there was a Rasmussen study that was put to you on cross-examination, it was from December of 2020. Do you recall that?
A Yes.

Q It was called Vaccination is the Only Acceptable Path -- or it put forth a statement that -- the assertion that vaccination is the only acceptable path to herd immunity.
A Yes.

Q Do you recall that?
A I do.

Q Do you -- do you agree with that stated position?
A No. That's -- it's false. It's premised on the idea that people who are COVID recovered do not have substantial immunity against both reinfections and severe disease, so that -- the premise and conclusion of that -- that paper is false.

Q Mr. Parker also put to you the specific statement from that paper that herd immunity has never been achieved through naturally acquired infections and is only possible through mass immunization. Do you agree with that statement?
A No, that's false. Just to take one example from a recent pandemic, the Zika pandemic, there is no -- there is no vaccine and yet there are studies that suggest that there's -- there's herd immunity to Zika in part because the infection with Zika confers immunity -- protection against -- against reinfection, severe disease from Zika. The literature is very clear that herd immunity has been established in the context of Zika even without any vaccine available. The -- I already mentioned that the other coronaviruses have -- had (INDISCERNIBLE) equilibrium have herd immunity in that sense, in the sense that it's possible to have it with -- it's -- in the sense that it means that a substantial portion of the population has been infected and is protected against reinfection, severe disease upon reinfection. So other coronaviruses are also controlled by herd immunity.

Q Dr. Bhattacharya, on cross-examination Mr. Parker put it to you that there were no church closures in Alberta. Do you -- have you heard of Grace Life Church?
A Yes.

Q Okay. Are you familiar with the -- with the news story about that church?
A From what I understand, it was closed.

Q Okay. Do you -- do you know -- you know what -- that there were -- what restrictions were placed upon capacity in churches in Alberta?
A I mean, to my -- to my understanding, that they were -- there were such strict capacity limitations that it was not possible to hold -- hold services in a way that's appropriate for the -- you know, the (INDISCERNIBLE) for those churches.

Q Do you -- did you hear -- are you aware of a pastor named Timothy Stephens, who's a pastor of a church in Calgary?
A Yes.

Q And so what do you know about what happened with Pastor Timothy Stephens?

MR. PARKER: Again, this is not something that arose in cross-examination. The objection is that it is not an appropriate line of questioning for redirect.

THE COURT: Mr. Grey?

MR. GREY: Madam Justice, may I respond?

THE COURT: Yes.

MR. GREY: It was put to -- it was put to the witness specifically that there were no church closures in Alberta. That -- I think Mr. Parker knew that that was incorrect, that is that's misleading, and so I'm clarifying this evidence based upon the things that really -- that the Court can even take judicial notice of. So this is -- this is just clarifying a point that Mr. Parker brought up that I think is misleading and needs to be clarified.

THE COURT: What does Timothy Stephens have to do with church closures?

MR. GREY: He was -- he was arrested --

THE COURT: Well, that's right.

MR. GREY: -- for giving a service outside. Outside. A church service outside --

THE COURT: Okay. But that has --

MR. GREY: -- based upon a court injunction.

THE COURT: That has nothing to do with church closures, Mr. Grey.

MR. GREY: Well, the -- the point, My Lady, respectfully, is that the capacity restrictions, and which the Court knows were up to 85 percent at the relevant time period, actually forced the congregation outside and Pastor Stephens, not only was his church effectively closed, he was arrested while giving a service outside, so --

THE COURT: I'm sorry, Mr. Grey, I can't accept that that is related to the simple statement that there were no church closures. You've asked a question about a particular church and that should be enough, unless there's other --

MR. GREY: Thank you.

THE COURT: -- church closures.

MR. GREY: All right. Thank you.

MR. PARKER: May I just respond to the -- again, we have these frequent suggestions that the respondents' counsel, particularly me, are misleading the Court and I wanted to respond to that, Justice Romaine. My question --

MR. GREY: That wasn't --

MR. PARKER: -- was in regard to --

MR. GREY: Sorry.

MR. PARKER: -- the impugned Chief Medical of -- Officer of Health orders and it related to whether those orders specifically closed church and none of those orders that are impugned did close church, they were capacity restrictions, and so the suggestion that I'm misleading the Court I think is inappropriate and should be retracted.

THE COURT: Okay.

MR. GREY: I was -- to be -- sorry, Madam Justice, go ahead.

THE COURT: No, no. Well, okay. There's a suggestion there that you have mischaracterized Mr. Parker's question. Do you want to retract your

comment?

MR. GREY: First of all, I did not say that Mr. Parker had misled the Court. I said that -- that evidence was misleading in the sense that what Mr. Parker put to the witness was that there were no church closures in Alberta. Clearly, we all know that's not true. The GraceLife Church was triple barricaded and was used as an RCMP barracks. That was my point and that was solely my point.

THE COURT: Okay.

MR. GREY: I said that -- that evidence left alone, that's what I meant to say. I did not suggest Mr. Parker had deliberately misled the Court, I said that evidence and the way it was presented was not accurate and therefore was misleading. That's what I meant to say. I hope that's clarified.

THE COURT: Well, I'm not sure that it has to perhaps Mr. Parker's or even my perspective. Mr. Parker said his question was there were no church closures pursuant to any of the impugned orders and I am not so sure that that is any kind of misrepresentation.

MR. GREY: Well, that's not accurate either because, if you -- well ...

THE COURT: Yeah.

MR. GREY: Of course the closure was pursuant to their relevant orders, that's -- it was enforcement of those orders that caused the church to be closed, so I'm not sure what we're arguing about.

THE COURT: Okay. Okay.

MR. PARKER: Well, sorry, I can --

THE COURT: Well --

MR. GREY: You know, the Angel Gabriel didn't come out of the sky and close GraceLife Church.

MR. PARKER: And, sorry, just to be clear, the orders that were put in place that are impugned did not close any church in Alberta. Whether there were certain churches that refused to comply with those orders and subsequently enforcement

action was taken against them that resulted in their closure is a separate issue and not something that's part of this hearing and therefore suggesting that I misrepresented or misled the Court is inappropriate and you should retract that, sir. It wasn't the evidence you had an issue with, it was the form of my question which you said was misleading when I put it to Dr. Bhattacharya and that's why I'm saying you should retract that comment, sir. Thank you.

THE COURT: Okay. Mr. --

MR. GREY: Okay. I'm not -- I'm not -- I don't think I need to retract anything. I'm not going to do it. I've clarified what the point was of the question and I'm not going to be -- I'm not going to take direction from Mr. Parker about what I should be retracting. He's not a justice of the Court of Queen's Bench. If you direct me to do that, then -- then that's a different matter, but I did not mean -- to clarify here, I did not mean to say that Mr. Parker tried to mislead the Court. I said that that point needed to be clarified and I clarified it, Mr. Parker has had the opportunity to clarify it so I don't know what else can be said, Madam Justice.

THE COURT: I'm satisfied from hearing from both you and Mr. Parker that Mr. Parker did not mislead the Court in his question and I'm not going to compel you to withdraw that, but it may certainly be a subject for argument.

MR. GREY: Thank you, Madam Justice.

Q MR. GREY: I only have one further question. Dr. Bhattacharya, can you still hear me okay?
A Yes.

Q Thank you. You were asked about -- by Mr. Parker in cross-examination about a panel discussion in which you had participated with Governor Ron DeSantis and some other scientists in Florida. Do you recall that?
A Yes.

Q Okay. During the -- the course of that panel discussion, you had said something that I want -- I'd like you to -- to -- just to clarify, and that is that the real pandemic is fear. Could you please explain why you said that?

MR. PARKER: Again, this is a leading question and it's objected to on that basis. My friend has taken him to something that he apparently said in his panel discussion that did not come out in the evidence when I cross-examined on -- on this, as I'm -- as far as I recall.

THE COURT: Okay. Mr. Grey, you know, I certainly can't recall this either.

MR. GREY: That's fine. It's (INDISCERNIBLE) point, My Lady. It's not -- it's not something I'm going to (INDISCERNIBLE) at this time.

THE COURT: Okay. Okay.

MR. GREY: Thank you.

THE COURT: Thank you.

MR. GREY: Those are all of my questions for Dr. Bhattacharya. Thank you. Thank you --

THE COURT: Thank you.

MR. GREY: -- Dr. Bhattacharya, for all of your assistance to the Court in this matter.

A (INDISCERNIBLE) Mr. Grey.

THE COURT: So, Mr. Rath, is -- Mr. Rath, do you have any questions for Dr. Bhattacharya?

MR. RATH: I do. I do, My Lady. I -- I shouldn't be very long. My friend has --

THE COURT: Okay.

MR. RATH: -- covered most of the material that I wish to cover.

THE COURT: Okay.

The Witness Re-examined by Mr. Rath

Q But I would like to go back, Dr. Bhattacharya, to the discussion in and around the Savaris paper, and your indication in answer to my friend's questions that the -- that the retractions to you seemed unusual. Would you agree, sir, that with regard to -- and you

had spoken in response to my friend's questions with regard to various camps. Would you agree, sir, that the science in and around COVID, especially in the United States but elsewhere, has been unduly politicized?

A (INDISCERNIBLE).

MR. PARKER: Again, it's a leading question --

THE COURT: Yes.

MR. PARKER: -- and that this is not something that arises in redirect.

THE COURT: I agree.

MR. RATH: Well, sir --

THE COURT: I'm sorry, Mr. Rath. That was definitely a leading question.

Q MR. RATH: All right. Well, I'll ask the question then without the preamble. Dr. Bhattacharya, my friend was pressing you with regard to why the Savaris paper may have been retracted. In your view, was that -- did that retraction appear to be political in nature?

MR. PARKER: Objection. It's a leading question.

MR. RATH: On what --

THE COURT: Mr. Parker? Mr. Parker?

MR. RATH: On what basis --

THE COURT: Mr. Parker, would you give your --

MR. PARKER: Again, it's a --

THE COURT: -- basis, please?

MR. PARKER: Sorry. Again, it's a leading question and this issue of politicization and Savaris was not something that I recall being covered in cross-examine. There's nothing to clarify or explain here.

MR. RATH: Certainly, My Lady, but my friend repeatedly put questions to my friend asking him why he -- or -- or felt -- put questions to Dr. Bhattacharya asking him why he felt the paper was retracted and what prompted the retraction. I'm simply seeking clarification. This question is not leading.

THE COURT: Well, Dr. Bhattacharya --

MR. PARKER: (INDISCERNIBLE).

THE COURT: -- had every opportunity to answer Mr. Parker's question about why the article was retracted. You are now suggesting to him in a leading question that it was political. I don't think you can really get past that, Mr. Rath.

MR. RATH: I'm simply asking him whether in his view it was, My Lady. I'm not suggesting to him anything --

THE COURT: Well --

MR. RATH: -- with respect, but anyway, I'll -- I'll move on. I've heard what the Court has had to say on the point.

Q MR. RATH: Dr. Bhattacharya, there has been quite a bit -- there's quite a bit to you put to by my friend with regard to papers concerning so called NPIs, non-pharmaceutical interventions. In your view, looking at them one by one, are -- is masking -- widespread masking a suitable non-pharmaceutical intervention?

A I don't think (INDISCERNIBLE).

MR. PARKER: Again, objection. This is not something that is appropriate for redirect. This is not something that arose during cross-examination and now needs explaining or clarifying. Masking and its effectiveness has been a subject through the reports from the primary report through the rebuttal report of Dr. Kindrachuk and again, this is not something that is appropriate in redirect.

THE COURT: Okay. Mr. Rath?

MR. RATH: My Lady, in my -- in my view, my friend put all kinds of papers to Dr. Bhattacharya with regard to the effectiveness of NPIs. I'd like to -- I'd like him in layman's terms to present his views with regard to the effectiveness of these measures in light of the type of questioning that my friend put him to him -- put to him. In my view, it is proper redirect.

THE COURT: I'm sorry, Mr. Rath. I can't agree. This is getting into evidence-in-chief under the guise of redirect. It's not proper redirect.

MR. RATH: All right, My Lady. We have your -- we have your views on that. Thank you.

THE COURT: Thank you.

MR. RATH: Those are all my questions.

THE COURT: Okay. Thank you, Mr. Rath. Okay, Dr. Bhattacharya. I think we can finally let you go. Thank you very much for appearing and testifying in this hearing.

A Thank you, My Lady.

MR. PARKER: Justice Romaine, you had indicated I would have a chance for further --

THE COURT: Oh.

MR. PARKER: -- cross-examination.

THE COURT: Okay. Okay, Mr. Bhattacharya. Sorry. Hold on. We've got one more step here. That's very true, Mr. Parker. I'm sorry. I forgot. Go ahead.

MR. PARKER: For sure.

The Witness Re-cross-examined by Mr. Parker

Q Dr. Bhattacharya, I just want to go to the Madewell second report. You're aware, sir, that that report took the original 54 studies and the meta-analysis that was in your evidence and it removed four of those studies and added 37 studies to them to come up with 87 studies in the meta-analysis. Do you agree that that's what the second Madewell study looked at?

A Yes. I -- I think the Madewell study added -- added a bunch of other papers that came out in between. I was not aware that they removed four, though.

Q Yeah. That -- that's -- well, you'll accept if -- well, do you want to look at that part,

sir, or will you accept that they took the 54 and removed four and added 37?
A I'll -- if you -- I'll take your word for it. I haven't done a careful comparison, exactly which ones are included and not included.

Q And you'll agree -- and I've look at it, sir -- that the Madewell second study found that pre-symptomatic secondary attack rates in household seconds were 8.1 percent; correct?
A I don't remember the number.

Q You -- yeah. Sure. Sorry. We're just going to bring that study up for you, sir. You didn't mention the pre-symptomatic when you were going through your evidence clarifying your views on the Madewell second study. You just referred to the .7 percent from the original Madewell and then the 3 to 3.9 percent in the Madewell second study. Do you remember that -- saying that, sir?
A Yes. And -- but I also clarified why I did that. The reason is that from a public health point of view, the question is that you -- is that you -- you can't tell if someone who is positive and is asymptomatic whether they're pre-symptomatic or asymptomatic at the time or just simply asymptomatic at the time, because you can only determine that if someone subsequently develops symptoms.

So if what you have is someone with a positive test by no symptoms, you can't tell. So the relevant question from a public health point of view isn't pre-symptomatic versus asymptomatic. The relevant question is -- is someone who's just asymptomatic and you don't know if they're going to develop symptoms. That's why the 3 or the 3.9 is the appropriate number.

Q Sir, you've got the page I took you to in cross-examination on the screen now, the asymptomatic and/or pre-symptomatic 3.9 percent. Do you see that, sir?
A Yes.

Q And you're not aware what that -- that 3.9 represents. I understood from your evidence today you're not sure what that 3.9 --
A I'm still not --

Q -- (INDISCERNIBLE)?
A -- clear from reading the paper exactly what the -- what the distinction is between the asymptomatic versus asymptomatic and/or pre-symptomatic.

Q And the (INDISCERNIBLE) --
A I think it's -- I think it's a combined -- I think -- I think what they're doing, if I'm -- if I'm reading the paper correctly is that they're combining the two, asymptomatic and

pre-symptomatic, together to get a single number, in which case if that's true, if my reading of the paper is correct, although again it's -- it's a little unclear from the paper from my reading, then that's the right -- then 3.9 would be the right number.

Q Your understanding is they combined the 3 percent asymptomatic and the 8.1 for pre-symptomatic to get the 3.9?
A Yeah. Yeah. I think -- I think that they did some sort of combination, although like I -- I said, from reading the paper and the methods I couldn't tell exactly.

Q But you'll acknowledge, sir, if someone is pre-symptomatic, that is they don't have symptoms yet; right?
A Yes.

Q And so if secondary attack rates in household settings are found to be 8.1 percent for the pre-symptomatic group, that means that those who don't have symptoms but subsequently do get symptoms have a secondary attack rate in household settings of an 8.1 percent; right?
A Yes. And as I said, that's not the relevant question for public health. The question is whether someone who has tested positive without symptoms, what is the likelihood that they're -- they're going to pass this disease onto somebody else. (INDISCERNIBLE).

Q You're saying that it's (INDISCERNIBLE) --
A Sorry, sir. Can I finish? If you don't know --

Q Please go ahead.
A Yeah. You don't know if they -- if they're going to ultimately develop symptoms when you have the positive test. And so the relevant question from public health based on the information that's available at the time of the positive test when they (INDISCERNIBLE) individual is not -- because you can't tell, you're not God -- whether they're going to eventually develop symptoms. You just have to make -- take action based on -- on the -- the evidence you have in front of you, which is they're asymptomatic and they're tested positive. And here, the evidence is it's 3.9 percent or 3 percent that they ultimately go on that -- that they pass the disease onto somebody else in the same household.

Q But I'm going to suggest to you, sir, that it -- it is important from a public health perspective to know if pre-symptomatic people are capable of infecting household members within an 8.1 percent secondary attack rate. That is important information for a public health perspective; correct?
A For -- for what -- for what question? For orders quarantining people? I think it's not. The question is I have somebody in front of me who's a positive test. They -- they have

no symptoms. I can't tell in advance if they're asymptomatic or just -- or -- or pre-symptomatic. I can't tell which category they fall into, so I have to take action based on the information I have. The information I have puts them in the 3.9, not the 8.1.

Q Okay. Thank you. Sir, you -- you had suggested that you thought the Madewell second study had looked at some additional studies since the first Madewell study that had looked at some different time periods. Do I have your evidence correct so far?
A That's what I understood.

Q And you mentioned Omicron, sir; correct?
A We've talked about Omicron. You asked me about Omicron, remember.

Q No, no. In -- in the context of your re-examination this morning on the second Madewell study and -- and suggesting that Madewell -- the second study had looked at some studies during different time periods, different waves. And then you mentioned Omicron. Do you remember doing that this morning, sir?
A Yeah, but I didn't mention that to say that -- that they include the studies based on Omicron. I said I have not seen very many studies on the secondary attack rate based on Omicron. I don't think that --

Q (INDISCERNIBLE).
A -- we had time for those studies to get published yet.

Q Why did you mention Omicron in the context of questions about the Madewell second study then, sir?
A To -- to show that the -- that the development of variants can change the -- the secondary attack rates. We actually talked about that during the original cross-examination as well.

Q Yeah. I know that, sir, but it doesn't have anything to do with the Madewell second study; right? Omicron has nothing to do with the Madewell second study; correct?
A The fact that -- that variants can change the secondary attack rate has -- I think they do -- a lot to do with the Madewell second study. I think -- I think --

Q Well, Madewell --
A -- (INDISCERNIBLE) included things -- studies that were part -- from the -- from the Alpha wave that were later than the -- than some of the studies included from the original Madewell study.

Q The Madewell second study was published August 27th, 2021. Had Omicron appeared at that point, sir?

A No.

Q But Delta had, sir?
A (INDISCERNIBLE) I didn't -- I'm sorry. I hadn't -- I hadn't said anything about Omicron being included in that second (INDISCERNIBLE). I'm not sure if I understand the question.

Q I just wanted to clarify, sir, because as I said this morning and discussed in the second Madewell study and -- and indicating you thought that there were additional studies added to the second Madewell study as compared to the first, that that included information from different waves and you mentioned Omicron. And I just wanted to confirm your understanding that the Madewell second study did not include any studies that looked at secondary attack rates in household settings involving the Omicron variant.
A That's true.

Q Thank you. And, sir, do you know if the Madewell second study looked at secondary attack rates involving the Delta variant?
A I don't think so, but I'd have to confirm. I haven't looked at all of the -- all of the (INDISCERNIBLE) inside the Madewell -- the second study. So I -- I think primarily it included Alpha.

Q And Alpha, sir, you would agree was the dominant variant in Alberta --

MR. GREY: My Lady -- My Lady, I'm going --

MR. PARKER: -- during the third wave?

MR. GREY: -- to object here. Can I object, please?

THE COURT: Yes. Go ahead.

MR. GREY: My -- my friend has had considerable latitude and I understand why. He -- he's cross-examining, but I think he's gone past the point of issues that were raised on re-direct. I certainly did not -- I didn't ask the witness any questions about the line of questioning that Mr. Parker is pursuing.

The other thing I want to raise as a concern with the greatest of respect to my friend, I know that we all get very excited here, but, you know, guffawing and chuckling or giggling in answer to an eminent scientist's answers to questioning in court I think is -- is inappropriate and I'd ask that Mr. Parker please keep those (INDISCERNIBLE) reactions in check.

We're all here to do a job and the -- the job is not to demean a witness of the eminence of Dr. Bhattacharya. Thank you.

THE COURT: Okay. Mr. Parker?

MR. PARKER: Sorry. The objection was -- I'm just trying to come back to what the objection was here.

MR. GREY: I can rephrase it. I said that --

MR. PARKER: Sure.

MR. GREY: -- that Mr. -- I thought that Mr. Parker had gone beyond the scope of redirect and -- and is actually going back and launching into basically an extension of his already lengthy cross-examination. And then the other comment I made I think is pretty obvious and I'm not going to (INDISCERNIBLE) --

MR. PARKER: Well -- sorry. I just -- I don't want to -- let's just deal with the objection if we could, sir. So I think I have your objection, sir, and my response is when I cross-examined Dr. Bhattacharya last week he hadn't seen the second Madewell study. So my ability to cross-examine on that was limited. I indicated in our meeting on Friday that my -- the respondent's position is that Dr. Bhattacharya has had that study now for several days and has had an opportunity to review it and should appropriately as an expert in this matter, considering it's an update of a key study in his primary report, review and be prepared to speak to that in redirect and cross-examination. And so my questions were in that context.

And specifically, I was asking, I understood, about his evidence where he was suggesting Madewell's second study had looked at data from the Omicron wave. He confirmed that's not the case. I was asking about the Delta wave. He confirmed that he doesn't think that's the case. And now, he just talked about the Alpha wave and I was simply confirming via question on that answer that the Alpha was the dominant variant here in Alberta during the second wave, and that was the end of my questions on that point.

THE COURT: Okay. Do you want to address Mr. Grey's concern about your response to Dr. Bhattacharya's evidence?

MR. PARKER: Well, sorry, so on the objection, I'll -- I'll -- I don't need the answer to the question on the Alpha being the dominant variant in the second wave. That's in -- sorry, third wave. That's in evidence. In terms of giggling, guffawing or not treating this witness with the appropriate respect, that's not my intent, and my

apologies if that has occurred this morning. I'll look for your guidance on that, Justice Romaine, but, sorry, I'm -- I'm not sure specifically what's being referred to and so I'll -- I'll turn that over to you and you can let me know.

THE COURT: Okay. Okay. Thank you. So I think we've dispensed with the first part of the objection. With respect to any laughter that Mr. Parker may have expressed after hearing an answer from Dr. Bhattacharya, I don't believe that that was a reflection of disrespect and I hope, Dr. Bhattacharya, you don't take it that way. Okay. Then --

MR. PARKER: Thank you.

THE COURT: -- any other questions, Mr. Parker?

MR. PARKER: Yes.

Q MR. PARKER: Continuing, sir, you've spoken several times about shelter in place orders. Do you agree that Alberta did not have a shelter in place order from the first, second and third waves?

A I -- I don't -- I don't know if it -- it didn't have something close to a shelter in place order or a -- I used a severe NPI like business closures and things like that. Those are -- those are -- the -- essentially quarantine kinds of orders that are -- that are in place through much of the pandemic in -- in -- including in Alberta, I think. If you mean by (INDISCERNIBLE) shelter in place order like -- like the Chinese, no. If you mean by shelter in place orders, recommendations to stay home or -- or requiring us to stay home except for certain classes of people, I -- my understanding is that there were some orders like that in Alberta as well.

Q Well, sir, how do you define -- I think we -- you know, I -- strike that. We've -- we've covered this already. Let's go onto vaccines not stopping transmission. Sir, that's your evidence? Vaccinations does not stop transmission?

A Yes.

Q Is that correct? And when did you come to that conclusion, sir?

A Sometime around, I'd say -- I'd have to go back in my notes, but sometime in the -- in the early part of 2021.

Q Early part of 2021, so we would be in the -- either at the end of the second wave in Alberta or in the beginning of the third wave, depending specifically when it was then?

A Yes. (INDISCERNIBLE) maybe March 2021.

Q And are you able to tell me what specifically in March 2021, if anything, caused you to come to this firm conclusion?
A I was looking at places like the Seychelles Islands that had a very high vaccination rate that nevertheless had a big wave of cases. It seemed very clear that you couldn't have that if vaccinations stopped transmission.

Q And so if it was March 2021, sir, would you agree that that might be into the third wave in Alberta?
A I don't know the exact wave times -- timing.

Q Sir, do you acknowledge that there are others in the -- there -- well, there is academic literature from March 2021 up until the present time that would come to a different opinion on that question, that is vaccinations do help to stop transmission?
A No. There -- there's no evidence that I'm aware of that shows that the vaccines stop transmission. That's -- that's not true.

Q Sorry. You're --
A (INDISCERNIBLE) published evidence to that extent just saying that. The -- the vaccine efficacy rates that were published at -- around that time were on -- on prevention of symptomatic disease, not -- not disease transmission and not -- not infection. So that's -- what you just said is false. I know of no academic evidence published -- published evidence that -- you know, that's reputable that suggests that the vaccine stopped transmission.

Q Sorry. Just to be clear, sir, you're saying from March 2021 until now, you're not aware of any published reputable evidence that suggests vaccinations for COVID-19 help to stop transmission of that disease?
A I said stop transmission. I know of no reputable evidence that -- that the vaccinations stop transmission.

Q Sorry. Are you distinguishing between stop as in completely stop and limiting transmission? When you say stop, are you saying they don't 100 percent stop? Is that how you're defining --
A (INDISCERNIBLE) --

Q -- stop when you answer these questions?
A -- the best evidence are places -- from places like Qatar, from Sweden, from Israel show that vaccine efficacy against infection drops to something like -- I already answered this when I talked to Mr. Grey -- to something like 20 percent or lower. When you have a vaccine that only has 20 percent efficacy against infection, that -- that -- at best what that does is delay for a short time the timing to -- to getting infected. It doesn't --

doesn't stop you from getting it.

So the -- it's not just a question of help prevent transmission. It doesn't actually do that. What it ultimately does is prevent -- prevent -- reduce the severity of illness if you -- if you do get invented. As a tool to try to stop the disease from spreading, these vaccines don't work for that. They cannot work for that. Twenty percent -- you need something like 90, 95 percent efficacy against infection and transmission. These vaccines just don't have that in order to -- to actually stop them.

Q What about slowing the spread, sir? Did the vaccines in March of 2021 -- did they help to slow the spread of this disease?

A It's -- that's a complicated question, because it depends also not just on the vaccines themselves but also on the behaviour of the people that are vaccinated. So if someone who believes that they're protected may -- may interact with larger -- larger groups of people, may -- may go out even though they're symptomatic. So I don't know the answer to that question.

Q Sir, you talked about 20 percent efficacy of vaccines in the answer you just gave. Do you know what you're talking about?

A No. I don't know what you're talking about.

Q Sorry. You talked about where a vaccine only has 20 percent efficacy in your evidence just in the last few minutes. Do you recall that evidence or did I misunderstand --

A Yes. Yeah.

Q -- what you said? You did? Okay. And, sir, is that 20 percent -- where does that come from, sir? Is that somebody who has had one shot or a second shot or a booster? Where do you get that 20 percent (INDISCERNIBLE)?

A That evidence is from a paper that was published in the New England Journal of Medicine from a study of a -- a very careful (INDISCERNIBLE) study done in Qatar, which has an excellent electronic health record system. They tracked people that -- with -- with two doses versus unvaccinated and what they found was a -- by 6 months after vaccination that the efficacy against -- against infection had dropped to 20 percent or -- or -- you know, and -- and actually, in the pre-print it was even lower than that.

The -- the -- that study has been corroborated by other studies, including in Northern California in a study by some folks at the Kaiser Permanente. It's been corroborated by other studies in -- in places like Sweden using very similar methods (INDISCERNIBLE) tracking careful cohorts. The -- the -- you asked about third doses. (INDISCERNIBLE).

Q Sorry. Can I just stop you there? The study you were just talking about, that's not in your report; right? We won't find that in there?
A I don't remember what -- I don't remember if I put the -- I think I -- I put the pre-print -- if I remember, I put the pre-print of the -- of that Qatar study in the report, but I don't -- I don't remember specifically. I would have to look (INDISCERNIBLE) --

Q Can you take me -- let's go to your report then, sir. Can you take me to where that pre-print is in your report, sir?
A I --

Q Is that in your -- is that in your primary report or your surrebuttal report?
A It's likely in the secondary, because I think it came after the -- after the -- you know, after I wrote the primary report, but I don't remember exactly specifically. I'd have to look.

Q Sure. Could you look, sir, and could you take me to where that pre-print report is discussed in the surrebuttal report then, please, sir?
A Let me -- I'd have to pull it up. Okay. Sorry. This is going to take me a few minutes to find it -- find the report. I'm -- I'm sorry. I -- I was responding to your question what -- what was the basis of that 20 percent. You -- you were asking me that; right? So I didn't say -- I didn't make any representations to my surrebuttal report.

Q I'm sorry. I think I was muted when I was asking you that, sir. You had indicated, I -- I understand, that you had looked at a study out of Qatar and I asked you if this study was mentioned in your reports and I think you had indicated due to the date it wouldn't be the primary report, it would be surrebuttal report. And I've asked you can you identify where that study or the -- you've just been discussing on vaccine efficacy where -- where in your report, sir.
A Yeah. I have to -- I said I'll have to look.

Q Sure. And are you doing that, sir?
A Yeah. That's where I'm currently looking right now.

Q Thank you.
A No. It's not in my -- my surrebuttal report.

Q And you're comfortable then it's not in your primary report as well based on the (INDISCERNIBLE)?
A (INDISCERNIBLE) was published after.

Q Thank you.

A It is in the literature, though. As I said, published in the New England Journal of Medicine.

MR. PARKER: Thank you. Those are my questions -- further questions -- cross-examination arising from the redirect. I haven't had an opportunity to ask any -- sorry. I'm not asking any questions on the additional studies that were put in this morning and -- because we just received them and because of the objections I put on the record and also because I would need an opportunity to review them with my client and my own experts and consider putting in additional studies of -- of the -- of an alternate view. And so on that basis, those are my questions, Justice Romaine. Thank you.

THE COURT: Okay. Thank you. Okay. Finally, Dr. Bhattacharya, I think we can allow you to go. Thank you. As I said before, thank you --

A Thank you, Your Honour.

THE COURT: -- for your testimony. Okay.

A Thank you.

(WITNESS STANDS DOWN)

THE COURT: Okay. It's 10:44. Would it be an opportune time to take the morning break so that you can get organized for the next witness who will be, I understand, Dr. Kindrachuk?

MR. PARKER: Dr. Kindrachuk. Yes. It would be a great time for that.

THE COURT: Okay.

MR. PARKER: We'll check in with Dr. Kindrachuk. He is ready, we understand, but if we could have maybe 15 minutes and then we'd be ready to go.

THE COURT: Okay.

MR. PARKER: And, sorry, Justice Romaine, Dr. -- Dr. Kindrachuk, excuse me, is available from 10:30 until 1:00 today our time and then has some additional time tomorrow. We're anticipating we might not finish. And so I don't know if it works to go right through when we come back?

THE COURT: Sure. To 1:00? Why don't we do that?

MR. PARKER: Yeah. Thank you.

THE COURT: Okay.

(ADJOURNMENT)

THE COURT: Okay. Thank you, everybody. Are we ready?

MR. PARKER: Yes, Justice Romaine, we're ready to proceed with Dr. Kindrachuk and let him in.

THE COURT: Okay. Great.

MR. PARKER: He is in the attendee waiting room, I understand, ready to be let in.

THE COURT: Okay. Madam clerk?

THE COURT CLERK: Yes, I've let him in.

THE COURT: Okay.

MR. PARKER: And, Justice Romaine, I was going to very briefly, keeping with what we had discussed on the first day, just ask Dr. Kindrachuk to speak to his expertise, if that's okay?

THE COURT: Yes.

KENNETH JASON KINDRACHUK, Affirmed, Examined by Mr. Parker (Qualification)

Q Dr. Kindrachuk, good morning, sir.
A Good morning.

Q I don't know about anybody else, but for me and my colleague here, you're just a little bit quiet. I'm not sure if there's anything at your end we can do about that or whether we need to just turn our volume up. Is there anything you can do, sir?
A I'm just going to try. I am -- it looks like I'm at the highest level of my microphone.

Q Okay.
A Let's see if I take that off, is that any better?

MR. PARKER: Justice Romaine, how is that for you?

THE COURT: I can hear Dr. Kindrachuk, so.

MR. PARKER: Okay. Excellent. Thank you.

THE COURT: Okay. Okay.

MR. PARKER: Counsel, has he been coming across clearly for you, Mr. Grey and Mr. Rath? Are you fine?

MR. GREY: I -- I can hear him just fine. Thank you.

MR. PARKER: Excellent.

MR. RATH: Madam Justice, we can hear him as well. Thank you.

MR. PARKER: Excellent. Thank you, counsel.

Q MR. PARKER: Good morning, Dr. Kindrachuk, and thank you for --

THE COURT CLERK: I apologize, Mr. Parker, I haven't finished swearing the witness in.

MR. PARKER: I'm sorry, my apologies.

Q MR. PARKER: Good morning, Dr. Kindrachuk. How are you, sir?
A I'm doing good, thanks.

Q Good. Sir, this is the matter involving Ingram and the respondents, Her Majesty the Queen in Right of the Province of Alberta, and, sir, you prepared an expert report in this matter that was filed July 12th, 2021; is that correct?
A That is correct.

Q And, sir, you will be asked questions by my friends about that report today and I just want to make sure you have a copy of that report and attachments with you, sir?
A I do.

Q And, sir, the copy that was filed has a total of, I believe 1,236 pages, including all attachments, and the version that we'll be referring to will have numbers in the top right-hand corner of the page from 1 through to 1,236. Do you have that version with you, sir?
A I do, yes.

Q Thank you. Sir, attached to your report was schedule C, which is a schedule of the sources referred to in your report, and also schedule B, which is your curriculum vitae, and that is at page 30 of 1,236 and what I wanted to do was just get you to turn to your CV, sir -- sorry, page 31 of 1,236, and let me know when you have that, sir.
A I'm there.

Q And, sir, what I'd like you to do is, for the Court, briefly review your background, training, and credentials as it relates to you having the necessary expertise to give the opinions that you have given in the report that you filed in this matter. Do you understand that, sir?
A Absolutely. So I'm -- I'm a PhD trained scientist. I did my undergraduate degree in biochemistry at the University of Saskatchewan and that was followed by my graduate degree which started as a masters but which transitioned to a PhD, and -- and that was completed in 2007, that was in the laboratory of Dr. Scott Napper in the Department of Biochemistry at the University of Saskatchewan.

My work from there really moved into, you know, host pathogen interactions mostly looking at bacteria but as well in -- in viruses. And in 2007, I moved to Vancouver, started a -- a post -- a post-doctoral fellowship in the laboratory of Dr. Bob Hancock at the University of British Columbia. I spent 2 and a half years there and then in 2009, November 2009, I was recruited by the National Institutes of Health in Bethesda, Maryland to move down there as a visiting fellow in the laboratory of Dr. Peter B. Jahrling, who was leading the brand new bio safety level 4, or containment level 4, (INDISCERNIBLE) laboratory at Fort Detrick, Maryland, which was part of the -- the NIH.

I spent from 2009 up until, I guess it would have been October 2014, at the Integrated Research Facility, the -- the BSL-4 facility at Fort Detrick, and started as a visiting fellow, moved into a principal research scientist position during that timeframe as well, and then in October 2014 transitioned to a full-time government position with the National Institutes of Health as a staff scientist in the Department of Critical Care

Medicine back down at the Bethesda campus and spent from October 2014 to December 2016 in that position, when I was recruited by the University of Manitoba for a Canada Research Chair position in the molecular pathogenesis of emerging and reemerging viruses.

So I started that position January 1st, 2017 and I have been here now for just over 5 years. I've completed my first term as a Canada Research Chair. My second term has been applied and the results are -- are under embargo until CRC basically approves that those are ready to be released.

So in that timeframe I've -- I've done quite a bit of training, worked mostly in -- in high-containment pathogens but also was a -- a scientific lead for diagnostics in the field during the West African Ebola epidemic in 2014 and led those efforts in Monrovia, Liberia.

Q Thank you, Dr. Kindrachuk.

MR. PARKER: Justice Romaine, I wasn't planning, given that there was no objections to the admission of this report, to specifically seek to qualify Dr. Kindrachuk before you, I was simply going to have him speak to his area of qualifications as he's just done and then present them for cross-examination. However, if you would like me to move to specifically have him qualified, I will do so now.

THE COURT: Will there be any cross-examination on the doctor's qualifications?

MR. RATH: We'll certainly be putting questions to him that go to the weight of his evidence, given what appears to be his lack of -- of expertise with regard to non-pharmaceutical interventions, so I'll leave that to my friend.

THE COURT: Okay. Mr. Grey, any questions with respect to qualifications?

MR. GREY: No, Madam Justice. I just would like to have Mr. Parker perhaps have the witness specify the -- the scope of his -- of his expertise and the nature of the opinion that's going to be offered because --

THE COURT: Okay. Thank you.

MR. GREY: Yeah, but that's -- that's my only comment. Thank you.

THE COURT: Thank you.

Mr. Parker, would you advise me the basis on which you wish me to qualify Dr. Kindrachuk to give expert opinion evidence?

MR. PARKER: Sure. Dr. Kindrachuk should be qualified as a virologist with expertise to give evidence -- opinion evidence on the matters covered in his report which looks at issues regarding the virus SARS-CoV-2 and the disease it causes, namely COVID-19. So that is the area of expertise that we're seeking to have Dr. Kindrachuk qualified in to speak to the subject matter in his report. Is that suffice?

THE COURT: Okay. Just let me get it clear, that Dr. Kindrachuk would be qualified as an expert to give opinion evidence as a virologist with matters covered in his report issued with respect to the virus, COVID, and then can you help me from then on?

MR. PARKER: Yes. I was reading from the form 25 and it's --

THE COURT: Okay.

MR. PARKER: -- sorry, regarding the virus SARS-CoV-2 and the disease it causes, namely COVID-19, and that was the extent to which I had suggested he be qualified. I wasn't going to go through the specific topics in his report of that qualification exercise.

THE COURT: Okay. Any objection to that qualification?

Submissions by Mr. Rath (Qualification)

MR. RATH: Madam Justice, we object to that qualification. It is not apparent from Dr. Kindrachuk's CV that he is an expert in a number of areas that he provides opinions on in this report, including references to masking, including references to -- including references to (INDISCERNIBLE) COVID and reproductive health concerns, long-term complications in COVID recoveries, et cetera. He's not a doctor, he's a microbiologist. My understanding in layman's terms is that microbiologists largely deal with microscopic organisms in a laboratory, not public health at large.

To quote my friend in some of his questions for Dr. Bhattacharya, it does not appear that Dr. Kindrachuk has a master's in public health (INDISCERNIBLE), it does not appear that has a degree in epidemiology, it does not appear that he even has a degree in virology, he

has a degree in microbiology, which, again, from our layman's understanding of -- of that qualification and the work that he's spoken to in his qualification, has more to do with laboratory work than it does to the application of NPIs across an entire society or the -- or the locking down or infringement of constitutionally protected rights wholesale across an entire society to present -- prevent disease transmission. So if my friend wishes to rely on his evidence in that regard, then my suggestion would be that he does need to qualify him because I have some grave concerns with regard to the qualifications of this witness.

Submissions by Mr. Parker (Qualification)

MR. PARKER: And so we had discussed this previously under case management with Madam Justice Kirker. There were no objections to the reports going in and the qualifications. I had put on the record at the beginning the suggestion that it might be helpful to the Court to go through in brief the qualifications and outline the basis on which the various witnesses were purporting to give the expert opinion they have done. So if my friend is now objecting to qualifications, that's something that was water under the bridge.

What I would say is similar to what we said about Dr. Bhattacharya that these are matters, given that background, that can go to weight and argument in terms of whether ultimately my friend feels that Dr. Kindrachuk lacks some expertise to give the -- some of the opinions that he's given in his report.

MR. RATH: With --

THE COURT: Mr. Rath?

MR. RATH: With respect, My Lady, our concerns with Dr. Kindrachuk's qualifications have to do with the extent to which he's offering opinion that appears well outside the scope of his expertise. If my friend wishes to provide a -- such a truncated qualification of the witness, we'll simply leave that for argument at the end of the day or cross-examination for this witness, but I certainly wanted to bring it to the Court's attention and I didn't want the Court or the record to reflect that we had no objections with regard to the qualifications of this witness with regard to the breadth of his report and numerous matters included in his report that appear well outside the scope of his expertise.

Again, it appears to us to be the -- the Mr. Long scenario where the Crown puts up a witness to be qualified as an expert and then provides a bunch of evidence in the report that's well outside the scope of their expertise, as with regard to Mr. Long's (phonetic) (INDISCERNIBLE) NPIs public health issues, et cetera, when he's clearly not qualified to

give that evidence. So, again, from our perspective, we have the same issue here. We have a microbiologist which, from our reading of his CV, has a fairly narrow skillset providing evidence well outside the scope of his academic background and expertise.

So I'm just putting my friend on notice that that's going to be our position and it's going to be the position that we're going to be taking throughout our cross-examination (INDISCERNIBLE). If he wishes to truncate (INDISCERNIBLE) witness to the degree that he has, then he's on -- he's on notice of our position. Thank you.

THE COURT: Okay. Mr. Rath, I gather that you are not contesting the qualification of Dr. Kindrachuk and that your concerns will be concerns that you'll bring to the Court's attention in terms of weight; is that correct what I'm getting at?

MR. RATH: Well, I'm also -- I'm also contesting his qualification with regard to a number of the matters that he provides opinion on in his report because from both his CV and of the background as he describes it at pages 3 through -- 3 (INDISCERNIBLE) exact page references, 3 through 9, his background -- his background qualifications do not appear to cover off the bulk of his opinion on NPIs and otherwise that he's provided.

THE COURT: Okay.

MR. RATH: This man has --

THE COURT: Okay.

MR. RATH: -- (INDISCERNIBLE) --

THE COURT: I think we have two issues here, one is are you precluded, Mr. Rath, from contesting the qualification of this witness by the oral hearing order? And I think, Mr. Parker, you referred to that. And, secondly, if you are not precluded, then we're going to have to have a voir dire on qualification. Unfortunately, I don't think I have the oral hearing order here in front of me.

Mr. Parker, maybe I should ask you. Am I clear on that?

MR. PARKER: Yeah. I'm just going to have to find it but, certainly, the only issue with anybody's qualifications for these reports to go into evidence was Mr. Rath, that's Ms. Ingram and Mr. Long. No other issue was taken with any of these reports going into evidence under the *Rules of Court*. Nobody took issue with the qualifications of the experts to put these reports into evidence. That said, I raise the issue

that there would be a cross-examination of Dr. Bhattacharya going to the scope of his expertise and that might go to weight in argument and I had understood that the same might apply to the witnesses of the respondent. But if we're now going back to say, in fact, in spite of taking the position that there was no objections to qualifications, we're now going to change that, then that's something that will have to be looked at because my understanding is that, given the oral hearing order and the positions of everybody, we've already -- that ship has sailed.

THE COURT: All right. Okay. I don't have the oral hearing order in front of me. I'd like to go upstairs and just pick it up and --

MR. PARKER: We can -- we've got it on the screen if that helps --

THE COURT: Oh, you do? Okay. Thank you. That does help. It's my recollection that you're correct, Mr. Parker, that --

MR. PARKER: Justice Romaine --

THE COURT: -- right, I'm looking at: (as read)

> The respondents have no objections under rule 536 of the rules to the admissibility of the applicants' expert reports. The respondents shall notify the applicants of any objection to the admissibility of the applicants' surrebuttal expert reports by August 13, 2021.

And I'm assuming that you had no objection from Mr. Rath?

MR. PARKER: Correct.

THE COURT: Okay.

MR. RATH: If -- if I may, we don't object to the report, we simply object to the -- the broad qualification of this witness with regard to being an expert with regard to all of the matters spoken to in his report. We don't --

THE COURT: But I understand the scope was included with the report, was it not? The proposed scope of --

MR. PARKER: Yes. Yes.

Ruling (Qualification)

THE COURT: Okay. I'm afraid that your objections will have to be heard in terms of the weight to be given to the report, Mr. Rath, and I'm going to find Mr. Kindrachuk qualified as an expert to give the opinion as set out previously.

MR. RATH: Thank you, My Lady.

THE COURT: Okay. Go ahead, Mr. Parker. Or was that it, Mr. Parker? Yes.

MR. PARKER: That was it for me, Justice Romaine, having Dr. Kindrachuk speak to his qualifications to give the evidence in his report. On that basis, I now turn over Dr. Kindrachuk for cross-examination to my learned friend and my friend. Thank you.

THE COURT: Okay. Thank you.

MR. RATH: Thank you, My Lady. I believe by agreement with my friend, Mr. Grey, I'm up first.

THE COURT: (INDISCERNIBLE). Okay. Unfortunately, I have brought down the wrong volume of Dr. Kindrachuk's report, I have volume 2, and I think before you start your cross-examination, Mr. Rath, I better go and get volume 1. So we'll just have a 5 minute break.

MR. RATH: Thank you.

(ADJOURNMENT)

THE COURT: Okay. Thank you. Sorry for the delay.

Mr. Rath?

MR. RATH: Thank you, My Lady. Can you hear me now?

THE COURT: Yes.

MR. RATH: Thank you.

The Witness Cross-examined by Mr. Rath

Q Dr. Kindrachuk, you can hear me?
A I can.

Q Okay. And, Dr. Kindrachuk, you acknowledge that you're under oath?
A I do.

Q And that you're being tendered as an expert in these proceedings?
A I do.

Q And do you acknowledge that, as an expert, it's your obligation to provide the Court the best evidence and best knowledge available to you and not to act as an advocate for the party that has engaged you?
A I do.

Q Okay. And, Dr. Kindrachuk, would you acknowledge that your background and training is in biochemistry?
A My original training and my bachelor's in PhD was, but I spent the better part of the last -- 2007 to -- 13, 14, 15 years working beyond biochemistry and certainly the last 13 working as a virologist.

Q I'm sorry, I didn't hear that, sir. You're -- you're saying that you spent the last 13 years working as a virologist?
A I have, since 2009.

Q Okay. Thank you. And, sir, with regard to your background in biochemistry, would you acknowledge that you're not -- you're not a physician?
A I'm not a physician. I'm not a (INDISCERNIBLE) PhD.

Q That's right. And you -- and you said that you don't have a -- a medical degree nor do you have a master's in a public health degree; correct?
A I don't have a medical degree, I'm not licenced, and I don't have an MPH.

Q Right. And in that regard, you haven't taken any post-doctoral courses in -- in epidemiology?
A I have not.

Q And you don't teach epidemiology at university?
A I teach microbial pathogenicity and clinical virology and we touch on epidemiology as well.

Q You touch on it, but you don't teach it; correct?
A We don't -- we don't carry an epidemiology course in my department.

Q Okay. Thank you. And you don't consider yourself to be an expert epidemiologist; is that correct, sir?
A No, I don't.

Q Thank you. Now, sir, with regard to your report, would you agree that within the body of the report you've provided -- that you haven't provided any pinpoint footnotes or references to the materials referred to in your report?
A The references are all in my report as a reference list. We -- we do not in my area of research use footnotes, we use a reference list.

Q Right. But would you agree generally, sir, with regard to the report and the references made in your report, you don't provide pinpoint references, you don't -- you simply refer to a report as backing up your point, but you don't refer to a page number or a paragraph within that report?
A We don't because that not common parlance in our area of research.

Q Okay. And you'd agree that you haven't provided an index to the materials that you provided or that they're sequentially page numbered in any way?
A No, I've -- I've provided the reference list and page numbers as we would normally do.

Q Okay. Thank you. Now, with regard to your background research, at page 5 of your report, you state that your research group is currently examining the effects of respiratory virus co-infection on disease outcome during the SARS-CoV-2 infection enhancers; is that correct, sir?
A That is correct.

Q Have you done any research on hamsters with regard to the effects of NPIs on -- on stopping the spread of COVID amongst hamsters?
A No, we haven't looked at transmission for hamsters and nor have we tried masking hamsters.

Q Okay. Thanks. And, sir, with regard to your paper, at page 5, you state that your work on SARS-CoV-2 began in early of January 2020 following the identification of the emergent virus in Wuhan, China as a novel coronavirus; is that correct?
A That's correct.

Q Have you done much work on coronaviruses prior to -- prior to January of 2020?

A I've worked on both MERS and SARS coronaviruses.

Q Okay. And with regard to the reference to the virus emerging in Wuhan, China, did you write a paper, sir, opining that the SARS -- the SARS -- or COVID-19 virus originated in animals and didn't leak from a lab in Wuhan, China?
A Yes. It's generally my consideration that it's most probable that it emerged in animals, as had other coronaviruses and that lab leak is likely the least probable.

Q Right. And would you -- would you acknowledge, sir, that there are a number of other scientists that hold an opposite view to that position?
A There are scientists that hold an opposite opinion.

Q And would you agree, sir, that with regard to this opinion that the -- that issue has become quite political?
A Yes, it's been political since 2020.

Q Right. And, generally, the scientists who are either funded by the World Health Organization or support positions taken by the World Health Organization support the position that you've spoken of?
A I don't know, I'm not funded by WHO.

Q But you certainly work with WHO; correct?
A As a -- on a volunteer basis as an expert, yes.

Q And with regard to your opinion, sir, with regard to the origin of -- of SARS-CoV-2 -- or, I'm sorry, SARS COVID-19 being released from -- or from an animal reservoir as opposed to the lab, can you state for the record what the basis is of that opinion?
A Yes. We look at prior coronaviruses. The (INDISCERNIBLE) held in common has been largely from an animal reservoir, or has been from animal reservoir. If you look at MERS coronavirus and SARS coronavirus, both are considered to have emerged from a -- a bat species as a reservoir into incidental hosts and from incidental hosts moved into humans, and this is the common path that we see with other emerging viruses as well.

Q Right. Were you -- in your paper, did you look at any of the genetic sequencing of the virus to come to that determination?
A No, we leave that to the experts in viral evolution.

Q Right. So to the extent that experts who did look at the -- did look at the DNA sequencing of the virus and have concluded that it was likely engineered and came from a lab, would you defer to that opinion?

A No. First of all, it's an RNA virus, so there's no DNA. The second thing is -- is that there is no I think common opinion -- well, I should say that, this continues to be a highly debated area in regards to what the sequencing tells us, though it appears that the majority of highly qualified viral evolutionary experts would conclude that this was not engineered. We can't rule out lab leak, but the idea that this was an engineered virus is likely or nearly completely improbable.

Q Thank you, sir. Now, you state in your paper that you co-authored a publication with other Canadian emergent -- emerging virus experts on the emergence of a new virus then called 2019-nCoV. Was that the first paper that you published with regard to COVID-19, sir?

A That was in January 2020, so, yes.

Q Okay. Now, sir, with regard to your evidence with regard to the report that you provided, you speak of -- and I'm now -- I'm now moving on to page 9, with regard to transmission of the COVID-19 virus?

A M-hm.

Q And your -- you indicate that the virus is transmitted both by droplets and by aerosols; is that correct?

A Yes.

Q And would you agree, sir, that with regard to aerosol transmission, the transmission of the virus can extend beyond 30 metres?

A It certainly can extend quite far.

Q And, sir, with regard to the paper that you presented, you speak of masking as a means of reducing transmission; is that correct?

A Yes.

Q And with regard to the fact that the virus has spread by aerosol transmission, is it your view that people providing their own cloth masks that they wear day in and day out without changing them is an effective -- an effective means of preventing the transmission of the virus?

A It certainly can be, depending on what their -- what their consistency is in regards to how they don and doff their mask and how they store their masks. I would defer back to certainly prior publications from -- well, a working paper from 2010 from Dr. Bhattacharya that talked about the benefits of avoidance behaviour reducing 2009 pandemic flu and that included both hygiene as well as the use of masks, so this is not a novel concept for SARS-CoV-2 and COVID-19.

Q But I'm talking about the use of masks, sir, amongst the general population that aren't trained --
A Yes.

Q -- in properly putting them on and taking them off. And, specifically, sir, with regard to cloth masks, would you agree that, as a biochemist or -- or somebody who teaches in the Department of Microbiology, that, in general, the size of the virus is much smaller than the weave of much -- of -- of most cloth masks?
A So, sorry, can you repeat that? The diameter of the virus or the size of a droplet?

Q Yeah, is much smaller -- is much smaller than the weave of most cloth masks that are being worn.
A Well, it depends if you are considering that we are seeing a heterogenous mixture of droplets and aerosols or if you are only talking specifically about aerosols.

Q Well, I'm only speaking of aerosols right now, sir. We've -- it seems to me that you've agreed that the disease is spread by aerosols as much as 30 metres.
A Well, I've said that they -- that it is spread by likely both droplets and aerosols.

Q Right. So -- but with regard to aerosols specifically, sir, would you agree that most cloth masks, or masks generally, used by laypeople do not stop the aerosol transmission of COVID-19?
A No, not necessarily, actually. There's been laboratory reports that have looked at the use of different types of masks and looking at the -- the movement of SARS-CoV-2 between two dummy heads to see whether or not there was any sort of restriction of viral particles that moved through and this was not something that was only akin to the use of N95s.

Q But, sir, would you agree that -- generally, that -- that cloth masks worn by people provide little or no protection from SARS -- from SARS COVID-19?
A I think that they provide some protection, but it's additive on top of their other behaviours.

Q Right. And would you agree, sir, that the -- the size of the SARS COVID-19 virus is exceptionally small in comparison with the weave of most commercially available cloth?
A SARS-CoV-2 on its own would be -- as a variant would be much smaller, yes.

Q Right. And that the value of a cloth mask in front of somebody's face would be the equivalent of trying to use a chain link fence stopping a handful of sand being thrown at it?

A No, because, again, you are affirming or -- or concluding that the virus is only spread by fine aerosols as single variants at a time whereas, in fact, it may be a heterogenous mixture of both droplets and aerosols where we see aggregates of variants that would be potentially trapped by those masks.

Q And when you say "may be", is that because you don't know, sir?
A I don't think the community knows what the extent of droplets or aerosol contributions are in every situation, depending on the infectious (INDISCERNIBLE) of the particular patient or the particular variant.

Q And, certainly, sir, masks that don't have a perfect seal around people's noses or at the sides of their face or otherwise are incapable of stopping aerosol transmission; correct?
A No, I don't think that's correct because in hospitals we would expect that we would see many more infections than we did when there was no adoption of N95s.

Q Are you aware, sir, that there's been numerous studies that have been done that indicate that -- that masking has had little or no effect on the transmission of influenza?
A I -- I know that it continues to be controversial and I've seen both evidence supporting and against.

Q Right. So --
A So I would again affirm that -- that Dr. Bhattacharya had spoken about the benefits of using avoidance behaviours that included masking for pandemic influenza in the past, so I think that this actually argues for the potential benefit of masking beyond SARS-CoV-2 to other respiratory viruses.

Q But you're -- you're aware of a number of expert reports or studies that have been -- or a number of studies that have been done that have indicated that -- that masking is not highly effective at stopping the transmission of either influenza or coronaviruses such as SARS COVID-19?
A I've seen both for and against.

Q Right. Now, with regard to your expert report, why didn't you -- did you include very many studies that were -- were against as opposed to for, sir?
A No. I was providing evidence for why masking is of benefit.

Q Right. And you didn't think that it was appropriate, then, to provide the countervailing view, given your obligation as an expert to provide the full story to the Court; is that fair?
A My understanding is that that is the job of your expert witness to provide the evidence against.

Q So your position, then, as an expert is that you're to provide a one-sided report that only supports the position of -- of the person that's engaged you, sir; is that your evidence?
A No. In fact, I've talked about the considerable scientific investigations that have gone in, as well as the conclusions that have been drawn and some of the inferences that can or cannot be made. As well, if you were to look back at my publications, I'm sure you would see as well that I adopt both sides of the evidence.

Q But as far as your report goes, you don't go into great length as to the number of studies that indicate that masking is not particularly effective, all you speak about and all you refer to are studies that claim that masking is effective; is that fair, sir?
A I'm providing what I feel is the best evidence in support of masking and what is the highest quality evidence that's available at the time of this report.

Q Sir, with regard to your evidence concerning the -- and I think there must be -- is there a typo in your report, is it the Alsved report or is that -- is -- is that the correct spelling?
A What page are you looking at, please?

Q Page 15, you -- you refer to Alsved at (l) examined exhaled respiratory particle generation during breathing, talking, and singing.
A That's Alsved. No, I mean, the -- I can take a look to see, but I believe that EndNote has pulled it up as Alsved.

Q Okay. No, fair enough. So -- so that's -- that's the report you're referring to, then?
A Yes.

Q And are you aware of reports that contradict that report, sir?
A Offhand, no, I cannot recall the ones that -- that do contradict the Alsved report specifically.

Q But, certainly, you are aware that there are reports that exist that specifically (INDISCERNIBLE) masks have little or no benefit (INDISCERNIBLE) of -- of COVID-19?
A Yes, I believe that there are some and that there are likely critiques within those for the evidence that they present. But I -- I would also caution as well that if we look at the number of publications that have been published on SARS-CoV-2 or COVID-19 within the last 27 months, it amounts to 6,000 papers per month, so that's 200 papers per day. So there are going to be papers that certainly any expert will miss just due to the breadth of information that's available because this already outweighs the number of total publications that have been published for Ebola in four decades.

Q Okay. And in that regard, though, with regard to your report where you come to conclusions like that, do you -- did you undertake a process where you would do a literature search or a literature review to determine whether there were reports out there that contradicted the statements that you made or contradicting the studies that you're referring to in your report prior to (INDISCERNIBLE)?

A At the timeframe, I would have looked at what evidence was available and what the -- what the -- I guess overarching opinion was of multiple publications that were considered to be of -- of high qualification.

Q Right.

MR. RATH: Now, I'm -- My Lady, I -- I need to clarify your previous ruling with regard to the Johns Hopkins study. I had understood with regard to the Johns Hopkins study it wasn't relevant in the context of -- of redirect, however, I think it is relevant in the context of cross-examination of this witness given the wide latitude that we're allowed on cross-examination. So I would like to put the Johns Hopkins study to this witness, have him identify whether he's read it or whether he's seen it, and I would like to ask him whether that study supports his opinion or Dr. Bhattacharya's (INDISCERNIBLE) evidence that he's providing, but I hesitate to do so without first seeking leave of the Court.

THE COURT: Okay. Thank you. I don't have the exact wording here, but it was clear to me that the objection to the Johns Hopkins report was the fact that it was published long after the period of time that is in issue in this litigation, that it's therefore hindsight and therefore not relevant, either in cross-examination or re-direct. Okay.

MR. RATH: All right. And, My Lady, just -- again, to clarify that for the greatest of respect, the reason that we -- with -- the reason that we would like to refer to that study now is, whether being in hindsight or not, my friend, Mr. Parker, has opened the door to challenging the credibility of Dr. Bhattacharya having made some very strong statements suggesting that Dr. Bhattacharya was, in fact, engaged in misrepresentation to this Court with regard to the evidence that he's provided. I simply wish this study to be put to this witness for the purpose of asking this witness whether -- and regardless of the hindsight issue, this is an -- a separate issue from what was (INDISCERNIBLE) decision maker, not before the decision maker, to put to this witness whether or not in his view this study supports his overall views as set out by his expert report or the overall views of Dr. Bhattacharya as is under his expert report.

So I think that I would ask you to reconsider your position in this regard given the importance of the study to the matters at issue and certainly to the issues of credibility and

the direct insinuation or (INDISCERNIBLE) by my friend, Mr. Parker, in his cross-examination of Dr. Bhattacharya.

THE COURT: Mr. Parker?

MR. PARKER: The Johns Hopkins study is not relevant I think for the reasons you've already stated several times. In terms of what else to respond to here, just to be clear, the -- what I put to Dr. Bhattacharya was the description of the original Madewell study was misleading because it refers to meta-analysis of 54 studies when there are, in fact, only four studies in there.

And the second thing that I suggested to him was the Savaris study and why he didn't bring the retraction to the Court's attention before I brought it to his attention, his answer was that he did, and that's in the transcript.

Beyond that, I'm not sure what I can -- else I can answer or help you with, Justice Romaine. Thank you.

THE COURT: Thank you. Mr. Rath, you're bringing forth a distinction without a difference. The Johns Hopkins study is irrelevant because it does not deal with the time of the issues that we're looking at and I don't see any connection, frankly, to Mr. Parker's cross-examination of Dr. Bhattacharya. Okay.

MR. RATH: Thank you -- thank you, My Lady. We have -- we have your guidance. Thank you.

THE COURT: Okay.

Q MR. RATH: And, in any event, Dr. Kindrachuk, you'd agree that you're not an economist?
A I'm not an economist, no.

Q You're not a sociologist?
A No.

Q And you have no general expertise with regard to the effect that so-called NPIs may have on broader -- on the broader society?
A From a behavioural standpoint, I'm not a behavioural scientist.

Q No, no, but from -- from a behavioural standpoint, yes, and thank you for acknowledging that you're not a behavioural scientist, that's helpful. Are you also, sir,

with regard to when you talk about the suitability of NPIs as a -- for reducing SARS-CoV-2 transmission, your evidence in that regard is strictly limited to what you see as the -- the behaviour of virus particles in the air or otherwise; is that correct?

A Well, I think it's working in -- or somebody that works in emerging infectious diseases and outbreak response and outbreak mitigation, we have to appreciate that, while we may not be experts in every arena associated with non-pharmaceutical interventions or mitigation strategies, that we do appreciate that these extend beyond just simple virology.

Q Right. But in that regard, you're not an expert on the degree to which forcing children from grade school through to grade 12 to retard their socialization within school by wearing masks is going to affect them psychologically; correct?

A I'm not a behavioural scientist and I'm not a pediatrician.

Q Right. And you have no idea as to the extent to which forcing children or others to wear masks against their will may harm them psychologically?

A No.

Q Okay. And with regard to your expertise, you're certainly not an expert on the degree to which lockdown measures may contribute to business bankruptcies?

A I'm not an economist.

Q Okay. And so you have no idea, sir, with regard to NPIs being applied in Alberta as to the number of suicides that have been caused by NPIs being applied in Alberta?

A No, I'm not a suicidologist, no.

Q And you have no information or no expertise with regard to the degree to which NPIs in Alberta have contributed to either alcohol -- or increased alcohol or drug dependency in the province of Alberta?

A I do not work in substance abuse or behavioural science.

Q And with regard to your expertise, sir, you have no expertise with regard to the degree to which the NPIs applied in Alberta have contributed to societal discord or societal breakdown?

A No.

Q And this -- these aren't areas of your expertise?

A No, they're not.

Q Okay. And with regard to Alberta specifically, sir, did you -- to what extent did you examine Alberta's specific data in coming to your opinion?

A I've examined my opinions based on world-wide data, Canadian data, as well as regional data.

Q But not specifically with regard to Alberta; is that fair?
A In what regard? In regards to the benefits of masking or the potential effects of the virus on people that have underlying comorbidities that are at high risk?

Q Well, sir, with regard to Alberta large. Like how much -- how much work and time did you spend reviewing data that specifically applied to the province of Alberta?
A I -- I will ask again, in regards to what? In -- in regards to decreasing viral transmission in Alberta specifically versus other regions? Or in regards to underlying severe risks or high risks that may be associated with the Alberta population?

Q With regard to all of the matters that you provided opinions on in your report.
A Sure. So looking certainly at -- at high risk populations and looking at underlying comorbidities in Alberta, if we simply look at the rates of obesity, the rates of cancer, the rates of -- certainly of -- of age in Alberta, what we can get an appreciation for is that the high risk category is not a single variable, but a multiple variable phenomenon that has to be appreciated across a variety of different population data sources within a province.

When we look at transmission, what we can appreciate is that transmission, while the temporal distribution of transmission rates were different across Canada based on where the virus was first seeded or the variants were first seeded, that the temporal pattern were largely reflective of -- of the different areas of Canada, so we saw a fairly consistent pattern in regards to rise of rates, but we also can appreciate the role of the removal of restrictions or the enacting of restrictions on a regional basis on the -- the potential effects on decreasing transmission.

Q Right. And now you've -- you seem to appear -- you appear to agree with Dr. Bhattacharya that obesity is an extremely large factor in poor outcomes from -- from COVID-19 infection; is that fair to say?
A If I'm not mistaken, and I'll look right now at the -- so the highest risk cases, according to CDC, for -- for underlying comorbidities would be cancers, (INDISCERNIBLE) vascular disease, chronic kidney disease, chronic lung disease, diabetes, (INDISCERNIBLE), CF, heart conditions, and obesity is considered as part of that as well as pregnancy.

Q Right. Now -- and as far as that goes, sir, would you agree that with Dr. Bhattacharya (INDISCERNIBLE), and it may well be because of the high correlation of all of those other conditions amongst the aged that -- that poor outcomes from COVID-19 are

predominantly amongst an identifiable population over the age of 70; is that fair to say?
A No, I think it would depend on your debate or your consideration of what poor outcomes is. If you're looking at fatalities, yes, we see higher rates of fatalities in people that are in higher age groups. Now, if we start to look at -- at rates of severe disease, there is some relation to age, but there's relation to a variety of other factors and, in fact, we saw that moving through the Delta wave in Canada as younger age groups were starting to -- to be represented -- or of high representation in regards to hospitalization and ICU admissions.

Q Right. Sir, are you aware that -- and, again, with regard to younger populations, that there -- there appears -- there appeared in Alberta AHS data to be a fairly high correlation between hospitalizations and the administration of the first COVID-19 vaccination?
A No. I would -- I would caution on any sort of data that has not been validated to show that there were -- that there was causation between vaccinations and young people ending up in the hospital versus a correlation.

Q But you are aware, sir, aren't you, of -- of graphs that were generated by Alberta Health Services that were subsequently -- that were publicly available for months that were then subsequently scrubbed from their -- from their website that indicated that within the first -- within the first 14 days of a COVID vaccination shot being administered that there was a fairly substantial increase both in case counts, hospitalizations, and deaths following the first shot of the COVID-19 vaccine?
A Again, is that -- are you trying to imply correlation or causation?

Q Well, we'll put -- we'll put the -- we'll put the graph to you, sir, and you can ask -- you can answer whether you've seen it or not. Have you seen these graphs before, sir?
A I have a long time ago. Now, this would -- without context, a graph is a graph. So without being able to show whether this is correlative based on behavioural changes in -- in those people within the first 14 days of being vaccinated, in regards to their behaviours, whether they were infected because we would not assume to see protection during that timeframe from the virus, those are considerations we would have to make.

Q Right. And you've -- and you've also seen that same graph with regard to the spike in deaths; is that correct?
A I've not seen one in regards to a spike in deaths.

Q Oh, oh, I'm sorry, we'll put that up. It should be there, I -- I think I put it up. I can have my friend, Ms. Newton, try to do a better job than I did. It should be there.
A Right. So, again, without context, are these people that were infected prior to getting vaccinated or infected post-vaccination? What were the underlying health risks that

were attributable to those? And has there been any causation shown between vaccination and those deaths?

Q Excellent. So those are all very good questions, Dr. Kindrachuk. You've seen those graphs, did you ever attempt to answer those questions yourself?
A For Alberta specifically, no, but for -- certainly, in vaccine outreach programs, I've had -- I've been asked about these types of data numerous times.

Q Okay. So you don't have any information with regard to Alberta specifically?
A Without being able to look at the underlying information to provide context, I won't comment on -- I can't comment as an expert on what these graphs say outside of saying this could be correlative in nature and not -- you know, barring not seeing specific reports that have led to a stoppage in vaccination within kids across Alberta or across Canada due to these concerns, that -- that would suggest that there was not causation.

Q Now, with regard to these graphs --

MR. PARKER: Sorry, I'm just going to object on relevance grounds, Justice Romaine. I've let this go for a while, but I think it's appropriate to object on relevance. Thank you.

THE COURT: Okay. Mr. Rath?

MR. RATH: I'm not finished my line of questioning with regard to these graphs and I think the -- the relevance will be quite -- will become quite apparent as I finish my questioning. I -- I -- as far as I'm concerned, this objection on the grounds of relevance by my friend, you know, is simply an attempt to foreclose my line of questioning before it concludes. If people can certainly be patient, I'll get to the relevance of it shortly.

THE COURT: Okay. I'll give you some leeway to finish your questions.

And, of course, Mr. Parker, you can feel free to object after Mr. Rath has finished his questions or at a time where it appears to be obvious where he's going.

Q MR. RATH: Now, Dr. Kindrachuk, are you aware of any studies that indicate that -- that the COVID-19 vaccines utilized in Canada, in fact, suppress the immune system in the individual that's been vaccinated for a brief period of time?
A There certainly has been data that -- or there have been groups that have looked into

whether or not there was a -- an immune suppressant nature in regards to vaccination, but I have not seen any warnings in regards to the general population for -- for considerations for vaccination.

Q But, again, simply because you haven't seen any warnings doesn't mean that those graphs don't indicate that that's what's going on, do -- does it?

A No, I think I actually would argue that it does. If -- if your federal and regional health bodies are -- considered the data which they would also have seen, that would mean that they have obfuscated on acting on that data if there was a -- a causation that existed.

Q Are you aware that that data's been scrubbed from the Alberta Health Services website and it appears that they are, in fact, obfuscating that data?

MR. PARKER: I'm going to object. That's argumentative. If my friend wants to establish that this data has been scrubbed, he can do that and then go on and ask the next question.

MR. RATH: Well, the person that'll establish --

THE COURT: Okay. Mr. Rath?

MR. RATH: The person that will establish that is Dr. -- Dr. Hinshaw, and I suppose we have Dr. Kindrachuk's evidence on the record that -- that he would be concerned if public health officials were obfuscating data, so I guess we'll -- we'll leave it -- we'll leave it --

A I don't -- if I could add in? I don't think I said specifically that I would be concerned that they were obfuscating data. I said that I would -- that they -- that would mean they would be obfuscating data if -- if they hadn't made that available and hadn't reported that.

Q MR. RATH: Right. So you would be concerned, sir, if they were obfuscating data?

A I -- again, without -- you were asking me to comment on a hypothetical and I do not feel comfortable on commenting on a hypothetical situation where there is no -- there is no evidence that -- there's no evidence that they've obfuscated.

Q This is cross-examination, sir, I'm entitle to put hypotheticals to you. My friend, Mr. Parker, did routinely with Dr. Bhattacharya, so I'm --

A I think our job -- our job is to continue to provide transparency to the public in regards to vaccines. I think we've done that from an international, a national, and a regional

consideration and that, if there is any concern with transparency, that it's going to decrease vaccine uptake, which is counter to what we were trying to provide.

Q Right. And to the extent that there is evidence, sir, that people were more susceptible to either catching COVID or -- or being infected with COVID or, alternatively, if they were already infected with COVID, being more at risk from hospitalization or death, is it your view that public health officials should have been warning people who were vaccinated with the first shot that they should isolate themselves for 14 days following the first shot to prevent these outcomes?

A Sorry, I just want to -- I want to clarify here. You just said that they were more susceptible following their first dose of vaccine to being infected as compared to somebody that was unvaccinated; is that -- is that what you -- what you just said?

Q That seems to be what these graphs indicate, sir.

A I'm -- I'm asking -- so that -- that's not correct. There is -- there is no substantive data in the literature that has been presented that has suggested that following the first dose of vaccination that you were more susceptible to becoming infected than somebody who is unvaccinated. That's -- that's a very, very specific point that you would need to be able to show correlation through. Now -- or, sorry, causation. You can -- you can try and surmise that there is correlation, but that correlation does not take into account avoidance behaviours, transmission rates in the community, age, different demographics, all those considerations would have to be taken into account to be able to show that there is a specific correlation between being vaccinated and an increased risk of being infected.

Q Right. But notwithstanding that these graphs indicate that there may be correlation, are you aware of any studies that have been done or have you done any studies to determine that this is not the case with regard to citizens of Alberta or elsewhere?

MR. PARKER: I'm -- I'm going to interject to object again on relevance. My friend indicated that he would be getting to a point where the relevance would be obvious and, with respect, he hasn't got there. I'm referring to the amended originating application, the pleadings in this matter, and the schedule attached to it, the impugned orders, again, the relevance of these questions is completely unclear.

MR. RATH: Well, if it's of assistance to my friend, My Lady, certainly, to the extent that the graph (INDISCERNIBLE) on the AHS website contained what appeared to be a correlation between first (INDISCERNIBLE) to COVID-19 and a spike in COVID-19 cases, COVID-19 hospitalizations, and COVID-19 deaths. I think it -- it certainly is relevant to ask this witness questions with regard to whether or not it would have been sound public health practice to advise people who were vaccinated with the first

dose to isolate themselves for 14 days after the first dose to prevent hospitalization -- hospitalization or death. It's certainly relevant to the issue of NPIs and I'm just -- I'm trying to get to the point with this witness, My Lady, as to the extent to which the Government of Alberta has engaged in poor public health practice by not advising people who'd been vaccinated to stay home as a -- as an NPI following their first shot. So I think it's clearly relevant to what we're dealing with.

THE COURT: Well, Mr. Rath, you've started with some graphs that you put to the witness and, as he's indicated, without context, he really can't make very many comments on them and now you've switched to a question which I think probably you should be putting in an assumption, you know, or just assume that the Government of Alberta had information that they kept from the public with respect to not advising people to stay home, perhaps the witness might be able to answer that question, but that's not the way you've proceeded.

MR. RATH: Well, then I'll -- I'll reframe the question, My Lady.

Q MR. RATH: Dr. Kindrachuk, with regard to these graphs and what you appear to acknowledge is a correlation between the -- between people receiving a first shot and a spike in hospitalizations and deaths, do you think that it would have been sound public health practice to suggest to citizens of Alberta that they isolate for 14 days after receiving their first shot?

A No, I -- I don't. From my standpoint, the -- the recommendations globally in regards to vaccination were and have continued to be to exercise due caution following the first dose and even the second dose of vaccination because their protective effect was not 100 percent and it was not immediate, so that involved continuing to use avoidance behaviours to ensure that you did not assume that your risk of becoming infected was negated. And if we look at -- at the graphs and we see that those again skew towards higher risk groups, those recommendations continue to be important. It is not -- it is not necessarily implied that people -- and I have not seen any data to suggest that people following their first dose of vaccine were more prone to infection. That certainly would have been reported and would have made headlines across the globe considering all of the -- all -- the spotlight that's been put on vaccination. I (INDISCERNIBLE) we have to consider that people that are vaccinated may change their behavioural patterns following a -- a dosage of vaccine, including in areas where there continues to be high transmission rates.

Q So you're not aware, then, sir, that when these graphs were first reported by Alex Berenson that, the very next day, these graphs were scrubbed from the AHS website, you have no knowledge about that, sir?

A This is -- this is Alex Berenson who was banned off of Twitter for misinformation? No, I (INDISCERNIBLE) --

Q Well, I'm not sure what -- I'm not sure, sir, what Twitter has to do with anything. I'm saying that the minute it was --
A I'm just asking as -- as far as being --

Q -- (INDISCERNIBLE) --

THE COURT: Mr. Rath? Mr. Rath? Mr. Rath? Let Dr. Kindrachuk answer that question.

Go ahead, doctor.

A I'm replying that Alex Berenson is not an expert in this area of work and, considering that -- that you've called my qualifications into -- into question in regards to my understanding of emergent infectious diseases and NPIs, I'd be surprised that you would use Alex Berenson as an expert.

Q MR. RATH: Sir, I'm not using him as an expert, sir. I'm -- I was simply asking you of whether you were aware that the day after that these graphs were first publicly reported, which to my knowledge was by Alex Berenson not purporting to be an expert, that this information was scrubbed from the AHS website; are you aware of that, sir, yes or no?
A No, I'm not. But I also would not imply causation. Again, correlation does not equal causation.

Q All right. Thank you, sir. I have your answer.

MR. RATH: Justice Romaine, on relevance, again, I don't understand that there's an allegation in the pleadings of vaccination caused COVID and this is not a public inquiry and so, again, I restate the concern about relevance of this line of questions.

THE COURT: Okay. Mr. Rath?

MR. RATH: It's simply a point we'll be -- it's simply a point we'll be raising in argument, My Lady. It's clear that the Government of Alberta is -- is quite open to imposing NPIs across a broad (INDISCERNIBLE) of the healthy Alberta population, but where they have that direct evidence that there's a correlation between the first immunization and a spike in hospitalizations and deaths, they don't provide any

guidance for the Alberta population with regard to isolating themselves after their first shot. I'm -- I'm done on this line of questioning, in any event.

THE COURT: It's good that you're done because I agree with respect to relevance that the questions were of dubious relevance, but let's not take it any further.

MR. RATH: Thank you, My Lady.

Q MR. RATH: Now, something else, Dr. Kindrachuk. In your report, you speak to reproductive health concerns with regard to COVID-19.
A Yes.

Q Are you aware of reproductive health concerns that have been raised with regard to COVID-19 vaccination?
A In regards to COVID vaccination, no. In regards to COVID infection, yes. There was a paper that was released, I believe a couple of days ago, if not earlier, that looked specifically at this phenomenon in infected hamsters and did find that there was an impact of COVID-19 and SARS-CoV-2 infection on the potential reproductive health and, certainly, the testicular health of infected hamsters.

Q Right. And you're not aware of any studies or any papers that have been done with regard to reproductive issues arising from COVID-19 vaccines?
A Well, I think if you look back at the clinical trials and, certainly, at the litany of data that has followed following the -- the mass vaccination programs across the globe, the one signal we have not seen has been reproductive health problems in regards to fertility, in regards to pregnancy, or delivery of healthy children.

Q So within the VAERS system, or the vaccine reporting system, sir, you're not aware of any increase in miscarriages, as an example?
A Let me ask this. Is VAERS validated information? VAERS is not -- VAERS -- VAERS is the --

Q Sir, I'm asking -- I'm asking you a question, I'm not --
A Because VAERS -- VAERS is a public access system that is non-validated information and that has not -- and that has not been validated clinically --

Q Right.
A -- and that is why CDC continues to recommend caution in any interpretation of VAERS data because you can -- you as an individual can input information publicly.

Q Right. So your -- your evidence is that this VAERS system that's been in place for well over 30 years, with regard to COVID -- with regard to COVID-19, somehow or other, we have a number of people making mischief reports and the -- and the data cannot be relied on; is that your evidence?
A I think that it's been well documented that these -- that there have been mischief reports or, again, correlations. I believe one of the correlations was somebody that died following COVID vaccination by being struck by lightning and also other cases of people that have died following vaccination because of car crashes.

Q And, certainly, we've had the same thing with regard to people having allegedly died from COVID-19 who, in fact, died from car crashes; is that correct?
A Sure. That -- that were -- well, would they have been diagnosed -- sorry, would they have been tested following that car crash without any prior information available to suggest that they were severely ill?

Q So -- but as far as it goes, sir, you're aware that there's been any number of deaths that have been attributed to COVID-19 that, in fact, weren't caused by COVID-19 but were, in fact, as a result of other comorbidities, accidents, or whatever, and that, simply, people who tested positive for COVID-19 were marked down as COVID fatality; correct?
A That's also implying that people that had underlying comorbidities that if they were infected by COVID-19, that COVID-19 did not exacerbate that particular comorbidity. So they may not have died of a respiratory disease, but being able to, again, show that there was no causation between that is a different question and continues to need to be analyzed, assessed.

Q Right. And with regard to people that were, in fact, in motorcycle accidents or car crashes that tested positive for COVID-19, those people -- those people would fall into that same category of evidence that you were just discussing?
A They -- they should -- if they were included in the overall COVID-19 fatality reports, that -- that would be a concern, but that's a big question as to whether or not that has been occurring.

Q And with regard, sir, to your attempts to diminish vaccine injury reporting in Canada and the United States, have you seen any studies that have estimated the degree to which -- or the percentage of reports on the VAERS system may -- may have been exaggerated?

MR. PARKER: I'm going to object again on relevance. There's nothing in the pleadings that makes the issue of vaccinations causing COVID-19 or vaccinations causing reproductive health issues relevant to this matter and these questions

are all continuing, in my submission, an irrelevant line of questioning.

MR. RATH: It's certainly not irrelevant, My Lady. This is -- he's raised issues in his report with regard to reproductive health concerns arising from COVID-19. Let me -- let me ask (INDISCERNIBLE).

Q MR. RATH: So are you aware of any studies, Dr. Kindrachuk, that --

THE COURT: Wait a minute. Mr. Rath? Mr. Rath?

MR. RATH: Yes.

THE COURT: You're responding to Mr. Parker's objection on the basis of relevance.

MR. RATH: I'm not -- I've asked the question and the witness has answered it, so I'm not -- I was just moving on to my next question. I mean, my friend can make whatever submissions he wants in argument with regard to the weight that should be attached to the answer. I'm not -- you know, I'm not -- you know, I'm in your hands in that regard. I think the question was relevant and if I could ask the next question, I think you'd see the relevance, My Lady.

THE COURT: Mr. Parker, do you agree that we've gone past that point and do you want to wait to hear the next question from Mr. Rath?

MR. PARKER: I didn't hear -- certainly. I didn't hear the response to the last question. I got the objection and I don't think it was answered. I -- I can certainly listen to the next question, but given what I've said already, focusing on the pleadings, these questions -- this line of questioning all seems irrelevant to me but, certainly, if my friend wishes to ask it, I will listen and object if appropriate.

THE COURT: Okay. Thank you.

Mr. Rath, you can ask your next question.

MR. RATH: Thank you.

Q MR. RATH: Dr. Kindrachuk, are you aware of any studies that differentiate between so-called reproductive health concerns or long-term effects from COVID-19 infection and COVID vaccine injury? So have there been any studies

that have attempted to distinguish between what you characterize as COVID-19 related long-term effects and vaccine related effects?

A If -- if I am hearing you correctly, you're asking if there have been direct implications of COVID-19 on either testicular health or reproductive health that were not related or could be separated from potential vaccine induced fertility concerns and reproductive health concerns?

Q Yes.

A Yes. So there's -- I'm looking right now at a letter in eClinicalMedicine that's part of the Lancet series of articles from November 29th, 2020 titled, COVID-19 and impairment of spermatogenesis: Implications drawn from pathological alterations in testicles and seminal parameters. This area of research is obviously very close to me if -- if you look at my CV because I work on this specific problem in Ebola virus disease and the long-term reproductive health and mental health impacts of reproductive -- of the Ebola virus disease.

So, COVID-19, we do see at least some signatures or some concerning signs that the disease itself can have an impact, or may have an impact, on long-term reproductive health in males. This will need to be continued to -- to be researched, but it -- there is a potential implication because the virus can make its way into the testes and if it has an impact on spermatogenesis, may have an impact on long-term fertility.

Q Right. But with regard to that paragraph, you'd agree with regard to the 2020 studies that those studies would have been done prior to the advent of vaccines?

A That was November 29th, 2020, so, no the third -- the phase 3 clinical trials would have been wrapping up by that point in time considering that vaccines were introduced in the UK by December of 2020.

Q But you don't know whether the people included in the study were vaccinated or unvaccinated, do you, sir?

A We can look up those -- those parameters. All of that would be -- would be also -- these people would not have been vaccinated if they weren't in the clinical trial.

Q Yeah. So those -- those studies refer to unvaccinated people; correct?

A To unvaccinated people, yes.

Q Right. And the 2021 study, would that also apply to unvaccinated people?

A Which 2021 study?

Q Kotlyar et al at 2021.

A I see. And on what -- which page?

Q Page 22, sir, of your report.
A That 22 -- by the page numbers are 22 on pages -- just a second.

Q Oh, it's 22 -- it's page number 22 at the top and 20 at the bottom, so I'm not sure which page you're going off of.

MR. PARKER: We're using the top right-hand corner, Mr. Rath. That's the number out of 1,236. There's a practice note that requires you to number these documents sequentially and so that's what we've done.

MR. RATH: Well, I -- I was referring to page 22 in the top right corner, so I'm not sure where the confusion is.

A The confusion may be because there's a top right corner and a top bottom corner number for the page numbers.

Q MR. RATH: I'm referring to page 22 on the top right corner, Dr. Kindrachuk.
A Yeah, I'm pulling that paper up right now.

Q The paragraph that starts, "Insights regarding", it's -- it carries over from the previous page, but --
A Where it says, Vertical transmission of coronavirus disease 2019: a systematic and meta-analysis review?

Q No. It starts, "Insights regarding the potential for COVID-19 related complications during pregnancy". And then you say Yang et al provides evidence that, "COVID-19 infection during the later pregnancy is associated with increased risks of adverse birth outcomes". Also recently provided evidence for vertical transmission in the third trimester, and you're referring to a 2021 study.
A That's the one that I just cited you with the title, that's the Kotlyar et al paper, that's the vertical transmission (INDISCERNIBLE).

Q From 2021.
A Yes.

Q And your evidence is that that's referring to unvaccinated people or --
A I would have to look back at -- I would have to look back at the systematic meta-analysis as to what the inclusion or exclusion criteria were in each of those studies.

Q Right. And so -- and so my question is, sir, are you aware of any studies that -- that differentiate between unvaccinated and vaccinated people in terms of these poor outcomes that you're referring to?
A Well, yes, because in the phase 3 trials, part of the reporting information would have been whether or not there was impact on -- on fertility or child birth or pregnancy. And as well, in the phase 4, or out marketing approach, there continues to be a reporting system for -- for the vaccines for adverse events that are recognized.

Q Right. So -- but within these studies, is there any mechanism to differentiate between COVID-19 related injuries and vaccine related injuries?
A Yeah, depending on whether or not the patients were vaccinated and whether or not there have been in the literature any reports in regards to fertility or reproductive health impacts of vaccination for either these vaccines for COVID-19 or other vaccines that have been seen previously. This is a continued trope that we have heard certainly from vaccine reluctant groups for many, many years now in regards to the potential impacts of vaccination on fertility and on long-term reproductive health.

Q Sir, it's -- it's simply a question, it's not a trope or a statement, I'm -- I'm simply asking you --
A I'm -- I'm providing some background for the context of -- of why this question continues to come up.

Q I'm sorry, sir, could you repeat that for the record?
A Yes. I'm providing some context for the fact that this is not just a -- a novel question for the COVID-19 vaccines, but this has been a question that has continually come up for other vaccines, yet, we have not seen a linkage between reproductive health issues and vaccination.

MR. RATH: All right. Thank you. I believe those are all my questions. I'll turn it over to my friend, Mr. Grey.

MR. GREY: Sorry. Madam Justice, I have it as 12:33 now. I heard Mr. Parker say earlier that Dr. Kindrachuk would only be available until 1:00. I -- I don't expect I could finish with the witness in 26 or 27 minutes. I could start, if you'd like, and we can carry on later, but I'd rather -- I'd rather not do that, unless that's required.

THE COURT: Mr. Parker, is -- is Dr. Kindrachuk available at a later time?

MR. PARKER: Not today.

Dr. Kindrachuk, I understood you had a 2 and a half hour time slot you're available tomorrow; is that correct, sir?

A That is correct. And I believe we had talked about -- that's -- so that was I believe 11 to 1:30 mountain time tomorrow.

MR. PARKER: Okay. So, Justice Romaine, Dr. Kindrachuk is available 11 to 1:30 mountain time tomorrow. I understand he has a hard out at 1:30, just as he does today at 1:00. If my friend feels he can finish in that time tomorrow and we can get redirect done, then no problem in breaking now. On the other hand, we could get part of it done now and finish off tomorrow since it appears Dr. Kindrachuk will have to come back tomorrow either way.

THE COURT: Mr. Grey, do you think you can finish your cross-examination with enough time for redirect between 11 and 1:30 tomorrow?

MR. GREY: Yes, I think there -- that would be plenty of time. I prefer not to break -- break it up between today and tomorrow and I regret, Dr. Kindrachuk, inconveniencing you, but I -- but I really do request, My Lady, that -- I -- I prefer to start tomorrow rather than break it up between today and tomorrow.

THE COURT: Okay. So if we break for lunch now for an hour, can we start with Dr. Zelyas, I guess would be the next witness, Mr. Parker? Could we start with him?

MR. PARKER: He's -- he's available at 2. We booked him from 2 to 5 just in case --

THE COURT: Okay.

MR. PARKER: -- although, I'm told it shouldn't take anywhere near that long. So we have him up at 2:00, we could -- we could do the opening statement before then or whatever you prefer.

THE COURT: Okay. Well, then, why don't we take our usual 1 hour and, Mr. Parker, if you could then give your opening statement, we'll be able to use the time. Okay.

MR. PARKER: Okay. Will do. Thank you.

THE COURT: Okay. Thank you.

(WITNESS STANDS DOWN)

PROCEEDINGS ADJOURNED UNTIL 1:30 PM

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