

Long-Term Care COVID-19 Commission Meeting

Canadian Institute for Health Information
on Wednesday, March 3, 2021



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MEETING OF THE LONG-TERM CARE COVID-19 COMMISSION

--- Held via Zoom Videoconferencing, with all
participants attending remotely, on the 3rd day of
March, 2021, 8:30 a.m. to 10:15 a.m.

1 BEFORE:

2

3 The Honourable Frank N. Marrocco, Commission Chair

4 Angela Coke, Commissioner

5 Dr. Jack Kitts, Commissioner

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7

8 PRESENTERS:

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10 CANADIAN INSTITUTE FOR HEALTH INFORMATION:

11 Natalie Damiano, Director, Specialized Care,

12 Canadian Institute for Health Information (CIHI)

13 Luke Turcotte, Senior Researcher, Advanced Analytics,

14 Canadian Institute for Health Information (CIHI)

15 David O'Toole, President & CEO, Canadian Institute

16 for Health Information (CIHI)

17 Brent Diverty, Vice President, Data Strategies and

18 Statistics, Canadian Institute for Health

19 Information (CIHI)

20 Dr. John Hirdes, Professor, School of Public Health

21 and Health Systems, University of Waterloo; Senior

22 Canadian Fellow and Board Member, interRAI

23

24

25

1 PARTICIPANTS:

2

3 Alison Drummond, Assistant Deputy Minister,

4 Long-Term Care Commission Secretariat

5 Ida Bianchi, Senior Legal Counsel,

6 Long-Term Care Commission Secretariat

7 Kate McGrann, Co-Lead Commission Counsel,

8 Long-Term Care Commission Secretariat

9 Jessica Franklin, Policy Lead,

10 Long-Term Care Commission Secretariat

11 Adriana Diaz Choconta, Senior Policy Analyst,

12 Long-Term Care Commission Secretariat

13 Rose Bianchini, Senior Policy Analyst,

14 Long-Term Care Commission Secretariat

15 Angela Walwyn, Senior Policy Analyst,

16 Long-Term Care Commission Secretariat

17 John Callaghan, Co-Lead Commission Counsel,

18 Gowling WLG

19 Lynn Mahoney, Counsel, Gowling WLG

20 Jennifer King, Counsel, Gowling WLG

21 Patricia Brooks, Counsel, Gowling WLG

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23

24 ALSO PRESENT:

25 Judith M. Caputo, Stenographer/Transcriptionist

1 * * The following is a list of documents undertaken
2 to be produced or other items to be followed up * *

3
4 INDEX OF UNDERTAKINGS

5 The documents to be produced are noted by U/T and
6 appear on the following pages: 21:11, 35:9, 79:1,
7 79:13, 80:22, 91:7, 92:4, 98:25

1 KATE MCGRANN: Good morning, everybody.
2 We are joined this morning by representatives of
3 the Canadian Institute for Health Information, who
4 are here to present the findings from their
5 reporting the factors associated with COVID-19
6 outbreaks, transmission and poor outcomes in
7 Ontario's long-term care homes.

8 Before I turn the mic over to them, I
9 just wanted to note that some of the information
10 informing this report is taken from a survey of the
11 long-term care homes that the Commission conducted
12 in January.

13 With respect to that survey, I just
14 wanted to note that the Commission determined that
15 the individual homes' responses to the survey
16 questions will be kept as confidential.

17 So while the Commission may publish
18 analysis of this data, along with anonymized
19 responses individually or in aggregate, the
20 confidentiality of the identity of the individual
21 homes that provided the data responses will be
22 maintained.

23 So having said that, I will now turn
24 the mic over to CIHI to present their findings to
25 us.

1 COMMISSION CHAIR FRANK MARROCCO: Just
2 before you do that, what kind of percent -- what
3 was the response to the survey?

4 KATE MCGRANN: I will let CIHI speak to
5 that.

6 COMMISSION CHAIR FRANK MARROCCO: Okay.
7 Ready when you are.

8 DAVID O'TOOLE: Does anybody want to
9 answer Commissioner Marrocco's --

10 LUKE TURCOTTE: Yes, it was 92 percent
11 completion.

12 COMMISSION CHAIR FRANK MARROCCO:
13 92 percent?

14 LUKE TURCOTTE: Yes.

15 COMMISSION CHAIR FRANK MARROCCO: Thank
16 you.

17 DAVID O'TOOLE: Because it's for the
18 record, I'm going to read my opening statement and
19 it's generally just an introduction to the staff.

20 My name is David O'Toole. I'm the CEO
21 of the Canadian Institute for Health Information.
22 Thank you for allowing us to participate in support
23 of the work that you've undertaken over the last
24 year.

25 We're here today to share with you the

1 results of our work, analyzing the factors
2 associated with the COVID-19 outbreaks,
3 transmission and poor outcomes in Ontario's
4 long-term care homes.

5 I'm joined today by a few of my
6 colleagues who have a range of expertise which we
7 hope will be of value to the Commission in its
8 undertakings.

9 Our presentation will be co-led by
10 Natalie Damiano, our Director of Specialized Care,
11 who is our resident expert on our long-term care
12 data holdings across the country; and Dr. Luke
13 Turcotte, a senior researcher from our advanced
14 analytics team, who led the analysis we're about to
15 take you through.

16 We're also joined by Brent Diverty, VP
17 of Data Strategies and Statistics; as well as
18 Dr. John Hirdes, a close collaborator of CIHI's on
19 a number of different fronts. He is one of the
20 leading gerontologists in the country, from the
21 University of Waterloo School of Public Health.

22 He's also Canada's Senior
23 Representative and Board Member of interRAI, an
24 international network of researchers and
25 practitioners committed to improving care for

1 persons who are disabled or medically complex.

2 With that, I'll pass it over to
3 Natalie.

4 NATALIE DAMIANO: Thank you, David.
5 And if it pleases the group, I will pull up the
6 presentation.

7 One minute.

8 COMMISSION CHAIR FRANK MARROCCO: I can
9 see it; I assume everybody can.

10 NATALIE DAMIANO: Perfect, thank you
11 for letting me know.

12 Thank you, David. On behalf of the
13 Canadian Institute for Health Information, thank
14 you for the opportunity to present before the
15 Commission.

16 I am speaking to you today on the
17 traditional and unceded territory of the Algonquin
18 Anishinaabe Nation. I recognize that this land is
19 now the home of many diverse First Nations, Inuit
20 and Métis peoples.

21 Before I start, CIHI would like to
22 acknowledge that this analysis would not have been
23 possible without the survey completion by long-term
24 care staff and leaders who provided this valuable
25 data during a very challenging time in January.

1 The data trends and findings we're
2 about to take you through are more than just
3 numbers. We know that these represent Ontarians'
4 parents, siblings, grandparents, friends and loved
5 ones. And as we completed our work, we were ever
6 cognizant of these important figures behind the
7 numbers and our hope is that with what we share
8 today we can help protect them.

9 We prepared a draft full report that we
10 submitted yesterday afternoon, and today we'll
11 present a subset of that report also submitted
12 yesterday. That will take 30 or so minutes. I
13 appreciate we have two hours set aside, but we
14 wanted to leave ample time for discussions and to
15 answer any questions we may have.

16 We have identified the full report as
17 "draft", so that as required, we can update it
18 following this presentation to direct relevant
19 questions prior to its being published.

20 As we're taking you through things
21 today, please feel free to jump in at any time.

22 By way of background, CIHI first
23 appeared before this Commission last September,
24 showing a bit of who we are as an organization,
25 what our data holdings are, and how we might be of

1 assistance to the Commission's work.

2 Following our appearance, the
3 Commission engaged CIHI in late October to prepare
4 a report that answers the question listed here:

5 What home level characteristics were
6 most associated with COVID-19 outbreaks, spread
7 within homes, and poor resident outcomes in
8 Ontario's long-term care homes during the initial
9 wave of the pandemic.

10 A key piece of this analysis was based
11 on the results of a survey that went to all 623 of
12 Ontario's long-term care homes in January.

13 This survey, which CIHI led the
14 development of in collaboration with Dr. John
15 Hirdes, and with the input from the Commission,
16 gathered information that wasn't available to other
17 data sources, and therefore presents a novel set of
18 findings not previously reported by others.

19 The findings presented today take into
20 account the survey results as well as other
21 relevant data sources. The analysis Luke will take
22 you through is a first look at bringing together
23 all of the available data on this subject.

24 It certainly isn't the last look, and
25 we're happy to continue to work with the Commission

1 to further disentangle these findings.

2 The report we were engaged by the
3 Commission to complete included four distinct
4 research questions listed here. Multi-variant
5 modelling, a statistical tool that uses multiple
6 variables to forecast outcomes, was employed to
7 determine the relationship between characteristics
8 of long-term care homes and surrounding regions on
9 the following outcomes:

10 The likelihood of a COVID-19 outbreak,
11 which we defined as one or more resident cases;

12 The severity of COVID-19 outbreak,
13 defined by the percentage of residents infected;

14 Resident mortality rate due to
15 COVID-19; and,

16 High resident mortality due to
17 COVID-19, which was defined as 20 percent or more
18 of residents dying.

19 We went into our study, ever cognizant
20 of the latest evidence. We know that findings have
21 previously been shared with both the Science Table
22 and the Commission that point to specific risk
23 factors for outbreak, spread and mortality.

24 Notably, the factors for greater
25 likelihood of COVID-19 outbreak have included in

1 previous studies that COVID-19 incidence in the
2 regions surrounding the home and large facility
3 size.

4 And risk factors associated with
5 greater COVID-19 spread and deaths within the homes
6 previously reported include old facility design
7 standards, so the ward-style rooms, chain ownership
8 and greater facility crowding.

9 Our analysis took a similar approach,
10 looking to confirm and also shed light on
11 additional information given the additional data
12 sources.

13 Building on previously published models
14 and data, like those presented at the Science Table
15 and by representatives from the Ministry of Health
16 to the Commission, the additional survey data was
17 used to characterize the association between
18 COVID-19 outbreak incidence and severity, with
19 factors relating to staffing; infection prevention
20 and control; the availability of PPE; as well as
21 leadership and governance factors.

22 In addition, CIHI's long-term care
23 data, through our Continuing Care Reporting System,
24 was used to characterize the association between
25 COVID-19 outbreak incidence and severity with

1 home-level resident clinical profiles, such as
2 cognitive impairment or health instability, and
3 home-level quality of care using the interRAI
4 risk-adjusted quality indicators that CIHI publicly
5 reports through our "Your Health System" tool.

6 KATE MCGRANN: Natalie, can I ask you a
7 couple of questions about information on this slide
8 before you proceed?

9 NATALIE DAMIANO: Yes, you can.

10 KATE MCGRANN: Can you just give us a
11 bit more information about what "building on
12 previously published models" means in the context
13 of your work?

14 NATALIE DAMIANO: Sure. Thank you,
15 Kate. I can start, and I'll ask perhaps Luke to
16 jump in as well.

17 The survey allowed us to have new
18 information that others did not have available to
19 them. In particular, specific information about
20 staffing and staffing shortages in each month
21 during the first wave of the pandemic.

22 That information wasn't available in
23 other models that had been put together to actually
24 conduct the analysis. So what we're doing is
25 taking the information they already had, and then

1 adding in new factors, which can end up having an
2 effect on the results.

3 Luke, I don't know if you'd like to add
4 anything further?

5 LUKE TURCOTTE: No, I think that
6 describes what it means, to build on these models.
7 Yeah, that's good.

8 KATE MCGRANN: So was it the case that
9 you performed the same kind of analysis that these
10 previously published models performed, but you
11 added additional data, and that's what you mean
12 there?

13 LUKE TURCOTTE: Yes.

14 KATE MCGRANN: And the reference to the
15 "home-level resident clinical profiles", could you
16 just give us a bit more information about what
17 those are?

18 NATALIE DAMIANO: I can. So in the
19 continuing care reporting system, every resident in
20 Ontario has an assessment that is done, a full
21 assessment each year and a slightly shorter
22 assessment every quarter. And that forms the basis
23 of the Continuing Care Reporting Systems, and that
24 is one of the interRAI assessments.

25 So that information provides quite a

1 large set of information on the clinical profile of
2 residents, their strengths, their needs, as well as
3 aspects that can get at quality of care.

4 So the quality indicators are actually
5 derived from that same set of information. So
6 there's very detailed clinical information that is
7 collected every quarter on every resident.

8 KATE MCGRANN: Thanks very much.

9 COMMISSIONER JACK KITTS: Can I just
10 ask, will you be sharing that detail later on in
11 the presentation of what the high-level resident
12 profiles are?

13 NATALIE DAMIANO: We will share the
14 findings as to how these factors may have impacted
15 on the outcomes of interest. If there's interest
16 in details on just some clinical profile
17 information, we could add that after the fact to
18 the report.

19 COMMISSIONER JACK KITTS: We've been
20 interested in cognitive impairment and dementia,
21 the incidence of that. And then in health
22 instability, is that chronic diseases that
23 flare-up from time to time; is that what that
24 means?

25 NATALIE DAMIANO: It's a scale that is

1 treated with the interRAI assessment that actually
2 looks at both chronic diseases, as well as more
3 functional information and key factors that have
4 been shown to impact on likelihood of instability,
5 of needing an admission to acute care, as well as
6 proximity to death as the numbers go higher.

7 DR. JOHN HIRDES: It also relates to
8 the concept of frailty in the older person.

9 COMMISSIONER JACK KITTS: Right.

10 DR. JOHN HIRDES: And so these data are
11 very important because it helps us to address the
12 explanation of "my residents are different" as a
13 potential explanation of home-level variance. So
14 it's critical to have this information as well.

15 COMMISSIONER JACK KITTS: Yes, exactly.
16 Thank you.

17 NATALIE DAMIANO: Okay. I think I can
18 continue at this point.

19 So after working with the Commission in
20 November and December to design this survey, it
21 went to field in January of 2021. The homes were
22 provided four weeks to respond.

23 And during this time, CIHI worked with
24 the Commission to address any questions that arose
25 from respondents. The Commission made the

1 questions and answers available to all long-term
2 care homes.

3 And in addition the Commission, and
4 CIHI attended a general meeting of each of the two
5 large provider associations, the Ontario Long-Term
6 Care Association and AdvantAge, to explain the
7 survey and to respond to any questions.

8 The survey was purposely designed to
9 ensure that new relevant and actionable information
10 was being collected from the homes.

11 The timeframe of interest was primarily
12 the first wave of the pandemic, given the fact that
13 the second wave was still ongoing, and we wanted to
14 have a full picture.

15 As well, question inclusion was
16 carefully reviewed with the Commission to balance
17 the need for detailed information with being
18 mindful of the already huge strains on homes.

19 To support this balance, information
20 that was already being collected and available
21 through other sources was sought and was made
22 available by the Ontario Ministry of Health for our
23 purposes.

24 The survey focused on procedures and
25 factors that were broadly within the control of

1 each home, and specifically the survey covered the
2 following topics of information that are listed on
3 your slide.

4 So we had the outcomes of interest, the
5 outbreaks, the cases and mortality were all
6 collected through the survey.

7 We collected information about health
8 workforce, including full and part-time status,
9 absenteeism, use of agency staff, presence of the
10 medical director.

11 We collected information about physical
12 infrastructure, such as building age, the shared
13 rooms, number of beds and occupancy.

14 And we collected infection prevention
15 and control measures, including staff training,
16 availability of PPE or rationing, ability to
17 isolate residents and the presence of an IPAC lead.

18 And finally, we looked at governance
19 and partnerships, including ownership affiliations
20 with other organizations, such as hospitals or
21 public health units.

22 Overall, we were exceptionally happy
23 with the response rate to the survey. More than 90
24 percent of all long-term care homes in Ontario
25 responded; so that's 573 homes.

1 Each LHIN was well represented, and
2 overall the homes that were responded were
3 representative of all homes across the province.

4 So when we look at the strengths and
5 limitations of all the data together from a data
6 quality perspective, we were also pleased with the
7 robustness and representativeness of the data.

8 The survey, which provides a snapshot
9 of staff ability over the first wave, allows for us
10 to gain a clearer picture of the role staffing
11 played on outcomes over this period.

12 And while we're very confident in the
13 quality of this data, it is important to be mindful
14 of the limitations of survey data generally.

15 Obviously, we cannot attribute direct
16 causation with this type of data, and surveys are
17 limited in terms of the types of information that
18 they can capture. As well, survey data is
19 dependent on each respondent recalling and
20 responding accurately based on their own records.
21 And of course, the pandemic is still ongoing and
22 things are still evolving all the time.

23 I will now turn it over to Luke, who
24 will walk you through the findings.

25 LUKE TURCOTTE: Thank you, Natalie.

1 Next slide, please.

2 Commissioners, my job today is to walk
3 you through the four models that we've developed in
4 our rapid analysis of the first wave of the
5 pandemic. Before we start, I thought it would be
6 helpful to share some key statistics to ground our
7 discussion.

8 Next slide, please. Among the 573
9 homes that submitted survey responses, 179 homes
10 reported a COVID-19 outbreak involving one or more
11 residents before July 1, 2020.

12 Of those homes, 66 reported that
13 20 percent or more of their residents were infected
14 with COVID-19 during the outbreak.

15 In total, 102 homes reported at least
16 one resident death.

17 26 of those homes experienced a very
18 severe outbreak, where 20 percent or more residents
19 in the home died.

20 To put that in context, those 26 homes,
21 just 5 percent of survey respondents, account for
22 almost half of all resident cases of COVID-19 in
23 the first wave, and just over half of all resident
24 deaths due to COVID-19.

25 Next side please.

1 KATE MCGRANN: Before you proceed, can
2 I just ask you three questions about the
3 information on slide 13?

4 LUKE TURCOTTE: Yes.

5 KATE MCGRANN: With respect to the
6 26 homes that account for almost half of all
7 resident cases of COVID-19, and just over half of
8 the resident deaths; can you give us any
9 information about how those 26 homes performed in
10 wave 2, or wave 2 currently stands?

11 U/T LUKE TURCOTTE: We haven't looked at
12 those 26 homes specifically, but that's something
13 that we can take away and provide you with more
14 information on.

15 KATE MCGRANN: Did you look at these 26
16 homes as a group to see what if any characteristics
17 they shared as amongst themselves?

18 LUKE TURCOTTE: We focused primarily on
19 characteristics that differentiate them from all
20 the other homes that experienced an outbreak. And
21 that's what our fourth model deals with
22 specifically. So when we get to that point in the
23 presentation, we can discuss in direct terms.

24 COMMISSION CHAIR FRANK MARROCCO: I'll
25 let you get there, I don't want to get you out of

1 the rhythm of the presentation, but do those amount
2 to then, if not predictors, but flags going
3 forward?

4 LUKE TURCOTTE: They certainly, some of
5 the patterns that we see around those 26 homes
6 would be early warning signs in the second wave of
7 the pandemic; it would be of concern. I think
8 they're fairly universal in terms of their effect.
9 They relate primarily to staffing.

10 COMMISSION CHAIR FRANK MARROCCO:
11 Presumably if there was a wave 3, they'd be flags
12 to where you might be concerned.

13 LUKE TURCOTTE: I wouldn't say it's the
14 home itself that's the flag. I would say that it's
15 the attributes of the home, specifically the
16 staffing situation that the home find themselves
17 in.

18 COMMISSION CHAIR FRANK MARROCCO:
19 Understood. So go ahead, Mr. Turcotte.

20 LUKE TURCOTTE: Thank you.

21 The first model that we created seeks
22 to identify facilities that experienced outbreak in
23 the first wave versus homes that did not experience
24 an outbreak; and that's defined with at least one
25 resident case.

1 To be clear, this model does not
2 differentiate between large and small outbreaks.
3 Homes with a single resident case are treated the
4 same in this model as another home with 50 or more
5 cases, for example.

6 The critical threshold in this model is
7 one single resident case. Next slide please.

8 The second figure known as a "forest
9 plot" may look familiar to you, and that's because
10 it's the same type of plots that the Ministry of
11 Health shared with the Commission a couple of weeks
12 ago.

13 These types of figures show up a few
14 times in our presentation, and so I wanted to spend
15 a few moments just to orient you to the
16 interpretation of the plot, essentially, how to
17 read these dots on this plot.

18 Factors that are located to the right
19 of the vertical red line are associated with
20 greater odds of outbreak. And factors that are on
21 the left of the red line are associated with lower
22 odds of outbreak.

23 In addition to the dots in the graph,
24 you'll notice that there's a series of horizontal
25 lines that indicate the 95 percent confidence

1 interval.

2 If that horizontal line crosses the red
3 line, we say that the effects of the factor is not
4 statistically significant.

5 To make it more obvious which factors
6 are specifically significant, we have coloured them
7 in blue.

8 Based on this model, the strongest risk
9 factor for COVID-19 outbreak in a facility in the
10 first wave of the pandemic is poor quality of care
11 in the year prior to the start of the pandemic.

12 We also found that homes belonging to
13 large chains made up of ten or more homes in the
14 province of Ontario, were more likely to experience
15 an outbreak.

16 Finally, homes with more nursing staff
17 per resident, not in terms of full-time
18 equivalence, but in the sheer total number of staff
19 that belong to the home that are on the roster,
20 were less likely to experience an outbreak.

21 Next slide, please.

22 KATE MCGRANN: Before you move on to
23 the next slide, I think Commissioner Kitts has a
24 question and I may have a couple as well.

25 COMMISSIONER JACK KITTS: My first

1 question is, how do you know a home had poor
2 quality of care the year before the outbreak?

3 LUKE TURCOTTE: So I'll start and then,
4 Natalie, you may want to pick up on my answer.

5 We used what's called the quality
6 indicators, which are risk adjusted based on
7 resident characteristics and they are reported
8 publicly through CIHI's YourHealthSystem.cihi.ca
9 system.

10 So we have nine quality indicators that
11 are publicly reported. And for each home, we look
12 to see if they're in the bottom 20th percentile on
13 that quality indicator. We then count the number
14 of quality indicators where the facility was in the
15 bottom 20 percent, and that's what we've reported
16 here.

17 So facilities that have poor quality of
18 care in the year prior, those are facilities who
19 performed in the bottom 20 percent on four quality
20 indicators.

21 COMMISSIONER JACK KITTS: Did these
22 facilities get their results in addition to, I
23 guess, anonymized results of where they stood,
24 where they compared to the other homes?

25 LUKE TURCOTTE: You can go online to

1 YourHealthSystem.cihi.ca and see exactly your
2 facility's quality indicator performance. And you
3 can then search for, you know, the next nursing
4 home, you know, down the street and you can compare
5 directly if you would like to do so.

6 COMMISSIONER JACK KITTS: Okay, thank
7 you.

8 KATE MCGRANN: Two quick questions
9 further to the explanation given to us about how to
10 read this diagram.

11 First of all, should we take anything
12 from the different widths of the horizontal lines
13 that we see set out on the slide here?

14 LUKE TURCOTTE: So the width of the
15 horizontal line relates to the 95 percent comp
16 considerable.

17 So when the width is smaller, tighter
18 towards the point, it means that there's
19 essentially less uncertainty around the exact
20 effect. So if it's a wider effect, there's a
21 little bit -- we have less certainty about it.

22 To some degree, that's influenced by
23 the number of homes with that particular
24 characteristic. And so there's only about 12, I
25 think 12 or 13 percent of homes that fall into that

1 4 to 9 category for poor performance on the quality
2 indicators.

3 And so that's why we expect a wider
4 confidence interval on that measure, because there
5 is more variance in the response.

6 KATE MCGRANN: All right.

7 COMMISSION CHAIR FRANK MARROCCO: What
8 does it mean when the horizontal line crosses the
9 vertical?

10 LUKE TURCOTTE: It means that there's
11 no difference. So a facility with that particular
12 attribute, or the set of facilities with that
13 particular attribute, compared to the reference
14 group -- so if we're talking about the quality
15 indicators, for example, it's comparing facilities
16 that did very well on quality indicators; and then
17 if it crosses the red line, so then there's -- we
18 say that there's no difference.

19 So based on this plot, we'd say there's
20 no difference between facilities that did poorly on
21 0, 0 or 1 quality indicators, compared to
22 facilities -- sorry, let me start over.

23 Facilities that did poorly on two or
24 three quality indicators, had the same odds of
25 outbreak as facilities that did poorly on only 0 or

1 1 quality indicators. So essentially it's showing
2 no difference.

3 COMMISSION CHAIR FRANK MARROCCO: So it
4 doesn't matter, in terms of trying to assess the
5 impact, it wouldn't matter whether it was 0 or 1,
6 or two or three?

7 LUKE TURCOTTE: No.

8 COMMISSION CHAIR FRANK MARROCCO: Do I
9 have that correct?

10 LUKE TURCOTTE: That's correct.
11 There's no difference between -- so what we haven't
12 done in this plot is compared the 2 and 3s versus
13 the 4 and the 9s, or the 4 to 9s.

14 We always compare against the same
15 reference group. So it's always comparing the
16 facilities that do very well in quality indicators
17 versus the facilities that do moderately well; and
18 then, again, very well versus poorly on 4-plus
19 quality indicators.

20 COMMISSION CHAIR FRANK MARROCCO: If we
21 switched -- then I'll stop. If we dealt with the
22 small chain, 2 to 9 homes versus independent homes,
23 then what this is telling me is that that factor
24 doesn't make any difference?

25 LUKE TURCOTTE: Yes. So small chains

1 relative to independent homes, there was no
2 difference in the odds.

3 COMMISSION CHAIR FRANK MARROCCO:

4 There's no difference. Okay. Thank you.

5 KATE MCGRANN: One more question.

6 DR. JOHN HIRDES: Mr. Commissioner, if
7 I can take you back to an earlier question about
8 flag for wave 3; one way to think about this
9 schematic is that it represents tools that could be
10 possibly used to flag homes that could be at risk
11 based on a combination of any outbreak, size,
12 quality and staffing.

13 And having clusters or groups of homes
14 makes it relatively straightforward and easy to
15 target groups based on their risk profiles.

16 DAVID O'TOOLE: Kate, when you're
17 finished, I'd like a quick elaboration on
18 Dr. Kitts's question as well.

19 KATE MCGRANN: Why don't you go ahead
20 and then I'll follow up.

21 DAVID O'TOOLE: Thanks for the interruption.

22 Dr. Kitts, while the quality indicators
23 you refer to are publicly reported, and we stand by
24 the sort of integrity of them, they aren't part of
25 any kind of disciplined quality systematic

1 assessment process by any jurisdiction.

2 For example, the QBP Process Ontario
3 adopts for hospital systems, they haven't been
4 integrated into that kind of disciplined review by
5 any of the jurisdictions yet.

6 COMMISSIONER JACK KITTS: Okay, thank
7 you. That's great.

8 Can I sneak in another question? The
9 two top lines, nursing staff numbers per resident,
10 that reads that there is no difference in the
11 nursing staff numbers.

12 Because the top line, the confidence
13 interval goes across, but the dot is not there. So
14 there's really no difference in the nursing -- or
15 actually -- no, if the nursing is higher, you're
16 less likely to have an outbreak? Or no? Tell me
17 if --

18 LUKE TURCOTTE: Okay. So this is what
19 we call like a three-level effect. So there's
20 three different categories here with three
21 benchmarks. So we compare the bottom 20th
22 percentile, the middle 60, and the top 20. The
23 middle 60 is always our reference group.

24 So the very top line you're seeing
25 there which is coloured in black, that's comparing

1 the bottom 20 percent versus the middle 60 percent
2 in terms of numbers of nursing staff per resident,
3 and we don't see a difference there.

4 However, when you compare the top
5 20 percent versus the middle 60 percent, it's
6 protective. So there's lower odds of outbreak
7 among facilities with more staff per resident.

8 COMMISSIONER JACK KITTS: Okay, thank
9 you.

10 KATE MCGRANN: I think you've actually
11 covered my question as well, so I will -- you can
12 just go ahead.

13 LUKE TURCOTTE: So models like this, I
14 this it's also equally important to speak about
15 factors that were not significant in the model.

16 It doesn't mean that these factors are
17 not important to the health and well-being of
18 residents in long-term care homes. It simply means
19 that these factors were not associated with greater
20 adjusted odds of experiencing an outbreak in this
21 specific model.

22 We did not observe an association
23 between the likelihood of outbreak and access to
24 paid sick time by staff; the means of access to a
25 certified infection control professional;

1 percentage of staff that were trained in infection
2 prevention and control; and the clinical complexity
3 of residents that live in the home.

4 Next slide, please.

5 KATE MCGRANN: Again, here I do have
6 some questions for you.

7 First of all, with respect to the
8 finding that there are lower odds of COVID-19
9 outbreaks where there are more nursing staff to
10 residents. Has that finding, does it take into
11 account the difference between full-time and
12 part-time nursing positions, or was it just a head
13 count?

14 LUKE TURCOTTE: So what's interesting
15 is that another analysis has looked at it in terms
16 of full-time equivalence, and they did not find a
17 difference in terms of full-time equivalence on the
18 odds of experiencing an outbreak.

19 We treated this measure slightly
20 differently. We actually looked at the total
21 number of heads, as you call it, and we treated
22 full-time staff and part-time equivalently in this
23 measure.

24 KATE MCGRANN: One other thing I just
25 want to note is that for the purposes of this

1 question, I believe that you included personal
2 support workers in the definition of nurses; is
3 that right?

4 LUKE TURCOTTE: That's correct. So we
5 essentially were looking for nurses; so RNs, RPNs,
6 nurse practitioners and PSWs were all combined and
7 columned under the same label as "nursing staff".

8 KATE MCGRANN: What conclusions, if
9 any, can we draw from the difference in your
10 findings based on the head count of course that you
11 took, versus the findings in other studies that
12 looked at full-time equivalents?

13 LUKE TURCOTTE: We don't know the exact
14 reason or the exact causal mechanism, or the
15 pathway that would explain that type of effect. We
16 could offer some hypotheses.

17 For example, those facilities may have
18 had -- there may be less pressure to work when
19 short-staffed, or those facilities may have had
20 access to more resources, in terms of staffing
21 resources, to work during the pandemic.

22 But those are only hypotheses, and
23 would need to be tested using additional data.

24 John, I don't know if you wanted to
25 comment further on this one?

1 DR. JOHN HIRDES: I think this is going
2 to be an issue with a number of these variables
3 where we see an association, but it will make us
4 want to do a deeper dive to find out exactly what's
5 going on here.

6 The key thing is that this isn't just a
7 raw count of the number of individuals. It's
8 looking at the ratio between the number of
9 individuals and the residents in the homes. So it
10 does give you the sense of the resources that are
11 there to the home.

12 But I think you'll find this need to
13 sort of dive further will appear in several cases.
14 And one thing to know is that the pathways to
15 causality may actually have multiple directions and
16 may have some reversals in them in some of the
17 relationships that you will see here.

18 You know, having the sophisticated
19 modelling combined with lots more data to look at
20 reveals the complexity of the bigger picture of
21 what's happened in the homes. And, you know, this
22 is really the first step in trying to get some
23 understanding of what's happening.

24 KATE MCGRANN: Looking at the
25 association that you found between the likelihood

1 of an outbreak and the poor performance by homes on
2 your publically reported quality indicators, I
3 understand you were looking at the data resulting
4 from quarterly reports during the period between
5 January 1st and December 31st, 2019.

6 Did you look to see if this association
7 was maintained if you looked further back? So home
8 performance in the years prior to 2019?

9 U/T LUKE TURCOTTE: We didn't look beyond
10 that one year. So it's a one-year rolling average.
11 We actually looked at the performance in the final
12 quarter before the start of the pandemic.

13 So that was the January 1st timeline
14 that you mentioned. But that, because it is a
15 four-quarter rolling average, does take into
16 account performance in the previous three quarters
17 as well.

18 Generally speaking, and obviously there
19 is variation among homes, and each home performs
20 differently over time. But those rates, without
21 any intervention, we'll say, or participation, for
22 example, in a quality improvement program are
23 generally fairly consistent over time, especially
24 because they are weighted over the course of a
25 one-year weighted average.

1 But we did not look further, and that's
2 something that we can do an additional analysis if
3 there's interest.

4 DR. JOHN HIRDES: If I can add
5 something there.

6 Luke and I are also part of a
7 collaborative group of colleagues working in Canada
8 and the U.S., looking at Canadian and U.S.
9 experiences with these quality indicators and
10 adverse outcomes related to mortality.

11 And what we found is that with the U.S.
12 data, they were only available for a couple of
13 years before the pandemic happened, and they found
14 persistence of that effect as well.

15 It's not just a quirk of the data at
16 the time of the pandemic. It probably is an
17 attribute of the overall quality of care in the
18 home.

19 KATE MCGRANN: Okay. Two more
20 questions, and these are about the factors where no
21 association was observed.

22 First of all, with reference to the
23 access to paid sick time by staff, can you confirm
24 that for the purposes of the data you rely on in
25 this finding, pay-in-lieu was treated as the same

1 as paid sick time?

2 LUKE TURCOTTE: That is correct.

3 KATE MCGRANN: And then what
4 conclusions can be drawn from the fact that no
5 association was found in your work between the
6 likelihood of outbreak and the factors that you've
7 identified here?

8 And if I can put it a little more
9 plainly, what would you say to somebody who looked
10 at this slide and asked: Can I conclude that IPAC
11 training is not a factor in whether a home would
12 experience an outbreak?

13 LUKE TURCOTTE: I wouldn't say so. I
14 would say that in this specific model, after
15 adjusting for all the other co-variants that we've
16 included, essentially everything that you see on
17 the left-hand side of the screen in the green box,
18 after adjusting for those factors, we did not find
19 that, for example, access to a certified infection
20 control professional was associated with greater
21 odds of outbreak.

22 But that's specific to this model, and
23 after adjusting for those specific factors.

24 DR. JOHN HIRDES: What I would add to
25 that is that we did not evaluate how good the IPAC

1 training was; how intensive it was; what the topics
2 area that were covered; so there would certainly be
3 variation there.

4 The other thing to know is that a home
5 that's struggling with quality, may also be
6 struggling with IPAC training. And so if you've
7 picked them up with the quality indicator, you may
8 be picking up an attribute of a home that's having
9 difficulty in general.

10 And the last thing to know is that we
11 looked at IPAC training at a point in time and
12 availability of IPAC. And it may be that some of
13 those issues were resolved over the course of wave
14 1 and later stages of the pandemic. So a point in
15 time evaluation may give a different answer than a
16 continuous picture.

17 And maybe, Kate, if I may, I'll add on
18 an explanation about the fourth factor about the
19 intensity of resident needs.

20 The takeaway from this is that the
21 differential experience of outbreaks in homes was
22 not caused by some homes having more intensive
23 residents than others. In fact, it's not about the
24 resident characteristics that explains why some
25 homes have outbreaks versus others.

1 There are admission criteria that are
2 applied routinely for admission into long-term care
3 that will make homes relatively homogenous with
4 respect to the resident population they serve.

5 So In fact, there's not that much
6 variation home to home in terms of the overall
7 profile of residents served, but individual
8 residents with more complex needs certainly would
9 be more likely to be expected to have adverse
10 outcomes. We want to differentiate the home level
11 distribution versus individual level experience.

12 KATE MCGRANN: Okay.

13 COMMISSIONER JACK KITTS: Just one more
14 quick question.

15 More nursing staff to residents. You
16 said nursing staff includes all, pretty much all
17 clinical staff; is that correct?

18 LUKE TURCOTTE: Again, it's the
19 registered nurses, nurse practitioners, registered
20 practical nurses and personal support workers.

21 COMMISSIONER JACK KITTS: Okay. We're
22 studying the staff mix, and one would read that and
23 say you need more nurses to residents and not
24 consider the PSWs; could you say "clinical staff"
25 or...

1 LUKE TURCOTTE: We could amend that.
2 The reason why we were specific to say nursing
3 staff there is because we did not include staff
4 such as physiotherapists, occupational therapists
5 and the aides as well.

6 COMMISSION CHAIR FRANK MARROCCO:
7 Commissioner Coke had a question.

8 COMMISSIONER ANGELA COKE: Just the
9 issue of greater number of residents; is this just
10 getting to the size of the homes?

11 LUKE TURCOTTE: It's not the size of
12 the homes specifically. It's actually the number
13 of residents that live in the facility; it's a
14 continuous count.

15 And we, in our model, divide it by a
16 unit of 50. And that's consistent with other
17 modelling work that's been done and published in
18 the Canadian Medical Association Journal.

19 DR. JOHN HIRDES: It's related to size
20 in terms of the number of residents, not the
21 physical size; is that what you're saying, Luke?

22 LUKE TURCOTTE: That's correct.

23 COMMISSIONER ANGELA COKE: Okay.

24 COMMISSION CHAIR FRANK MARROCCO: So,
25 if I can just ask, in terms of the higher odds of

1 an outbreak:

2 Large chains, ten or more homes;

3 Greater number of residents;

4 Located in a public health unit with
5 more COVID-19; and,

6 Poor performance by homes on your
7 publicly reported quality indicators.

8 If I'm looking at this and trying to
9 predict an outbreak, and I see all of those factors --
10 some or all of those factors associated with a
11 home, I should start to think that there's a higher
12 percentage of a COVID outbreak in that home --
13 there's a likelihood of a more -- it's a greater
14 likelihood of a COVID outbreak; is that right?

15 LUKE TURCOTTE: That's correct. So
16 based on the combination of those factors, the
17 probability of an outbreak is higher or greater in
18 those homes.

19 And each effect has its own individual
20 effect. And so it's -- because this is a
21 multi-variant model, it accounts for those things
22 all at once.

23 COMMISSION CHAIR FRANK MARROCCO: Okay.
24 And so if I had limited resources, I should be
25 concentrating those resources on homes that meet

1 some or all of those characteristics?

2 DR. JOHN HIRDES: It's important to
3 know that there's variance in all estimates.

4 So there are good quality homes that
5 have outbreaks, there are small homes that have
6 outbreaks, there are homes in communities with
7 smaller degrees of outbreak, so there is variance.
8 But in terms of trying to target efforts from an
9 efficiency point of view of where you're most
10 likely to see the biggest challenges, this is
11 definitely a starting point.

12 But we also do have to keep our eye on
13 the entire playing field to understand what's
14 happening in terms of individual experiences may
15 differ as well.

16 COMMISSION CHAIR FRANK MARROCCO: All
17 right. Commissioner Kitts, did you want to ask a
18 question?

19 COMMISSIONER JACK KITTS: I was just
20 saying, so this is the high odds of having an
21 outbreak; but that could be one resident?

22 LUKE TURCOTTE: Yes.

23 COMMISSIONER JACK KITTS: As we go
24 through the presentation, we'll see that these --
25 that this continues into higher spread or higher

1 mortality? Does it do that, are they sort of...

2 LUKE TURCOTTE: Yes. So my next slide
3 deals with severity of outbreak in terms of the
4 number of resident cases among homes that
5 experienced an outbreak.

6 COMMISSIONER JACK KITTS: Okay, thank
7 you.

8 LUKE TURCOTTE: So our second model
9 identifies factors associated with greater severity
10 in COVID-19 outbreak. We've defined this as the
11 percentage of residents in a home that are infected
12 during an outbreak. Next slide, please.

13 This graph is a similar interpretation
14 as the previous one that I showed you, except we
15 use a slightly different measure called a "risk
16 ratio".

17 When the risk ratio is greater than 1,
18 or in other words to the right of the red line, it
19 means that the risk of infection is greater in
20 homes with that particular attribute.

21 This graph is slightly more complicated
22 than the previous one that I showed you, but that's
23 for good reason. Let's focus on the panel on the
24 left-hand side first.

25 Residents in homes where the medical

1 director was present less than one day per week
2 were at greater risk of infection.

3 In this initial model, we also found
4 that residents in homes built using older design
5 standards and homes that are located in an area of
6 the province with high community incidence of
7 COVID-19, were at greater risk of infection. We
8 call this an initial model because there's more to
9 the story.

10 We turn your attention to the
11 right-hand side of the plot, You'll see there are
12 two additional factors that are associated with
13 greater risk of infection. The first is whether or
14 not the facility found themselves 25 percent short
15 personal support workers on any given day between
16 March and June.

17 The second is whether or not the
18 facility made use of personal support workers
19 provided by an agency on seven or more days in a
20 given month between March and June.

21 What's notable in this full model is
22 that after adjusting for those two staff shortage
23 variables I just discussed, the effect of older
24 design standard is no longer statistically
25 significant.

1 Next slide, please.

2 KATE MCGRANN: Before you move on.

3 COMMISSION CHAIR FRANK MARROCCO: Hold
4 on a minute. I want to make sure I understand
5 that.

6 LUKE TURCOTTE: Yes.

7 COMMISSION CHAIR FRANK MARROCCO: We've
8 heard a lot about the older design standard being
9 an important factor. We've heard this from more
10 than one. But what this statistical model tells us
11 is that if you have a medical director who's
12 present less than one day per week, and if in the
13 period of time that you referred to, you're
14 25 percent short of PSWs during that time, and if
15 your agency PSW staff -- just help me with when the
16 factors lead to the conclusion that the design
17 standard is not statistically significant.

18 LUKE TURCOTTE: Yes. So if we do not --
19 if you fail to account for whether or not the
20 facility was short PSWs, or whether or not they
21 used agency PSW staff, then the model on the
22 left-hand side, which does not include those
23 factors, suggests that older design standards are
24 associated with greater risk of infection.

25 However, after you account for those

1 two staff shortage variables that's on the right,
2 you see that older design standard is no longer
3 significant.

4 COMMISSION CHAIR FRANK MARROCCO: See
5 now when we had Dr. Lum, from Hong Kong, they have
6 there, homes where there are -- not all of them --
7 but they have examples of homes, or instances where
8 homes have eight people to a room. And they had a
9 much better experience in terms of containing COVID
10 than we did.

11 And so what I'm thinking, as I look at
12 this, is that the reason for that is that you have
13 to adjust for other -- they may have managed these
14 other factors better than we did, and that
15 compensated for the fact that they had lots of
16 people, eight people in a room and so on.

17 Am I using that correctly, or am I
18 misinterpreting?

19 DR. JOHN HIRDES: I'll speak to that,
20 because Dr. Lum is a colleague of mine, and I
21 joined you for that conversation --

22 COMMISSION CHAIR FRANK MARROCCO: Yes,
23 you did.

24 DR. JOHN HIRDES: -- and I recall the
25 conversation very well.

1 I think what it points to is the need
2 to resist the temptation to find the single magic
3 bullet that explains everything. It's a complex
4 web of interrelationships that go on.

5 So in Hong Kong, their long-term care
6 homes are not ones that Canadians would be excited
7 about in terms of the physical structure and the
8 large group of homes. And if they were managed in
9 the same way, as we were managing our homes, they
10 would have had bad outcomes.

11 A couple of key things that were
12 different about Hong Kong is that they were ready
13 with infection control procedures, highly trained
14 staff at the outset of the pandemic and acted very
15 quickly.

16 But the other thing that they did is
17 when residents got sick, they took them out of the
18 home; and in many cases, brought them to hospital.
19 Which we didn't and couldn't do in the Canadian
20 context because of the effort to keep folks out of
21 hospitals.

22 The relationship with staffing here
23 might be that, you know, there's some third
24 variable that's related to it. It could be that
25 homes that are were older in design had challenges

1 with all of the -- had a variety of things, also
2 were the ones that ended up with staff shortages
3 and had to rely on agency staff to fill in when the
4 pandemic started to take hold.

5 And so when you do these more complex
6 models with more factors in it, some things drop
7 out, because other things turn out to be more
8 important, which brings us a little bit closer to
9 the immediate factors that may be in play. But
10 also, it's one aspect of the pandemic that we're
11 trying to understand. In this case, severity
12 versus mortality; and it's one timeframe that we're
13 trying to understand as well.

14 So a way to think about the pandemic is
15 that unlike SARS, the pandemic was not a hundred
16 meter dash. SARS was over in May, 44 people died.
17 We can very quickly understand what happened there.

18 This pandemic is a longer-term marathon
19 where more things are happening, and it's a more
20 complex dynamic to explain overall. And so that's
21 why different things will show up.

22 But the fact that the survey gave us
23 additional data, now helps us to shine a bit more
24 focussed and brighter light on what were the
25 driving factors.

1 COMMISSION CHAIR FRANK MARROCCO: So
2 let me -- I keep trying to translate that into
3 something that I can manipulate.

4 Are you telling me that it would be
5 better for us, for a person trying to assess the
6 likelihood of the severity of an outbreak, to look
7 at whether the medical director was present more
8 than one day a week, to look at how short they were
9 of staff, whether they were 25 percent short of
10 staff, for example, and to look at the reliance on
11 agency staff and that these factors would give me a
12 better idea of where there might be a severe
13 outbreak?

14 DR. JOHN HIRDES: Yeah. So what I'm
15 saying in this final model that stands out to me is
16 that if you're in a community where there's a
17 pervasive outbreak in the community, your home is
18 likely to have a big outbreak.

19 If you don't have strong clinical
20 resources in the form of a medical director who is
21 present on site providing clinical oversight, your
22 risk of a big outbreak is substantial.

23 And if you're having challenges with
24 staffing, of the core staff that provide the
25 personal care, that's another factor. So that

1 combination of big outbreak in the community, lack
2 of clinical resources and challenges with staff is
3 a very difficult conversation and likely to lead to
4 substantial spread.

5 KATE MCGRANN: Does it work in the
6 other direction, too? If you're looking to avoid
7 experiencing a severe outbreak in your home, do you
8 look at this data and say, okay, as a preparatory
9 measure, I should ensure that I have a medical
10 director who's on site more frequently?

11 I want to make sure that I am fully
12 staffed up, and at the very least I don't
13 experience the kind of severe staffing shortage
14 that you describe here, and I want to avoid using
15 agency staff wherever possible? Can you read the
16 data that way?

17 DR. JOHN HIRDES: Well, you want to
18 deal with the circumstances that led the facilities
19 to having to relying on agency staff and having
20 substantial shortages of staff.

21 You know, again, it could be a whole
22 bunch of pathways going on here. It could be that
23 you have organizations where there's challenges in
24 the organizational culture, so staff have more
25 absenteeism.

1 It could be that staff are getting sick
2 because residents are getting sick. It could be
3 that staff have other challenges, they're being
4 pulled away because they're employed in multiple
5 organizations. It could be many reasons why you
6 have this shortage.

7 But, for all reasons, the occurrence of
8 that shortage is a serious problem. And what this
9 is saying that you want to do is to bolster
10 long-term care homes so they don't get into the
11 situation of staff shortages. So all the factors
12 that contribute to those shortages should be
13 addressed.

14 The finding around the medical director
15 is hugely important, I think, because what we've
16 got here is a very clinically complicated
17 population at maximum risk levels for adverse
18 outcomes for COVID.

19 And the fact that we had homes where
20 medical residents were present less than a day a
21 week, I don't think would make most Ontarians happy
22 in that context.

23 We need stronger clinical resources in
24 addition to the personal care resources we get from
25 PSWs.

1 COMMISSION CHAIR FRANK MARROCCO: But
2 whether it makes them happy or not, what this says
3 is, having a medical director there present less
4 than one day a week increases the odds --

5 DR. JOHN HIRDES: Correct.

6 COMMISSION CHAIR FRANK MARROCCO: -- of
7 having a severe outbreak. Whether one likes the
8 look of that or not, that's an indicator that you
9 could be in store for a severe outbreak --

10 DR. JOHN HIRDES: Right.

11 COMMISSION CHAIR FRANK MARROCCO: -- in
12 that home. Is that right?

13 DR. JOHN HIRDES: That's absolutely
14 correct. What I'm saying is that I think most of
15 us would expect in a healthcare organization that
16 the correct medical resources are in place to meet
17 the needs of the people being served.

18 And this suggests that homes that had
19 inadequate medical resources ran into more trouble.

20 COMMISSION CHAIR FRANK MARROCCO: It
21 helps you quantify "inadequate", right?

22 DR. JOHN HIRDES: Yes.

23 COMMISSION CHAIR FRANK MARROCCO: I
24 would not debate with you about this question. But
25 two people could have a debate about what's

1 adequate or not adequate. This statistically says
2 less than one day per week is inadequate?

3 DR. JOHN HIRDES: Yes.

4 COMMISSION CHAIR FRANK MARROCCO: Okay.
5 Commissioner Coke?

6 COMMISSIONER ANGELA COKE: Just looking
7 at the agency staff issue and trying to understand
8 a bit what's underneath that, and is it -- or maybe
9 you don't know -- but is it related in any way to
10 the quality of care in terms of continuity of care,
11 or the fact that agency staff weren't blocked from
12 going from home to home?

13 DR. JOHN HIRDES: It could be both. So
14 agency staff could have worked in multiple homes,
15 but one of the differences between agency staff
16 unlike your regular staff is, your regular staff
17 will know who the residents are, will have
18 interacted with them, will understand subtle cues
19 about what's happening with them on a day-to-day
20 basis.

21 An agency staffer may come in and may
22 never been in the home, and so doesn't have that
23 clinical history and deep knowledge of the
24 residents who are there. So that could be one of
25 the factors that increases the risk of spread,

1 because they may not see early warning signs that a
2 resident is starting to get ill, and therefore may
3 not manage the infection as effectively.

4 COMMISSIONER ANGELA COKE: Thank you.

5 COMMISSION CHAIR FRANK MARROCCO: Dr. Kitts?

6 COMMISSIONER JACK KITTS: Just another
7 question. We've gone from nursing staff in the
8 outbreak to severity PSW. Does that mean that the
9 nursing staff was not of concern, or wasn't short?

10 DR. JOHN HIRDES: Luke, do you want to
11 take this?

12 LUKE TURCOTTE: So we tested nursing
13 staff in addition in this model. And one of the
14 things about statisticals models is that if you
15 have two attributes that are highly correlated, it
16 leads to issues of colinearity in the models. And
17 essentially what that means is, you can't have two
18 factors there so strongly correlated.

19 We did find, to an extent, that the use
20 of nursing staff as well, when entering the model
21 instead of agency PSW staff was also associated
22 with greater risk of infection. However, the
23 effect was stronger in the case of agency PSW
24 staff.

25 So it doesn't say that nursing staff

1 are not important. It simply means that in this
2 model, PSW staff was a better predictor.

3 DR. JOHN HIRDES: The other thing to
4 know about long-term care homes from our previous
5 research is that three-quarters of the care that
6 residents get in long-term care home comes from
7 PSWs. They are the dominant form of care provider
8 in the home.

9 And so given that registered nurses
10 are, you know, a quarter or less than the care,
11 there's less variation between homes because
12 there's really very few of those types of
13 professionals there.

14 COMMISSIONER JACK KITTS: But in the
15 case of likelihood of an outbreak, did you look at
16 just PSWs and they weren't significant? Why did
17 you include all the nursing staff in the
18 likelihood, and not in the severity?

19 LUKE TURCOTTE: In the previous model
20 it was a different measure. The previous model was
21 looking at the number of nursing staff per
22 resident.

23 And this case, it's looking at whether
24 or not the facility used agency PSW staff, or if
25 they were 25 percent short PSWs.

1 DR. JOHN HIRDES: Statistically what
2 you're trying to do is, Luke was modelling four
3 different outcomes in the overall analysis: An
4 outbreak, a large outbreak, deaths and the large
5 number of deaths.

6 And you don't want to arbitrarily force
7 the same variables into each model as the only
8 variables that are there.

9 What you're trying to do is get the
10 best variables in each model into play to get that
11 bigger picture of all the factors that came into
12 play.

13 COMMISSIONER JACK KITTS: Well, that
14 makes sense, thank you.

15 KATE MCGRANN: One more question before
16 you move to the next slide.

17 Looking at the entry on this slide
18 about the medical director being present less than
19 one day per week.

20 Do you have data that could help you
21 look into whether medical resources more generally
22 in the home had an impact on the severity of
23 outbreak? And by that I mean, physicians who maybe
24 visited to -- care directly for specific residents
25 in the home, as opposed to the medical director

1 specifically?

2 LUKE TURCOTTE: So on the survey we had
3 information about the frequency of visits by
4 physicians, either in person or through virtual
5 contact, virtual assessment in consults.

6 We did not find an association with the
7 frequency of physician visits and the risk of
8 infection among residents.

9 KATE MCGRANN: And then stepping back a
10 second. I'm looking at the initial model and the
11 final model; just a couple of questions about the
12 differences between the two.

13 So am I right that the difference
14 between the initial and the final is the adjustment
15 that you made for the staffing information that the
16 survey provided?

17 LUKE TURCOTTE: That's correct.

18 KATE MCGRANN: Are there any other
19 differences between these two models?

20 LUKE TURCOTTE: So the only other
21 difference I would highlight is at the very bottom,
22 you'll see that in the initial model, municipal
23 homes had lower -- residents that live in municipal
24 homes had lower risk of infection than residents
25 that live in not-for-profit homes.

1 In the final model, that effect was no
2 longer statistically significant.

3 KATE MCGRANN: So I want to ask you how
4 we should understand that difference?

5 But before I get to that question,
6 which I am really curious about, if you can help
7 us, plain language, what does it mean to adjust the
8 initial model for the staffing data? What changes
9 does that bring?

10 LUKE TURCOTTE: What it means is,
11 essentially, we have added in two additional
12 co-variants to the model. Each co-variant has its
13 own what we call a parameter estimate or
14 essentially a weight in the model.

15 And so by adding in those two
16 additional weights, or those two additional
17 parameters, it changes every other parameter in the
18 model, because they're all essentially co-dependent
19 in the modelling.

20 So by adding in those two additional
21 factors, it changes the weight or the parameter
22 estimates of everything else in the model.

23 That's why you also see that some
24 effects become not significant, because their
25 weight approaches what essentially is close to

1 0 and therefore is not a significant difference.

2 KATE MCGRANN: And looking at two
3 variables on this chart that change from being
4 statistically significant in the initial model, to
5 not being statistically significant in the final
6 model, and these are: One, older home design
7 standard; and two, municipal versus not-for-profit/
8 charitable home. What do we learn from the change
9 in their status from statistically significant to
10 not, as a result of the adjustments you made
11 because of staffing data?

12 A somewhat garbled question; let me try
13 that again.

14 DR. JOHN HIRDES: There's two possible
15 ways this could work. One is that there's some
16 third variable about the organization that's
17 associated with both being a municipal home versus
18 a not-for-profit, and having staff shortage issues
19 is the explanatory factor, and staff shortage is
20 the better measure of that third variable. So
21 that's one possibility.

22 The other possibility is that the way
23 that the home ownership affects the size of
24 outbreak is through staff shortages. So home
25 ownership might be related to staff shortages. So

1 once you take into account staff shortages, you've
2 got the closer more proximate cause of the adverse
3 outcome in this case.

4 So it could be a third variable causing
5 both, or it could be that those staff shortages are
6 how they, the municipal homes, did better, that
7 they had fewer staff shortages. And when you
8 adjust for the staff shortages, the municipal home
9 goes away, but the staff shortages are the
10 important variable.

11 KATE MCGRANN: And then just -- watch
12 me get this wrong -- but if we take that second
13 explanation you provided and apply it to the older
14 home design standard, does that mean that maybe the
15 factor that really counted here was not so much the
16 home design standard, but the number of staff who
17 were present or absent?

18 DR. JOHN HIRDES: It could be that, or
19 it could be a characteristic of homes that leads
20 them to having older home design and having more
21 staff shortages.

22 So, you know, one possible explanation
23 is, if you're in a newer, more attractive home that
24 is a -- feels like a nicer place to be, you may
25 have less absenteeism. That's one of probably a

1 dozen potential mechanisms that are here.

2 What it definitely says is there's
3 something interrelated between the staff shortages
4 and use of agency staff, and home design and
5 ownership. There's something connecting all of
6 those that's important here. But of all these
7 variables, the ones that jumped out are the
8 staffing problems.

9 COMMISSION CHAIR FRANK MARROCCO: And I
10 take it that it also tells you that if you just
11 correct the home design, you may not actually --
12 you may not be getting at the problem. You may be
13 missing the point.

14 DR. JOHN HIRDES: There's that chance
15 that, you know, the causal pathways are
16 complicated. And if you go for that one single
17 magic bullet to explain it all, you may miss
18 something.

19 And I think one of the key takeaways
20 from today, as Luke works through all four models,
21 is from my perspective, I would look at all the
22 variables that showed up anywhere in the four
23 models as being important somewhere in this
24 marathon race of the pandemic.

25 So I wouldn't discard anything in this

1 data that's shown up somewhere, but some variables
2 appear to be more important than others.

3 COMMISSIONER JACK KITTS: In the
4 not-for-profit versus for-profit, it really didn't
5 move. Does that say that staff shortages were not
6 an issue here?

7 DR. JOHN HIRDES: Yeah, it didn't have
8 an effect on it. And in both models, the
9 distinction between the for-profit and
10 not-for-profit homes was not significant.

11 It's the municipal homes that did
12 better than the not-for-profit charitable homes.
13 That was the main ownership effect here.

14 And, you know, what could have happened
15 is that for-profit could have become significant
16 after adjusting for staffing, if they had more
17 staffing issues. And that wasn't the case, it
18 basically didn't move.

19 COMMISSIONER JACK KITTS: Okay, thank
20 you.

21 COMMISSION CHAIR FRANK MARROCCO: Seems
22 we've exhausted ourselves with questions, for now.
23 For now.

24 LUKE TURCOTTE: We tested a series of
25 other variables in this model, including the

1 viability of an IPAC professional; the extent by
2 which PPE was rationed or limited; the quality of
3 medical and supportive care; and whether or not the
4 home belonged to a small or a large chain. We did
5 not find an association with those factors.

6 Next slide, please.

7 COMMISSION CHAIR FRANK MARROCCO: But
8 you did find an association with the factors you've
9 listed here as "higher risk"?

10 LUKE TURCOTTE: On the left-hand side,
11 yes.

12 COMMISSION CHAIR FRANK MARROCCO: Yes,
13 okay.

14 KATE MCGRANN: Can I ask you a quick
15 question as far as this goes. It seems, just as a
16 lay person, counterintuitive that the quality
17 indicators that you discussed in the risk of
18 outbreak, that it was a significant factor there;
19 but that the quality indicators are not a factor
20 that is associated with the severity of an
21 outbreak. Can you speak to that at all?

22 DR. JOHN HIRDES: Well, it may be that
23 different factors are important for different parts
24 of it. So I'll keep pushing the marathon race
25 analogy a little bit.

1 People who are fast out of the starting
2 gate, that's an advantage. But being fast out of
3 the starting gate, doesn't explain the entire race.
4 Having the endurance during the race or being great
5 at the finish line are all different pieces that
6 contribute to that overall picture.

7 And so the quality will affect whether
8 you have an outbreak in the first place. But once
9 you've got an outbreak, clinical leadership, the
10 medical resources that you've got, as well as the
11 raw staffing resources are going to affect how big
12 that gets to be in your home. And then you'll see
13 other factors come into play when we look at
14 mortality.

15 It's also why I made the point that any
16 variable that shows up in this set of four analyses
17 becomes important from a clinical point of view and
18 a policy and practice point of view. That if we're
19 looking at the entire race, anything that
20 contributed to it, has to be attended to.

21 LUKE TURCOTTE: Next slide, please.

22 Our third model sought to identify
23 factors that were associated with greater risk of
24 mortality due to COVID-19. This model assumes that
25 all residents in facilities with at least one

1 resident case are at risk of death due to COVID-19.

2 Next slide, please.

3 There is a very strong positive
4 correlation between the number of cases in a given
5 outbreak and the number of deaths that we observed
6 in that same home.

7 Plainly put, if you want to find a home
8 with a high COVID-19 mortality rate, in most cases
9 it's sufficient to look for a home with a high
10 incidence rate of COVID-19.

11 Looking at this scatter plot, you
12 shouldn't be surprised to hear that the factors
13 that explain facility-level differences in risk of
14 infection are the same factors that are associated
15 with greater risk of mortality.

16 We spent a lot of time trying to find
17 additional factors associated with greater risk of
18 mortality that were not present in the previous
19 model for incidence rates.

20 Based on our conceptual models, we have
21 hypothesized that in addition to the factors in the
22 previous model, the medical complexity of
23 residents, and the quality of medical and
24 supportive care that they would receive, may be
25 associated with the facility level differences in

1 mortality rate.

2 Next slide, please.

3 KATE MCGRANN: Before you move on, I
4 apologize, just a couple of clarifying questions.

5 This slide again shows us an initial
6 model and the final model. Is this the same
7 situation as the last set of two slides that we
8 looked at, where the difference between the two is
9 adjusting for the staffing data?

10 LUKE TURCOTTE: Yes. So the initial
11 model does not include the two staffing related
12 variables. And then the final model adds them in.

13 COMMISSION CHAIR FRANK MARROCCO: So
14 that gives you -- does that give you a sense then
15 of the impact of the staffing variables on outcome?

16 DR. JOHN HIRDES: Go ahead, Luke.

17 LUKE TURCOTTE: I was going to say that
18 what it does is, it helps to us understand the
19 story a little bit better. By seeing the effect of
20 adding in two additional variables like that helps
21 us understand what some of the -- what may be
22 confounded by those two additional factors.

23 And so we've chosen, typically, what
24 you would do is present the final model only, but
25 we thought because of the story that's occurring

1 here in some of the previous literature that we've
2 read on the first wave of the pandemic, it was
3 important to show the effect of adding in those two
4 variables on some of the factors such as home
5 design standard.

6 COMMISSION CHAIR FRANK MARROCCO: And
7 am I correct, you could do the same thing for any
8 one of these variables. For example, the incidence
9 of COVID-19 in the public health unit, you could
10 create an initial model with that factor
11 eliminated, but staffing included.

12 And then create a final model, where
13 you add the incidence of COVID-19 in the community,
14 and observe the effect of adding that on the other
15 factors?

16 LUKE TURCOTTE: You could. But in
17 general, I would say it's best to interpret final
18 models only. They account for all the information
19 available to us and they represent the most, I
20 guess, the fullest picture. And so I would,
21 generally speaking, I would only really would
22 prefer to only interpret final models.

23 NATALIE DAMIANO: It's Natalie. May I
24 add one quick comment here?

25 Just to note that I think the other

1 thing Luke has been illustrating through these two
2 models is the things at the top are the things that
3 were added to the knowledge by completing the
4 survey and gaining information.

5 That information was not available to
6 people who had been doing analyses up until now.
7 And so that survey information really does show
8 that it's adding significant amount of important
9 information to our overall knowledge of what has
10 happened.

11 DR. JOHN HIRDES: Also, and the other
12 points that really try to drive home on both these
13 sets of analyses is the things that lead to an
14 outbreak getting out of control in the home will
15 also lead to resident deaths in the home.

16 And so having the mechanisms in place
17 to control the severity of the spread, is also
18 going to protect the survival rate of the
19 residents.

20 LUKE TURCOTTE: So the conversation we
21 just had was essentially the extent of my comments
22 on the slide. We did not find the additional
23 factors we spoke about previously, for example, the
24 medical complexity of residents, or the quality of
25 medical and supportive care they received was

1 associated with greater risk of infection --
2 sorry -- greater risk of mortality in this third
3 model.

4 And so with that, I think we can move
5 on to the next slide.

6 KATE MCGRANN: Actually, a couple of
7 questions, maybe starting with Commissioner Kitts?

8 COMMISSIONER JACK KITTS: This has been
9 tremendously helpful. And I guess we shouldn't be
10 surprised that the staffing was, looks like from
11 your data, the staffing is the biggest problem. If
12 you can only fix one thing to prevent the severity
13 of the outbreaks and the mortality, the staffing
14 would be where you would really focus.

15 But what is surprising, though, is the
16 IPAC has kind of fallen off the chart. And it's
17 been the number one thing that everybody has
18 focused on so far in this pandemic.

19 So I'm just curious as to how the data
20 for IPAC training and PPE supply was gathered, and
21 whether we have confidence in the data being
22 accurately reflected.

23 DR. JOHN HIRDES: I'll speak to that.

24 So the key messages here are staffing
25 and clinical resources, the medical director are

1 the two big home-level factors. All right, so it's
2 not only staffing, but medical director plays a
3 very important part as well.

4 The issue with IPAC is that the
5 challenges with IPAC at the start may have been
6 resolved by the time we sort of get later on into
7 the pandemic.

8 Also, we had a fairly basic look at
9 IPAC. We didn't see, you know, what specifically
10 were you trained in? Did you pass with flying
11 colours? How good was the training? How many
12 people were covered?

13 We asked a fairly rudimentary question.
14 You'd have to do a much more detailed on-site dive
15 with testing of people to evaluate how good the
16 IPAC is.

17 I think in all scenarios, it would be
18 inappropriate to conclude that we don't have to
19 worry about IPAC. It's one of those things that --
20 it's sort of like saying, do I need to worry about
21 putting oil in my car? Of course I have to, unless
22 I have an electric car.

23 You know, IPAC is necessary. But the,
24 you know, having IPAC training, wasn't the thing
25 that explained what happened in the whole pandemic.

1 Many other factors came into play.

2 So putting all of your eggs in the IPAC
3 basket, won't solve future pandemics either.
4 There's core staffing and clinical leadership
5 issues that are important.

6 COMMISSIONER JACK KITTS: Thank you.

7 KATE MCGRANN: I have a question about
8 one of the factors under the heading, "No
9 Association Was Observed For" and it's the
10 "advanced care planning".

11 So your slide says: "No association
12 was observed for advanced care planning (e.g.,
13 resident preference to not be hospitalized)".

14 I can see somebody reading this slide
15 and saying, okay, so I should interpret this as,
16 you know, residents choosing not to be
17 hospitalized, as there's no association between
18 that and mortality during COVID-19. I think that
19 conclusion is wrong there.

20 Can you just give us some information
21 about what "advanced care planning" means. And
22 what you didn't see when you looked at it in this
23 model?

24 DR. JOHN HIRDES: Luke, why don't you
25 speak to the variable and I'll speak to the broader

1 issue of advanced care planning.

2 LUKE TURCOTTE: Sure. One thing to
3 keep in mind is that this is an ecological study.

4 What that means is, we don't know
5 exactly which residents died or which residents
6 were infected with COVID-19, and what their
7 individual advanced care planning wishes were.

8 So whether or not they had a desire or
9 a preference to be hospitalized or not.

10 Because of that, what we do is create
11 those facility-level resident profiles. So we
12 know, for example, that 20 percent of residents in
13 a given home may have a preference not to be
14 hospitalized.

15 But we don't know exactly which
16 20 percent of those residents they are exactly, and
17 whether or not they are the ones that were infected
18 with COVID-19.

19 So it's a limitation of the data that
20 we have available to us at this time, and it's also
21 related to the, like the statistical methodology
22 that is required when studying these types of
23 scenarios.

24 So I'll stop there.

25 DR. JOHN HIRDES: So an advanced care

1 plan is where you engage the person and their
2 support system in a discussion about what their
3 preferences would be should a bad thing happen to
4 them.

5 So if their health took a serious turn
6 for the worse, do they want to be transferred to
7 hospital; do they want to be resuscitated are the
8 two most typical areas that people have advanced
9 care plan discussions around.

10 Prior to COVID, we found advanced care
11 plan decisions were in fact associated with higher
12 mortality and higher hospitalization rates.
13 Saying, I don't want to go in hospital, means
14 you're less likely to go to hospital.

15 Saying you do not want to be
16 resuscitated, is associated with a higher mortality
17 rate, as you would expect when people state those
18 preferences.

19 But the percentage of residents in a
20 home that said they did not want to be hospitalized
21 did not predict mortality during the COVID period,
22 in part, because of what Luke described as the
23 ecological effect of maybe different people who
24 died than the ones who had the advanced care plan
25 in place.

1 But also, there were constraints put in
2 place about transferring residents to hospital
3 during the pandemic period. Prior to the pandemic,
4 Ontario had a very high tendency to send residents
5 to hospital, much more so than Alberta and British
6 Columbia.

7 And that may have gone away during the
8 pandemic period, that hospitals were just less
9 likely to accept residents and homes were less
10 likely to transfer them.

11 COMMISSION CHAIR FRANK MARROCCO: All
12 right. I think we can carry on.

13 LUKE TURCOTTE: So our final model
14 deals with what we call as "high resident mortality
15 rate".

16 This model tries to start to identify
17 factors that are associated with mortality among
18 20 percent or more of the residents in the home.

19 Next slide, please.

20 As I said at the start, there were
21 26 homes in our sample of survey respondents that
22 experienced very high resident mortality. Again,
23 those 26 homes, just 5 percent of the survey
24 respondents, account for more than half of the
25 resident deaths in the first wave of the pandemic.

1 We only found two risk factors for very
2 high resident mortality. The first was whether or
3 not the facility was short 25 percent of their PSW
4 staff on any given day between March and June.

5 The second was whether or not the
6 facility used agency staff on seven or more days in
7 a given month between March and June. Next slide.

8 I want to take a moment to discuss
9 those two differing factors in little more detail
10 and some of the limitations around them.

11 The exact reason why 25 percent of
12 personal support workers' shifts would go unfilled
13 in a given day is unknown to us based on the
14 survey. Presumably, it's due to staff infections
15 and staff that were in quarantine after a known
16 exposure.

17 Our survey can tell us which month they
18 were short-staffed, but cannot tell us which week
19 or which day that they were short.

20 The same is true for resident cases and
21 deaths. We have a good sense of when the outbreak
22 was started and was later resolved, but we don't
23 know exactly on which day most residents were
24 exposed. We don't know the most critical periods
25 during that outbreak.

1 In short, we don't know the temporal
2 association between the date of staff shortages and
3 the critical period in each individual home's
4 outbreak experience. Either way, though, these
5 findings highlight the importance of staffing,
6 particularly personal support workers to the health
7 and well-being of residents. Next slide, please.

8 With that, I would like to turn it back
9 to Natalie, who will summarize these four models
10 and provide you with a set of key takeaways.

11 COMMISSIONER JACK KITTS: Just before
12 you go to the summary. Can I just ask, does your
13 quality data in long-term care homes, pre-COVID,
14 include staffing levels?

15 LUKE TURCOTTE: No.

16 COMMISSIONER JACK KITTS: So we
17 wouldn't be able to show that the homes that had
18 staffing levels that were insufficient pre-COVID,
19 also had them --

20 LUKE TURCOTTE: We can test the
21 association between staffing levels and quality of
22 care. But the quality measures themselves do not
23 incorporate staffing into them.

24 COMMISSIONER JACK KITTS: I'm thinking
25 that if you had good staffing levels going in, then

1 you know the fear and the sickness and stuff would
2 account for those low staffing levels. But I think
3 we've heard from many sources that the low staffing
4 levels pre-existed COVID.

5 DR. JOHN HIRDES: It's an important
6 information gap that we have in the country. We
7 actually have very rich information about the
8 clinical characteristics of residents and their
9 outcomes of care.

10 But in terms of structural measures
11 like staffing; the type of staff that are there;
12 absenteeism rates; we do not have those data
13 routinely available on an ongoing basis in the
14 country, which is why we have to work with you to
15 get that survey done, to get those data.

16 And so having that kind of information
17 will be important for the preparedness of the
18 country for future events of this type. That's one
19 of the information gaps that needs to be filled.

20 We also don't have really a lot of
21 information in a standardized way around resident
22 experience; that would be another characteristic.
23 And then having more detail, routinely available
24 information about the physical structure of the
25 homes is, again, something that we have to gather

1 the data or use other sources for it rather than it
2 being routinely available. Those are gaps in
3 knowledge that should be filled for future
4 preparedness.

5 COMMISSIONER JACK KITTS: Have you
6 given us a list of those gaps that we could look at
7 and perhaps consider in our recommendations?

8 DR. JOHN HIRDES: David, were you about
9 to comment?

10 DAVID O'TOOLE: Dr. Kitts, the absence
11 of reliable data on health human resources
12 generally, particularly for unregulated healthcare
13 professionals like PSWs, is a challenge right
14 across the entire country and it's become part of
15 the agenda for improvement and further data
16 gathering. As of, you know, pronto.

17 COMMISSIONER JACK KITTS: Is there
18 something we can do to help accelerate that or
19 facilitate that?

20 DR. JOHN HIRDES: Having that in a
21 report as a major recommendation of a gap to fix is
22 an important one.

23 COMMISSION CHAIR FRANK MARROCCO: If
24 you could help us correctly articulate the gap, it
25 would be helpful.

1 U/T DR. JOHN HIRDES: Okay.

2 DAVID O'TOOLE: I think as well in
3 thinking about the public interest across the
4 country, the issue would have to be resolved and
5 the data gathered according to a consistent set of
6 standards that were comparable across the country
7 in order to ensure that we're sort of getting a
8 good picture, generally, across all jurisdictions.

9 COMMISSIONER JACK KITTS: And,
10 Dr. Hirdes, you suggested also resident experience
11 and physical infrastructure. So we'll get the
12 list, but --

13 U/T DR. JOHN HIRDES: Yeah. I think maybe
14 at the end of this we should have some discussion
15 about the information systems.

16 The other is to move Ontario to a more
17 current version of the clinical information, so we
18 can have real-time data rather than data that we
19 get on a batch basis that are live.

20 So information systems is an important
21 piece of all this for us to talk about. I think
22 one of the great things that this presentation by
23 our CIHI colleagues shows is that having better
24 quality data leads to evidence that we can use to
25 inform decision making that may be more targeted.

1 KATE MCGRANN: This is a much more
2 granular question than the discussion you've just
3 been having.

4 But looking at the staffing shortages
5 that we saw in the survey responses, do you have
6 information that allows you to comment on the
7 impact of the single site mandate on the staffing
8 shortages that you saw?

9 LUKE TURCOTTE: We tested homes that
10 implemented -- so the single site mandate, I
11 believe was on April 22nd when that was
12 implemented.

13 On our survey we identified homes that
14 implemented a single site mandate prior to
15 April 22nd. We did not find association on
16 resident mortality or resident risk of infection.

17 KATE MCGRANN: Did you see a higher
18 incidence of days upon which there were severe
19 staffing shortages after the implementation of the
20 single site mandate? Are you able to answer that
21 question with the data you've got?

22 U/T LUKE TURCOTTE: We could answer it. I
23 don't have the information readily available.

24 I would say, Kate --

25 COMMISSION CHAIR FRANK MARROCCO: It's

1 useful from our perspective, among many of the
2 other things you've told us, because there's been a
3 lot of talk about that particular directive.

4 LUKE TURCOTTE: Yeah, so I would just
5 add that because we don't know which days the
6 facility was short, my estimates would be based on
7 whether or not the frequency of shortages in April,
8 relative to May, for example, would be how we would
9 look at that.

10 COMMISSION CHAIR FRANK MARROCCO: So
11 the summary and conclusions I think is where we're
12 at.

13 NATALIE DAMIANO: Yes, thank you.

14 This brings us to our summary findings
15 and concluding remarks. So what I've tried to do
16 here really is just take a lot of what we've
17 discussed up until now and put it together into our
18 summary, based on the different four models that we
19 have across the pieces that Luke covered.

20 So the dimension of staffing is
21 important in all of the models. From preventing
22 outbreaks, facilities with more nursing staff,
23 including nurse practitioners, RNs, RPNs and PSWs
24 was protective.

25 In our models for severity of outbreak

1 and resident mortality, PSW shortages were strong
2 predictors and mediated the affect of factors such
3 as old facility design standard.

4 Leadership and governance were also
5 seen to be important. Mechanisms are not entirely
6 clear and deserve further study. But we know at a
7 minimum, that facilities belonging to large chains,
8 and those with a medical director that was present
9 infrequently had worse outcomes.

10 And lastly, quality of care is
11 important.

12 So as we conclude our remarks, we
13 wanted to leave you with what we believe to be a
14 set of takeaways based on our analysis that are
15 actionable and could make an impact in the sector.

16 Our work demonstrated the criticality
17 of a vital health workforce, both at a baseline
18 level as well as workforce with ability to scale-up
19 safely in times of crisis.

20 The physical presence of leadership in
21 long-term care homes, including the consistent
22 presence of a medical director, is needed to
23 prevent poor outcomes.

24 And while infection prevention and
25 control policies, procedures and practices are

1 clearly important, they cannot be implemented
2 without adequate staffing. And the staffing may be
3 one of the strongest IPAC practices within a home.

4 And lastly, publicly reported quality
5 indicators like the ones in CIHI's Your Health
6 system, could be used to help identify homes at
7 higher risk at the onset of any crisis or future
8 pandemic to target immediate support and prevent
9 bad outcomes.

10 As we look at next steps, the
11 information provided today addresses specifically
12 the four research questions we outlined at the
13 outset. But more analysis could be completed with
14 the survey data, including analysis on some of the
15 wave 2 data points that we do have, as well as
16 further exploration of the data as a whole.

17 So with that, I'd like to thank you for
18 your time, Commissioners, and we would welcome any
19 further questions you may have.

20 KATE MCGRANN: I have a question about
21 the wave 2 data points quickly I'll sneak in.

22 I understand that in addition to
23 collecting data from the months March to June of
24 2020, the survey also collected data from the
25 months of September and December 2020, so more of a

1 pinpoint in the wave 2.

2 Did you look to see whether the
3 inclusion of the data from those two months in wave
4 2 changed the findings of your models?

5 NATALIE DAMIANO: Luke, would you like
6 to address that question?

7 LUKE TURCOTTE: Yes. We've looked at
8 wave 2 briefly, and we looked at it as a separate --
9 using those outbreaks separate from the first
10 pandemic -- the first wave of the pandemic.

11 So your comments about, did you add in
12 September and December, are not -- wasn't the case.
13 We treated them as independent data points,
14 focusing only on the second wave of the pandemic.
15 We did not have enough time to create a full model
16 as we've done in the wave 1.

17 You know, where we take a conceptual
18 model and we test a series of variables and then
19 get to the point where you've created a final model
20 that account for all the information that's
21 available to us.

22 And so based on that, we're not
23 comfortable at this time making any statements
24 really about some of these variants that we
25 observed in the first wave, and to the extent for

1 which they are also true in the second wave of the
2 pandemic.

3 COMMISSION CHAIR FRANK MARROCCO: If
4 you go back to the slide that deals with the
5 factors affecting mortality, the higher mortality
6 rate; it was the last slide, I think. It may be in
7 the recommendations?

8 DR. JOHN HIRDES: In the summary slide,
9 I think, Natalie.

10 COMMISSION CHAIR FRANK MARROCCO: Yes,
11 in the summary slide. Sorry, that's my fault.

12 The PSW shortage and using an agency
13 are likely linked in the sense that that's why
14 you're calling the agency, because people aren't
15 showing up for work, or calling in sick.

16 So do I have it right that if I really
17 want to try to ensure against a high mortality rate
18 in a home, I have to sort out the shortage, I have
19 to sort out the staffing, that's what I have to
20 deal with if I want to solve this problem? Or at
21 least address the problem.

22 DR. JOHN HIRDES: It could go a few
23 ways, maybe I'll go to your first one first and
24 then come back to this.

25 The two variables are definitely

1 interlinked, but they have independent effects. So
2 one is about the overall shortage, and the second
3 is about the type of staff you're calling on for
4 help. If they were too interlinked, then both
5 wouldn't show up as significant.

6 What it's saying is, these two
7 variables give slightly different information and
8 both of those bits of information are important to
9 understanding what's happening here.

10 The next thing to know is that we're
11 dealing with the experience in 26 homes, so the
12 statistical power to detect more is somewhat
13 constrained. These are the 800-pound gorilla
14 variables that come out. Other more subtle
15 variables in a small sample like this, may be
16 harder to detect.

17 It could be that the reason the
18 shortage is -- that is related to mortality is that
19 we have a shortage, the ability to provide basic
20 care is harmed, and then bad things happen and
21 mortality rates spin out of control.

22 On the other hand, homes that are
23 having a great deal of difficulty where the wheels
24 are falling off, could also have a lot of
25 difficulty with their staff. So it could have this

1 circular and cumulative effect that one thing leads
2 to another and leads back to more problems.

3 In all those scenarios, thinking about
4 bolstering homes that are showing signs of trouble
5 in terms of staffing and putting those resources in
6 place, before you get to that point, is probably
7 important for the welfare of the residents and the
8 welfare of the staff.

9 COMMISSION CHAIR FRANK MARROCCO: If
10 you don't sort out staffing, you continue to assume
11 the risk of high resident mortality in a pandemic.

12 DR. JOHN HIRDES: I think that's right.

13 COMMISSION CHAIR FRANK MARROCCO: And
14 the other question I have is, if shortages are
15 fundamental to addressing the mortality problem,
16 does that leave open the possibility that people
17 may have died as a result of the shortage, rather
18 than COVID?

19 DR. JOHN HIRDES: It's hard to -- I
20 mean, that's one possibility. There's probably a
21 dozen possible of things going on with it.

22 You know, I think all we can say at
23 this point is that that scenario, when you see
24 pronounced shortages and reliance on agency staff,
25 is a sign that very bad things are happening.

1 And the pathways of interconnectedness
2 among all the bad things going on becomes really
3 complicated, and I think the thing is how do we
4 stop from getting to that place in the first place?

5 And that probably involves, you know,
6 all the things that you've guys have heard about
7 previously around better work conditions; better
8 training; better work environments overall; more
9 staffing levels; all of those things can come into
10 play to bolster an organization with those staff.

11 And, you know, the other thing that we
12 haven't talked about too much, but needs emphasis
13 is that long-term care has become a tremendously
14 complex clinical environment.

15 When I started doing this research in
16 the mid-1980s, nursing homes had residents that
17 were mowing their lawns. You don't see that
18 anymore. We have people with the highest needs
19 possible in these homes now, staffed by fairly
20 razor-thin margins of staff with very limited
21 clinical qualification.

22 COMMISSION CHAIR FRANK MARROCCO: Okay.

23 COMMISSIONER JACK KITTS: I'd like to
24 ask a question that may be unfair, and I have no
25 idea how data analytics is done. But how long

1 would it take you to look at wave 2 so we can
2 compare to wave 1, to confirm what we believe was
3 the causes in wave 1 and confirm it with wave 2, or
4 it might have changed?

5 DR. JOHN HIRDES: Perhaps I'll take
6 that answer, because there's a short technical
7 answer but there's also a larger sort of scientific
8 answer there to think about.

9 You know, running the models once you
10 have everything set up, doesn't take that much
11 time. But the thinking process of going through it
12 and sorting it out, does take time.

13 And the complexity of different kinds
14 of models that could be run, is also something that
15 can take time. So there's no question that Luke
16 could run some analysis and come back with
17 additional answers around wave 2; but the answer
18 will not be complete.

19 In my view, what we will see in the
20 next five years is going to be massive amount of
21 work scientifically, to try to understand what
22 happened over this whole year-plus period. And we
23 will learn things five years from now that we can't
24 know in the next month.

25 Where we've gotten to in the analysis

1 so far is the first step of a very long voyage that
2 needs to continue. So the work in wave 2 must
3 continue.

4 We need to think about ways to get this
5 evidence into the scientific literature, because
6 this is an important part of evidence that the
7 world needs to know about as well.

8 But sorting all this out, will take a
9 lot of different angles and different types of
10 models to work it out.

11 So Luke can give you a short answer on
12 initial evidence, but just know this is a long-term
13 picture.

14 COMMISSION CHAIR FRANK MARROCCO: Also,
15 it's a question of the accuracy of the response,
16 right?

17 Somebody could think that the physical
18 configuration of the home, that fixing that is
19 really important. When, in effect, not fixing the
20 staffing shortage may completely negate any
21 improvements that you make on the facility side.

22 DR. JOHN HIRDES: Right.

23 DAVID O'TOOLE: If I can intervene,
24 John, just for a second.

25 Would it be possible to test some of

1 the most important variables that we've looked at
2 here that are causal? That is, that we think are
3 causal, perhaps two or three of them in discussions
4 with Kate, and sort out whether we can see in a
5 preliminary sense what the second wave tells us,
6 about whether they're affirmed or not?

7 U/T DR. JOHN HIRDES: Yes, that would be
8 doable for sure, David.

9 So we can give you step number two.
10 I'll give you one example of something that could
11 be potentially another game changer, is that all of
12 our analyses involve the clinical characteristics
13 of those residents prior to the pandemic starting.

14 We're now starting to get data
15 available on what the clinical characteristics of
16 the residents were during different stages of the
17 pandemic.

18 So we can now start to focus on not
19 just deaths, but also who got worse, who had bad
20 mental health outcomes, who had functional decline.
21 That's all new data that's coming available that
22 wasn't available at the time of analysis. And
23 those data will come on a continuous basis.

24 So right now we've got an X-ray
25 snapshot of what happened. Eventually we'll get to

1 the point of a PET scan level of resolution of all
2 the things that have happened, but we're at that
3 very basic starting point right now.

4 U/T DAVID O'TOOLE: If I may, Commissioners
5 and Commissioner Marrocco. We can sit down with
6 Kate and identify those things that we can reaffirm
7 or at least test to some degree that were
8 discovered in wave 1 as a result of this work, test
9 the veracity in a preliminary sense for wave 2.

10 And then it may be that you want to
11 recommend or consider that there should be ongoing
12 vigilance on a certain set of key characteristics.

13 COMMISSION CHAIR FRANK MARROCCO:
14 Right. As a recommendation?

15 DAVID O'TOOLE: Exactly.

16 COMMISSIONER JACK KITTS: Because, I
17 mean, there's more deaths in wave 2 --

18 DAVID O'TOOLE: That's right.

19 COMMISSIONER JACK KITTS: -- and so we
20 didn't learn from wave 1. It would be important to
21 show whether staffing was still the most dominant
22 problem, or something else might have cropped up.

23 COMMISSION CHAIR FRANK MARROCCO: I
24 think, Ms. McGrann, it probably would be a good
25 idea for you to try to determine whether CIHI if

1 there are reliable conclusions that we can draw.

2 Because I very much take Dr. Hirdes'
3 point that with respect to the data. You have to
4 have the data you need, otherwise it can actually
5 be counterproductive, because you draw a wrong
6 conclusion, which everybody then adopts as gospel.
7 Because up to this point, nobody else has spoken
8 about the conclusion.

9 But I think it would be useful if you
10 can do that.

11 KATE MCGRANN: I have a question that
12 kind of builds on this concept, if I can jump in
13 for a second.

14 There are a number of people who are
15 looking at questions similar to the ones that you
16 looked at in this study. And I wonder what you can
17 tell us about how we should read other people's
18 conclusions about factors that affected likelihood
19 of outbreak, severity of outbreak and deaths
20 alongside your findings.

21 And so I'll give you an example of what
22 I am referring to. This past weekend the Toronto
23 Star published an article by Ed Tubb, Kenyon
24 Wallace and Brendan Kennedy, that reported that
25 Ontario's for-profit long-term care homes have

1 reported far more COVID-19 deaths on average than
2 not-for-profit and municipal facilities.

3 And they say said a number of things
4 about those findings, including that for-profit
5 status has also been undeniably associated with
6 worse outcomes, and they find this pattern is
7 consistent through the entire pandemic. And is
8 even clearer in Ontario's second wave.

9 How should we look at those findings,
10 and at the same time look at the findings of your
11 report? What can we take from all of this?

12 DR. JOHN HIRDES: There's several
13 things that come into play with the development of
14 scientific evidence. There are choices of
15 modelling approach that are important, and
16 different scientists may take different approaches
17 with modelling.

18 There are issues around availability of
19 data. So the Toronto Star analysis definitely
20 would not have had access to the same kind of data
21 that we've had that we've added to.

22 These data are new to the mix, they
23 weren't available to other researchers previously.
24 And there's a series of little analytical choices
25 that people can make around how they frame things,

1 how they operationalize things.

2 What's important is that one look at
3 different types of evidence, and you look for
4 evidence that's consistent versus inconsistent; you
5 look at the quality of work that's done there.

6 So one of the things that I would
7 suggest to the Commission that will be very
8 important for this work, is that we continue with
9 the work you've just seen now, and bring it into
10 the peer-review process, because it's important to
11 get that scientific independent scrutiny of the
12 work that Luke and colleagues have done, which
13 hasn't been applied to other research that's
14 sometimes published in the popular media.

15 It's where the scientific peer-review
16 process becomes important, because then you have
17 independent voices looking at all the analytic
18 choices that researchers have made to give that
19 verification of the rigor that was done.

20 COMMISSION CHAIR FRANK MARROCCO: It
21 would seem to me from what you've said, that it
22 would be more productive for us to do that, to try
23 to reaffirm or to have a peer review in terms of
24 the work that you've done.

25 That would make more sense than trying

1 to compare what may be apples and oranges, from one
2 study to another.

3 DR. JOHN HIRDES: I'm very confident in
4 the scientific rigor of our team. I think as a
5 committed scientist, I would want to see it
6 followed through to the peer-review process. And
7 ultimately that gives me more confidence in the
8 work that we've done, or that others have done,
9 than something that somebody may have done on their
10 own that I don't have a sense of the rigor or
11 expertise that that person has.

12 You know, there's going to be thousands
13 and thousands of opinions, but in the end, you want
14 to apply some scientific standards to evaluating
15 the quality of the evidence that you're getting.

16 COMMISSION CHAIR FRANK MARROCCO: Right.

17 COMMISSIONER JACK KITTS: Have you had
18 a chance to look at Michael Hillmer's report at the
19 Ministry of Health, and are there any significant
20 differences?

21 DR. JOHN HIRDES: I interact directly
22 with Michael Hillmer and colleagues. They're an
23 excellent research team; they do very good work.
24 Our work is consistent with theirs, but builds on
25 it.

1 Through the survey that was done, we
2 had access to additional data that wasn't available
3 to Michael's team. That's why we're able to extend
4 the evidence.

5 But the work they do is exemplary and
6 high quality work.

7 COMMISSIONER JACK KITTS: Thank you,
8 that's good.

9 KATE MCGRANN: A question that's
10 directly related to the work you did in the survey,
11 and so if you can't answer it, you will tell me.

12 As we step back and try to understand
13 the severity of the impact of COVID-19 on long-term
14 care home residents, a comparison that comes to
15 mind is, how does this compare to the impact that
16 influenza has on this resident population, year
17 over year? Is that something you can speak to?

18 DR. JOHN HIRDES: I've done some work
19 myself. I know that CIHI has done some work that
20 is under embargo that they probably can't speak to.

21 I can speak to the analysis that I've
22 done, independent of CIHI, and that my colleagues
23 in the European Union have done.

24 And what I can say is, unequivocally,
25 this is much more substantial than a typical

1 influenza wave. There's much more excess mortality
2 associated with COVID than we've seen in the
3 previous years.

4 The specific number, you'll have to
5 speak with CIHI folks when they can give you the
6 embargoed information. But both in Europe and in
7 Canada, and in Ontario specifically, this is
8 just not -- this is not just another flu season.
9 This was a substantial increase in excess mortality
10 in people who would not have died otherwise if it
11 had not been for COVID.

12 COMMISSION CHAIR FRANK MARROCCO: So
13 are we right then that attempts to compare this
14 with influenza, we should be careful before we
15 accept some kind of comparison?

16 DR. JOHN HIRDES: This is not just a
17 bad flu season; this is much worse than that.

18 If you look at where COVID sits now in
19 the general population in terms of the leading
20 causes of death and reductions in life expectancies
21 in entire populations, I think this notion that
22 it's just another flu season has been discredited
23 soundly by the evidence over the course of the last
24 half year.

25 U/T NATALIE DAMIANO: If it pleases the

1 Commission, CIHI does have a report coming out, I
2 believe very late in March, that addresses a number
3 of factors and some of the impacts in long-term
4 care, some for wave 1 and some pieces all the way
5 up until February.

6 It does include some information about
7 excess deaths, and we could offer it under embargo
8 to the Commission as it will be out in the public
9 prior to your report being finalized. So we can
10 provide you an embargoed copy if that's of
11 interest.

12 COMMISSION CHAIR FRANK MARROCCO: That
13 would be, I think, of interest. Would we be able
14 to impose on CIHI if we have some questions after
15 we see the embargoed report?

16 We shouldn't adversely affect anything
17 you're doing or inadvertently disclose, because as
18 you said, we're reporting end of April.

19 Our problem is, we have to -- we're
20 writing -- well, you understand this very well.
21 We're writing to that deadline. So we are
22 gathering and writing.

23 And so the more time we have to look at
24 something like that, the earlier we have to look at
25 something like that, the better and the more easily

1 we can fit it into our analysis, I think.

2 DAVID O'TOOLE: Yes, Commissioner,
3 given the public interest of your work, we'd be
4 happy to give you an embargoed copy and just use
5 the past tense if you refer to it in your final
6 document.

7 COMMISSION CHAIR FRANK MARROCCO: Okay.
8 We'll make sure we communicate to make sure that
9 your March deadline is real and didn't get pushed
10 off. We can make some adjustment.

11 That's extremely -- that would be very
12 helpful. We very much will take you up on that.
13 It's easy for me. I simply agree to those things
14 and then ask Ms. McGrann to look after it. So on
15 that basis, I can be highly effective.

16 KATE MCGRANN: Do any Commissioners
17 have any other questions? I'm glad we booked two
18 hours with you. You've been very helpful. Thank
19 you for answering all of our questions.

20 COMMISSION CHAIR FRANK MARROCCO: I
21 think it will be -- I think what you've done is
22 going to be enormously helpful to us, because it
23 helps shine a light on what we've been told.

24 It gives us a method for evaluating, to
25 some extent, what you might call popular wisdom

1 about the pandemic. And I think it very much
2 assists us in avoiding adopting a conclusion that
3 has not been tested. So thank you very much. And
4 thank you for the presentation.

5 COMMISSIONER JACK KITTS: I just have --

6 COMMISSION CHAIR FRANK MARROCCO: We're
7 not finished. Go ahead, Commissioner.

8 COMMISSIONER JACK KITTS: I just want
9 to say that the clarity upon which you made those
10 presentations was really impressive. All of you.

11 And it's certainly -- I was saying to
12 Commissioner Marrocco before, I hope we get some
13 closure on this, because it's been a very complex
14 issue to deal with.

15 I won't speak for the other
16 Commissioners, but I feel this was a very important
17 session. So thank you for that.

18 COMMISSIONER ANGELA COKE: You can
19 speak for me, John. I found it extremely clear. I
20 didn't have a lot of questions, because I could
21 actually understand what you were saying, and I
22 think very valuable to our work. So thank you very
23 much.

24 COMMISSION CHAIR FRANK MARROCCO: Yes.
25 It's unanimous, so thank you all.

1 DAVID O'TOOLE: Good luck with the
2 stretch run of your own work, and if there's
3 anything you need, just let us know.

4 COMMISSION CHAIR FRANK MARROCCO: Thank
5 you, Mr. O'Toole; that's very kind.

6
7 -- Adjourned at 10:15 a.m.

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REPORTER'S CERTIFICATE

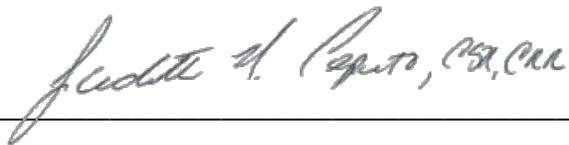
I, JUDITH M. CAPUTO, RPR, CSR, CRR,
Certified Shorthand Reporter, certify;

That the foregoing proceedings were
taken before me at the time and place therein set
forth;

That the statements of the presenters
and all comments made at the time of the meeting
were recorded stenographically by me;

That the foregoing is a Certified
Transcript of my shorthand notes so taken.

Dated this 4th day of March, 2021.



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Page 11, line 4: "Multivariate" not
"Mult-variant"

Page 16, line 1: "completed" not "treated"

Page 24, line 18: "equivalents" not "equivalence"

Page 26, lines 15-16: "confidence interval" not
"comp considerable"

Page 32, line 16: "equivalents" not "equivalence"

Page 32, line 17: "equivalents" not "equivalence"

Page 33, line 7: "considered" not "columned"

Page 37, line 15: "covariates" not "co-variants"

Page 41, line 21: "multivariate" not
"multi-variant"

Page 58, line 12: "covariates to the model" not
"co-variants to the model"

C L A R I F I C A T I O N S

(Continued)

Page 58, line 12: "Each covariate" not "Each
co-variant"

Page 63, line 1: "availability" not "viability"

Page 84, line 24: "variables" not "variants"

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