

Long-Term Care COVID-19 Commission Meeting

Assistant Deputy Minister Michael Hillmer
on Friday, February 19, 2021



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<p style="text-align: right;">Page 1</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7 MEETING OF THE LONG-TERM CARE COVID-19 COMMISSION</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13 -----</p> <p>14 --- Held via Zoom Videoconferencing, with all</p> <p>15 participants attending remotely, on the 19th day</p> <p>16 of February, 2021, 4:30 p.m. to 5:17 p.m.</p> <p>17 -----</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 3</p> <p>1 PARTICIPANTS:</p> <p>2</p> <p>3 Alison Drummond, Assistant Deputy Minister,</p> <p>4 Long-Term Care Commission Secretariat</p> <p>5 Derek Lett, Policy Director,</p> <p>6 Long-Term Care Commission Secretariat</p> <p>7 Angeline Hawthorn, Senior Policy Analyst,</p> <p>8 Long-Term Care Commission Secretariat</p> <p>9 Rose Bianchini, Senior Policy Analyst,</p> <p>10 Long-Term Care Commission Secretariat</p> <p>11 John Callaghan, Co-Lead Commission Counsel, Gowling WLG</p> <p>12 Patricia Brooks, Counsel, Gowling WLG</p> <p>13</p> <p>14</p> <p>15 ALSO PRESENT:</p> <p>16 Judith M. Caputo, Stenographer/Transcriptionist</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">Page 2</p> <p>1 BEFORE:</p> <p>2</p> <p>3 The Honourable Frank N. Marrocco, Commission Chair</p> <p>4 Angela Coke, Commissioner</p> <p>5 Dr. Jack Kitts, Commissioner</p> <p>6</p> <p>7</p> <p>8 PRESENTERS:</p> <p>9</p> <p>10 MEETING WITH THE MINISTRY OF HEALTH,</p> <p>11 CAPACITY PLANNING AND ANALYTICS DIVISION:</p> <p>12 Michael Hillmer, Assistant Deputy Minister,</p> <p>13 Capacity Planning and Analytics Division</p> <p>14 Kamil Malikov, Director, Health Science Data,</p> <p>15 Capacity Planning and Analytics Division</p> <p>16 Ann Christian-Brown, Counsel, Ministry of the</p> <p>17 Attorney General /Crown Law Office - Civil</p> <p>18 Michele Valentini, Counsel, Ministry of the</p> <p>19 Attorney General/Crown Law Office - Civil</p> <p>20 Amy Leamen, Counsel, Ministry of the Attorney</p> <p>21 General - Health and Long Term Care Branch</p> <p>22 Nelly Farid, Counsel, Ministry of the Attorney</p> <p>23 General - Health and Long Term Care Branch</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 4</p> <p>1</p> <p>2 * * *The following is a list of documents undertaken to be</p> <p>3 produced or other items to be followed up* * *</p> <p>4</p> <p>5</p> <p>6 INDEX OF UNDERTAKINGS</p> <p>7 The documents to be produced are noted by U/T and</p> <p>8 appear on the following pages: 24:5, 52:25, 57:15</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

<p style="text-align: right;">Page 5</p> <p>1 JOHN CALLAGHAN: So today, 2 Commissioners, we have Mr. Hillmer and Mr. Malikov 3 back again. And they have a presentation of some 4 data that they have worked on that transcends wave 5 1 and wave 2 and deals with outbreaks in various 6 types of homes, in terms of for-profit, 7 not-for-profit, and municipal. 8 So, without further ado, I don't know 9 who's running the slideshow -- I don't know if 10 Patty is going to run it? 11 PATRICIA BROOKS: Yes, I am. 12 JOHN CALLAGHAN: So please start. 13 Michael, you can take it away. 14 MICHAEL HILLMER: Thank you, John and 15 Commissioners. Good afternoon. 16 I will run you through this 17 presentation and happy to have a discussion. There 18 are other documents as well, and I think John might 19 want some comments on those; I'm happy to do so. 20 So let's get started. 21 If you could get to the next slide, 22 please, thanks so much. 23 So some background. The Ministry, my 24 area in particular, continually analyzes data to 25 understand patterns and trends in COVID-19</p>	<p style="text-align: right;">Page 7</p> <p>1 So the other really important thing to 2 remember is these models, they might tell you about 3 a particular class of homes, bigger homes or homes 4 in a community or bigger ownership classification; 5 they don't tell you about any given home. 6 They just provide an average that you 7 apply to the entire class, but any given home might 8 have very different performance. So these really 9 are to try and isolate the big drivers of an 10 outbreak based on the data we have. 11 For example, in terms of what we don't 12 have, we didn't include information on the resident 13 characteristics, age, functional status, etcetera, 14 staffing patterns, the variant nature of the types 15 of infection control practices that were happening 16 at the individual homes. These things we couldn't 17 account for. 18 As you'll see in the data presentation, 19 the model, the very -- they can only tell you about 20 a point in time. And they depend on what timeframe 21 you pick to some extent. 22 And then finally, we know right, 23 starting in January onwards, the variants of 24 concern started to enter the province and into some 25 of the homes and that -- some of these variants are</p>
<p style="text-align: right;">Page 6</p> <p>1 transmission in long-term care homes. We do this 2 in a variety of ways. 3 The relationship between home and 4 community characteristics can provide important 5 insights into where and why outbreaks are 6 occurring, and then when they do occur, how they 7 spread and then the patterns of mortality once 8 spread has occurred. 9 These relationships are interdependent 10 and complexed and nuanced, and these statistical 11 models that I'll show you will attempt to tease 12 these relationships apart. 13 But there's only a limit to what they 14 can do. We're limited by the data we have. We're 15 limited by the nature of the models, in that 16 they're not cause and effect models. They just 17 reveal associations. 18 And frequently, when we're dealing with 19 the kind of data we have, which we classify as 20 administrative data, data that's collected for 21 programmatic reasons, we often don't understand the 22 underlying practice patterns that might lead to the 23 signals we're seeing. 24 So often relationships we find need to 25 be investigated further to really understand them.</p>	<p style="text-align: right;">Page 8</p> <p>1 much more transmissible, and so that will have an 2 impact on the result. 3 In that if there are two in every home 4 would have a variant in them, they might then 5 impact the whole class of homes on average. So, 6 I'll keep going, thank you. 7 So just to remind you, Commissioners, 8 there are differences amongst the different 9 ownership classifications of the homes. Those are 10 by and large -- the municipal homes are larger. 11 They are newer. You can see the older design 12 standards and we've defined that as before 1972. 13 There are more older homes in the 14 for-profit sector than the not-for-profit sector 15 and the municipal. 16 And this plays out within the 17 individual types of occupancy as well. I'll call 18 your attention to the single occupancy. About a 19 third of those, the for-profit sector has about a 20 third of their rooms as single occupancy. Whereas 21 in municipal, it's about half of the homes. 22 And that relationship continues on as 23 you get into the higher occupancy rooms. 24 JOHN CALLAGHAN: Michael, just to make 25 sure you don't go too fast and the Commissioners</p>

<p>Page 9</p> <p>1 pick up what you're talking about.</p> <p>2 So the number of residents, that's the</p> <p>3 mean for each of the 360, for example, for-profit</p> <p>4 homes, the mean has 100 residents. Whereas if you</p> <p>5 go to the municipal, now there are only 101 homes,</p> <p>6 but the mean has 147 residents.</p> <p>7 So above that, half would have more and</p> <p>8 half would have less, correct?</p> <p>9 MICHAEL HILLMER: It's not exactly.</p> <p>10 That would be the median, but I think it's by and</p> <p>11 large, that's true. It's just what you don't see</p> <p>12 here is the trick with means, if you don't see the</p> <p>13 full distribution.</p> <p>14 But we can say with some -- you can say</p> <p>15 that the municipal homes are definitely larger and</p> <p>16 have more residents.</p> <p>17 JOHN CALLAGHAN: Okay. And they also,</p> <p>18 as you point out, have more single occupancy,</p> <p>19 though?</p> <p>20 MICHAEL HILLMER: Correct.</p> <p>21 JOHN CALLAGHAN: And far, far less</p> <p>22 quadruple occupancy?</p> <p>23 MICHAEL HILLMER: Absolutely. Some of</p> <p>24 the other differences and similarities I point out</p> <p>25 would be the chain affiliation.</p>	<p>Page 11</p> <p>1 about two dozen that we've identified in that</p> <p>2 category, where it's a not-for-profit home that has</p> <p>3 a, some sort of management contract with the</p> <p>4 for-profit firm.</p> <p>5 JOHN CALLAGHAN: On the municipal side,</p> <p>6 36 municipalities by definition would have one</p> <p>7 home, right? One home, not a chain? So 36</p> <p>8 municipalities have one home?</p> <p>9 MICHAEL HILLMER: I think that is</p> <p>10 probably true, yes.</p> <p>11 JOHN CALLAGHAN: And 55 municipalities</p> <p>12 operate 2 to 9. We heard, for example, for York</p> <p>13 Region that they have 4? That's what that means,</p> <p>14 right?</p> <p>15 MICHAEL HILLMER: Correct.</p> <p>16 JOHN CALLAGHAN: And ten, we have heard</p> <p>17 the City of Toronto has ten, so likely that ten</p> <p>18 belongs to the City of Toronto?</p> <p>19 MICHAEL HILLMER: That would make</p> <p>20 sense, yes.</p> <p>21 JOHN CALLAGHAN: Okay, go ahead. I</p> <p>22 wanted to bring the numbers alive to the evidence</p> <p>23 we've already heard.</p> <p>24 MICHAEL HILLMER: We'll talk about, as</p> <p>25 we go along, the number of residents infected.</p>
<p>Page 10</p> <p>1 So if you look at the for-profit</p> <p>2 category, you'll see there are far -- in terms of</p> <p>3 the big chains which we defined arbitrarily at</p> <p>4 20-plus homes, it's only for-profit sector that has</p> <p>5 big chains of that nature.</p> <p>6 And only once you get into the smaller</p> <p>7 chains, 2 to 9, or 10 to 19, do you start to see</p> <p>8 some representation in the other ownership</p> <p>9 categories. And just so you know, as we start to</p> <p>10 talk about chain affiliation, we do define it as</p> <p>11 you're a chain if you're two facilities or above.</p> <p>12 JOHN CALLAGHAN: Can I just ask you</p> <p>13 about that then, Michael, to make sure the</p> <p>14 Commissioners understand.</p> <p>15 So on the, say, for example the</p> <p>16 nonprofit, that would suggest there are 111</p> <p>17 nonprofits that are a one-off as it were. In other</p> <p>18 words, the people running that don't run any other</p> <p>19 home, correct?</p> <p>20 MICHAEL HILLMER: Correct.</p> <p>21 JOHN CALLAGHAN: And then I take it</p> <p>22 that some of the nonprofits are actually managed by</p> <p>23 for-profit, correct?</p> <p>24 MICHAEL HILLMER: Correct. We'll talk</p> <p>25 a little bit about that as we go through. We have</p>	<p>Page 12</p> <p>1 That's the next set of rows. It's relevant when we</p> <p>2 analyze wave 2 data, because we know, or at least</p> <p>3 we suspected that the number of residents infected</p> <p>4 in wave 1 would be a determinant in the number of</p> <p>5 residents that might be infected in wave 2.</p> <p>6 This was borne out of a suggestion made</p> <p>7 to us by one of the epidemiologists at Public</p> <p>8 Health Ontario, the theory being, some type of</p> <p>9 immunity or healthy survivor impact would drive</p> <p>10 your experience in wave 2 in terms of once the</p> <p>11 virus is introduced, how quickly or extensively it</p> <p>12 would spread.</p> <p>13 JOHN CALLAGHAN: So if you had a home</p> <p>14 that had an outbreak in wave 1, and they had 50</p> <p>15 residents get that, get the virus in wave 1, and</p> <p>16 wave 2 came around and it's assumed that they would</p> <p>17 be, would have immunities to COVID and wouldn't</p> <p>18 thereby be infected? Is that what it means?</p> <p>19 MICHAEL HILLMER: That was our --</p> <p>20 that's why we included it and you can see it gets</p> <p>21 borne out in the statistical analysis, so that's</p> <p>22 why it's here.</p> <p>23 And just to note that the number of --</p> <p>24 so this number of residents infected is the number</p> <p>25 of homes within each category that had one resident</p>

<p>1 infected. And so you can see from the percentages Page 13 2 there, not really much difference. 3 And what this doesn't tell you 4 necessarily, just looking at that is, because it's 5 just one resident, you don't know how extensive the 6 outbreak was. 7 And so that's why then you look at, for 8 example, the row that says "Greater Than 50 Percent 9 Residents Infected", the for-profit and 10 not-for-profit sectors look similar and then you 11 know the municipal homes quite a bit lower. 12 JOHN CALLAGHAN: What does the "Bed 13 Ratio" mean? What does that tell us? 14 MICHAEL HILLMER: We know staffing is 15 an important mediator for a whole host of outcomes, 16 so we wanted to be able to adjust for staffing 17 patterns within the homes. 18 And so we've used a data source that we 19 collect called the staffing survey that happens 20 annually. The data is a little bit dated. 21 You can see here what this is saying 22 is, from the data we have, there is 1.49 full-time 23 equivalent staff per bed on average within the 24 for-profit sector. 25 The one thing I would like to note is</p>	<p>1 accurate staffing data would undoubtedly would make Page 15 2 this a better set of models. 3 I think your statement is likely true. 4 My point was that even when we used a much more 5 up-to-date staffing data source that did not fall 6 prey to that particular weakness because it was the 7 actual number of people the homes paid, because it 8 was the nature of the program we needed to know how 9 many people were paid through the pandemic pay 10 program for control purposes. 11 So it is more up-to-date and more 12 accurate. It didn't change the results of the 13 models that I will show you. 14 JOHN CALLAGHAN: Just so we understand 15 it, is this to say you would have one staff taking 16 care of one-and-a-half beds in a for-profit home; 17 is that what that means? 18 MICHAEL HILLMER: No, the other way 19 around. One-and-a-half staff per bed. 20 PATRICIA BROOKS: Okay. Mr. Hillmer, 21 just as a point of clarification, this is not staff 22 showing up for work? This is staff on the payroll 23 or on the roster; is that correct? 24 MICHAEL HILLMER: This was not staff 25 showing up for work. And so we don't know, this is</p>
<p>1 that we also used a more up-to-date data source, Page 14 2 just in this past week. 3 I don't have the data here to show you 4 but I will describe it and it came from -- the 5 government ran a pandemic pay program over the 6 summer, and we collected very detailed staffing 7 information from the long-term care sector. 8 When you use the more up-to-date 9 staffing information, you see the municipal homes 10 having the highest ratio of staff to beds. And 11 then it descends down towards for-profit. 12 But it didn't impact the results 13 regardless of which source of staffing data we 14 used. I just wanted to ensure everybody understood 15 that. 16 JOHN CALLAGHAN: Just so you're aware, 17 and I suspect you've heard this, we were advised I 18 think by Dr. Sweetman at the outset that the 19 staffing surveys are not perceived to be accurate, 20 because it counts what was aspirational on the part 21 of the home as to who would be working rather than 22 who in fact was working. 23 So you don't think that's going to 24 affect your results here? 25 MICHAEL HILLMER: Well, I think more</p>	<p>1 an annual exercise based more on accounting Page 16 2 principles, so they would assign their costs to 3 different cost centres. 4 And we were able to surveil from that 5 the number of FPEs across a whole bunch of 6 different categories, direct care and indirect 7 care. So it's not tracking staff hours worked; 8 it's more on the payroll. I think that's accurate. 9 COMMISSION CHAIR FRANK MARROCCO: Just 10 before we leave that. Mr. Hillmer, can you help me 11 with the last line on the chart. 12 "Cumulative Incidence of COVID-19 in 13 the Public Health Unit Region Surrounding the 14 Home". My question is grounded in the idea that 15 you could be lucky and just have your home in some 16 place where there's just no COVID to speak of. And 17 I'm wondering what that means. 18 MICHAEL HILLMER: It is a fundamental 19 question and consideration, Commissioner Marrocco, 20 because we know without a doubt the biggest 21 determinant of whether you have an outbreak is the 22 surrounding COVID in your community. 23 So what this is saying -- and I just 24 need to move my window here to see -- so what this 25 is saying is there are small differences in the</p>

<p>1 public health unit rate of COVID around the homes 2 by ownership category here. So I would say two 3 things. 4 It was not deemed, you know, the final 5 column here, the "p value" that's a measure of the 6 statistical significance. So while you see there 7 are some small differences, 13.25, 13.45, etcetera, 8 the test of statistical significance was not met. 9 So these are, you know, the statistical 10 answer would be that these were differences that 11 could have just arisen by chance. 12 But we control for that in the 13 subsequent analyses. Because if you don't, you 14 might make very erroneous conclusions in saying a 15 particular class of home is more likely to have an 16 outbreak, but in fact you're just measuring the 17 propensity of the home to be in a high community, 18 high COVID rate community. 19 COMMISSION CHAIR FRANK MARROCCO: 20 Sorry, go ahead. I didn't mean to interrupt. 21 MICHAEL HILLMER: That's fine, go 22 ahead, please. 23 COMMISSION CHAIR FRANK MARROCCO: So do 24 I understand this bottom line correctly then that 25 in terms of -- I was looking at it a little</p>	<p>Page 17</p> <p>1 you here are just a series of comparisons across 2 each row. The next set of analyses -- 3 COMMISSION CHAIR FRANK MARROCCO: Okay. 4 MICHAEL HILLMER: -- compared them all 5 simultaneously and control for these factors. But 6 you have predicted exactly what the analysis 7 showed, that ownership status was not found to be a 8 relevant determinant of whether an outbreak 9 occurred or not. 10 COMMISSION CHAIR FRANK MARROCCO: Would 11 it be fair to then conclude that in terms of 12 outcomes, in terms of how many people got sick and 13 how many people died, that the incidence of COVID 14 in the public health unit region surrounding the 15 home was not statistically significant? 16 MICHAEL HILLMER: Not by ownership 17 category. 18 COMMISSION CHAIR FRANK MARROCCO: 19 Right. 20 MICHAEL HILLMER: It's very much a 21 determinant of whether a home went into outbreak, 22 which then of course was the necessary step for 23 spread and bad outcomes to occur. But not when you 24 look at it across ownership categories. 25 JOHN CALLAGHAN: Do you want to go to</p>
<p>1 differently than you just described. 2 That in terms of the incidence of 3 COVID, it's kind of more or less the same around 4 all three kinds of homes. Would I be misreading or 5 failing to understand if that was the conclusion I 6 drew? 7 MICHAEL HILLMER: I think that's 8 accurate from this. I think it's just the way it 9 worked out that on average and -- you know, Kamil 10 generated this graph, so I'll ask him to comment. 11 I'm not sure what the mean up here and the other 12 question I have for Kamil is, this is 13.25 per 13 thousand? 14 KAMIL MALIKOV: Per thousand 15 population, yeah. And, yes, so on average you can 16 say that. So on average the for-profit homes, 17 not-for-profit homes and municipal homes were 18 located in the communities with approximately the 19 same incidence of the disease in the surrounding 20 communities. 21 COMMISSION CHAIR FRANK MARROCCO: So 22 then the incidence, another way of saying it, the 23 incidence of the disease was not statistically 24 significant in terms of this analysis? 25 MICHAEL HILLMER: What we're showing</p>	<p>Page 18</p> <p>1 the next slide, Michael. 2 MICHAEL HILLMER: Right, thank you. 3 I wanted to show you the patterns of 4 mortality that are emerging across wave 1, that 5 emerged during wave 1 and that are emerging under 6 wave 2. 7 So the blue bars show the case fatality 8 rate amongst residents from wave 1, which is from 9 the end of March until the last day of August. We 10 define wave 2 as September 1st onwards. 11 And what this shows is the number of 12 residents who died amongst those who are infected. 13 That's the case fatality rate. 14 And across all age groups, it's lower 15 in wave 2, so the orange bar is being lower age 16 wave and then in the top right, that's the overall 17 case fatality rate. 18 So it's considerably improved over 19 time. 20 COMMISSION CHAIR FRANK MARROCCO: Mr. 21 Hillmer, has the conclusion been that the homes, 22 all of them, profit, not-for-profit, municipal, all 23 performed better in wave 2 than wave 1? Or is that 24 like jumping to a conclusion? 25 MICHAEL HILLMER: I think it's -- I</p>

<p style="text-align: right;">Page 21</p> <p>1 would say that the overall, you know, fewer 2 residents are dying amongst those who get infected 3 across all homes. So I think what you said is 4 accurate. 5 The one caveat I would put there is 6 that case fatality rate is prone to -- there's a 7 bias with case fatality rate if you're not testing 8 everybody. 9 And so you could imagine, if at the 10 beginning of the pandemic, where perhaps not every 11 resident was tested, you would have the same number 12 of residents dying, but you divide it by a lower 13 number of people infected because you didn't know 14 about the other ones. 15 And then as the pandemic went on, the 16 whole testing system improved dramatically and 17 there was more testing. So I just want to put that 18 caveat there, so that you're aware of it. 19 This is still a dramatic difference, 20 though. I would say that this is -- likely due to 21 many factors. You know, recognition of the disease, 22 you know, better and quicker treatment and those 23 are, I'm sure, contributing factors to this lower rate. 24 COMMISSION CHAIR FRANK MARROCCO: Would it 25 be that, you know, the hospitals -- well, I guess</p>	<p style="text-align: right;">Page 23</p> <p>1 you first came to visit, that the fatality rate was 2 30 percent. Now in wave 2 it's closer to 3 20 percent? 4 MICHAEL HILLMER: Correct. 5 JOHN CALLAGHAN: I'll remind the 6 Commissioners, we did hear from the medical officer 7 of Lakeridge, who felt the medical intervention was 8 better in the second wave, which would be one 9 contributor; is that right, Michael? 10 MICHAEL HILLMER: Well, I agree. And 11 so one thing to remember is that more and more 12 relationships with hospitals were forged and put in 13 place with long-term care homes. 14 So that would have brought with it the 15 kind of medical oversight that came along with that 16 hospital relationship. 17 JOHN CALLAGHAN: And then just so we're 18 clear, wave 1, I think you told me yesterday, for 19 statistical purposes, ends September 1st, 20 August 31st? 21 MICHAEL HILLMER: Last day of August it 22 ended. We came to that, again, with consultation 23 with some epidemiologists and scientists, and that 24 was not arbitrary. We based that on expert 25 consensus.</p>
<p style="text-align: right;">Page 22</p> <p>1 not all of those sick people are getting to the 2 hospital, so you can't really draw the conclusion 3 that it might be that the hospitals are getting 4 better at treating severe cases, because they don't 5 all get there. 6 THE WITNESS: Within the long-term care 7 population it's true not every resident who would 8 get infected with COVID would end up in the 9 hospital. That's frequently by choice of the 10 individual and their family. 11 So there are two parallel things that 12 are happening, I think, where there's no doubt 13 general COVID outcomes have improved since the 14 beginning with the introduction of more routine use 15 of steroids, better understanding of ventilation 16 that's amongst the general population. 17 Within the long-term care population, 18 the extent any of these residents get hospitalized 19 they would have benefited from the better treatment 20 patterns. So some of that would be due to that, 21 and then those that didn't get transferred for 22 whatever reason, were, you know, part of this trend 23 as well. 24 COMMISSION CHAIR FRANK MARROCCO: Okay. 25 JOHN CALLAGHAN: And so, we talked when</p>	<p style="text-align: right;">Page 24</p> <p>1 JOHN CALLAGHAN: The other question, 2 and I don't think it's revealed here, but were the 3 percentage of residents in wave 2 less likely to 4 get COVID than wave 1? Or do you know? 5 U/T MICHAEL HILLMER: I don't have that 6 number at my fingertips. We would have that data, 7 if that's a number that's of interest to you. Then 8 I'd have to come back to you on that point. 9 JOHN CALLAGHAN: We'll come back to you 10 on that then. 11 COMMISSION CHAIR FRANK MARROCCO: Just 12 on that point for a second. If you have a home, 13 and you have a prevalence, lots of people get sick. 14 Let's say 70 percent of them recover. It's 15 unlikely that they would get sick again. So the 16 total population of potentially sick people is, in 17 that home, has been reduced. 18 MICHAEL HILLMER: I think the logic of 19 what you're saying will hold true. I just don't 20 have the numbers in front of me. 21 COMMISSION CHAIR FRANK MARROCCO: You 22 have more faith in my logic than I do. 23 MICHAEL HILLMER: Well, you'll see, as 24 we show subsequent slides, that the proportion of 25 people infected in a home in wave 1 is very much a</p>

<p>1 determinant of how much the COVID spreads and then 2 the subsequent deaths from it. 3 So you may very well be prescient in 4 how you framed that. And I would just want to bear 5 it out with actual numbers. 6 JOHN CALLAGHAN: Is there any 7 significance looking at wave 1 and wave 2 as a 8 matter of percentages? 9 As a matter of percentage drop in 10 fatalities, at least from 77 to 79 up to 90 plus, 11 it's about a third improvement. And then it's an 12 even better improvement between 50 and 69. Is 13 there any significance to that, that each of the 14 age groups are recording an improvement? 15 MICHAEL HILLMER: I think it's 16 significant because it shows the benefits that we 17 have talked about were shared in by all groups. 18 And I think it's important to stratify 19 by different factors, because then you can see if 20 there's some differential impact. For example, you 21 might imagine that either it could be a treatment 22 that just didn't benefit a particular age group. 23 And it would be important to know that. So that's 24 the significance of both using this approach and 25 then looking at the patterns as you've just laid</p>	<p>Page 25</p>	<p>1 But I think you're right to say that 2 each group -- each age group dropped quite a lot. 3 This next slide is an excerpt from the 4 long-term care -- the Ontario Science Table is an 5 external body chaired by Dr. Adalsteinn Brown and 6 Dr. Brian Schwartz from U of T and Public Health 7 Ontario respectively. 8 They produced a long-term care science 9 brief, and it included a lot of the work that, you 10 know, Dr. Stall had contributed to, Dr. Kevin Brown 11 from Public Health Ontario and others. 12 And it was an attempt to understand -- 13 to bring together and summarize the evidence that 14 had been generated to date around what was known 15 about the dynamics of how homes come into outbreak 16 and how the virus spreads. 17 And so this pictorial wraps up all the 18 evidence. And so we know that a lot of long-term 19 care workers lived in neighbourhoods that have 20 higher risk of COVID. 21 They might find themselves living in 22 multi-generational household, perhaps the housing 23 isn't suitable, and perhaps they're working in 24 multiple places. 25 And all those factors put those</p>	<p>Page 27</p>
<p>1 out. 2 JOHN CALLAGHAN: Shall we move on? 3 Subject to the Commissioners? 4 COMMISSION CHAIR FRANK MARROCCO: Well, 5 before we do that -- don't worry we will eventually 6 end this before midnight -- but the deaths in terms 7 of age groups kind of remain -- there's a 8 similarity in terms of how many and what age group; 9 is there? 10 It looked like it to me that there's a, 11 you know, 50 to 69 there's one thing going on. And 12 then 70 to -- but it looks like that bore out wave 13 1 and wave 2. 14 MICHAEL HILLMER: If I understand what 15 you're getting at, Commissioner, there's several 16 things to take from this graph. One, you know, 17 that with each older age group, regardless of wave 18 you're more likely to die. I think the reasons for 19 that are pretty obvious. 20 But that you know as time went on, you 21 know, each group enjoyed quite a substantial drop, 22 which is really good news. What I can't tell you 23 exactly was the proportional drop the same for each 24 group; I just don't have that analysis in front of 25 me.</p>	<p>Page 26</p>	<p>1 individuals at higher risk of getting COVID and 2 this is borne out through lots of different 3 analyses. And then these individuals would come to 4 work, you know, inadvertently introduce COVID into 5 the home. 6 I would say it's not the only way COVID 7 would get into the home. You know, really anybody 8 coming into the home is a potential risk. 9 And just to say that the major factors 10 of the home coming into outbreak are the 11 surrounding circumstances. Nothing really to do 12 with the home itself put it at higher risk of 13 entering into outbreak. 14 But then once the outbreak began, there 15 were very definitive factors from the analysis that 16 determined whether it spread. And that was older 17 design, crowding, chain ownership and 18 multi-occupant shared rooms. 19 So this was the synthesis of what we 20 learned from wave 1. And so as we went forward, as 21 I started out, we always are looking at factors and 22 we thought it was worthwhile to, you know, repeat 23 the analysis to understand were the same factors 24 driving outbreaks and spread, and if they were or 25 if they weren't, we could adjust our advice on</p>	<p>Page 28</p>

<p style="text-align: right;">Page 29</p> <p>1 policies and surveillance tools.</p> <p>2 So this is the graph from Dr. Stall's</p> <p>3 paper, and what it showed was a couple of things,</p> <p>4 in my opinion. One, there were 8 to 10 homes, at</p> <p>5 the very top. And just to orient you to this</p> <p>6 because we use a similar presentation.</p> <p>7 So the orange colour means it's an</p> <p>8 older home, and again, older was pre-1972 design.</p> <p>9 The green dots are the newer homes. The circles</p> <p>10 represent a single home and the triangles are chain</p> <p>11 home.</p> <p>12 And so it's portraying multiple</p> <p>13 dimensions here. And what you see above -- this is</p> <p>14 the proportion of residents infected in wave 1.</p> <p>15 And in the for-profit category, there were about 8</p> <p>16 to 10 homes, largely older chain homes that had the</p> <p>17 highest rates of infection.</p> <p>18 And then once you go to 50 percent or</p> <p>19 below, it becomes a little harder to see the</p> <p>20 patterns between nonprofit or for-profit. The one</p> <p>21 thing that does jump out is there are more older</p> <p>22 homes in for-profit, but that's also just a default</p> <p>23 of there being more older homes within the sector</p> <p>24 itself.</p> <p>25 So, sorry go ahead.</p>	<p style="text-align: right;">Page 31</p> <p>1 think they're pretty much all chain homes.</p> <p>2 And municipal, they had one older home,</p> <p>3 which was a single home, that had more than</p> <p>4 50 percent. I won't bother with the rest but</p> <p>5 that's what that says, correct?</p> <p>6 MICHAEL HILLMER: That is exactly a</p> <p>7 what it says. And you'll remember what his</p> <p>8 analysis showed was that once he adjusted for</p> <p>9 everything, it was the older design and the chain</p> <p>10 membership which were the biggest factors in spread</p> <p>11 and mortality.</p> <p>12 And I would suggest that it's the top</p> <p>13 quartile that is driving that overall effect,</p> <p>14 because they are so much higher than every -- you</p> <p>15 know, other home, regardless of ownership</p> <p>16 classification.</p> <p>17 And those homes are -- then the result</p> <p>18 tilts to those upper extremes because of that, so</p> <p>19 it pulls the entire average effect towards those</p> <p>20 homes.</p> <p>21 COMMISSIONER JACK KITTS: Michael, if</p> <p>22 you look at the for-profit down at the base there's</p> <p>23 a lot of older chain homes down there. Did they</p> <p>24 compare the incidence of spread in the local</p> <p>25 community? How do you explain that, that there's a</p>
<p style="text-align: right;">Page 30</p> <p>1 JOHN CALLAGHAN: Just to make sure the</p> <p>2 Commissioners get the idea, so on the access there</p> <p>3 we're talking about the percentage of residents who</p> <p>4 get COVID.</p> <p>5 So if we go to the top quartile,</p> <p>6 75 percent to 100 percent and the nonprofit, you</p> <p>7 had one nonprofit that was a chain, that was a</p> <p>8 newer home, that had that level. I could probably</p> <p>9 tell you which one it is, but I won't.</p> <p>10 And when we go for-profit in the 75,</p> <p>11 they're all older homes, and they're largely chain</p> <p>12 with, you might find one dot there, the third one</p> <p>13 down. And municipal had none, right?</p> <p>14 MICHAEL HILLMER: That's correct.</p> <p>15 JOHN CALLAGHAN: If you go down the</p> <p>16 next level between 50 and 75 percent of residents,</p> <p>17 again, you get the nonprofits, and two of them are</p> <p>18 newer homes and one is an older home, and only one</p> <p>19 of them is a chain. Defined as chain, the other</p> <p>20 two are defined as single home, right?</p> <p>21 MICHAEL HILLMER: That's exactly right,</p> <p>22 John.</p> <p>23 JOHN CALLAGHAN: If we go to for-profit</p> <p>24 I won't do the math here but it seems to be evenly</p> <p>25 distributed between newer and older homes. But I</p>	<p style="text-align: right;">Page 32</p> <p>1 lot of big chain, older homes down in the 0 to, I</p> <p>2 don't know, 2 percent?</p> <p>3 MICHAEL HILLMER: So Commissioner</p> <p>4 Kitts, this is not the adjusted analysis, this is</p> <p>5 just the distribution. So they definitely did</p> <p>6 control for the community incidence.</p> <p>7 There are just a lot more older chain</p> <p>8 homes within the for-profit sector. And, you know,</p> <p>9 all other things being equal in terms of outbreak,</p> <p>10 you'd expect to see more of those homes just by</p> <p>11 virtue of the characteristics of that class.</p> <p>12 JOHN CALLAGHAN: Can I take another</p> <p>13 point here, Michael.</p> <p>14 If we go to the for-profit, the earlier</p> <p>15 data you showed us showed that the mean, whatever</p> <p>16 that's worth, of residents, there's a hundred</p> <p>17 residents in for-profit.</p> <p>18 So if you just took the homes that had</p> <p>19 a 50 percent outbreak or larger, that would be the</p> <p>20 26 homes that are marked there, so that would be</p> <p>21 2,600 residents at some level or not who were at</p> <p>22 risk.</p> <p>23 And we know in wave 1, if the</p> <p>24 statistics is right it's approximately 30 percent</p> <p>25 of them are going to die; is that fair?</p>

<p>1 MICHAEL HILLMER: Well, I would maybe 2 just replay it back to you -- 3 JOHN CALLAGHAN: Okay, please. 4 MICHAEL HILLMER: -- to make sure we're 5 saying the same thing. 6 If we take a home that sits at the 7 50 percent marker, and you think it's an average 8 home of 100 residents, that's saying roughly 50 9 people, 50 percent of the residents of a 10 hundred-bed home, so 50 people, became infected and 11 on wave 1 on average 30 percent of those, whatever 12 that is. 13 JOHN CALLAGHAN: 60, yeah. 14 MICHAEL HILLMER: Something in that 15 range would have succumbed to COVID-19. 16 JOHN CALLAGHAN: Whereas in municipal 17 we had one at the 50 percent range, assuming the 18 mean is 147, and you can do the same math, you 19 know, if averages mattered. 20 Obviously, averages don't matter. 21 Otherwise, you wouldn't have 100 percent infections 22 in some homes and -- 100 percent of people infected 23 some homes and less than 5 percent among others 24 so... 25 MICHAEL HILLMER: Exactly. That's why</p>	<p>Page 33</p>	<p>1 again, not with the risk of an outbreak. 2 We did analyze the category of the 3 not-for-profit homes operated by for-profit 4 corporations and did not find any evidence of an 5 association with outbreak, spread or mortality. 6 This is, I don't think we fully got 7 into this yesterday when we spoke, John, because I 8 think it was completed just in time. But I'll go 9 through it today as well because I think it's 10 relevant. 11 When you include all of the data from 12 the beginning of the pandemic to current, ownership 13 status is not associated with outcomes. So, what 14 we find here is that it does seem to be a 15 phenomenon of wave 2, not in wave 1, not overall, 16 but in wave 2 to date. 17 We did look at specific chains and 18 found no difference between them. 19 It's important to note these analyses 20 do not mean all homes in any category are equally 21 likely to be associated with increased spread and 22 mortality. That's why we spent so much time on 23 that distribution diagram, because you saw a lot of 24 them found in any category are in the, you know, 25 0 to 10 percent range. And then it spread out as</p>	<p>Page 35</p>
<p>1 it's so important to look at this diagram because 2 you see the individual performance, and how means 3 cannot -- can lead you down a path that isn't 4 reflecting the true individual performance. 5 JOHN CALLAGHAN: Okay. Can we move on 6 to the next slide? 7 MICHAEL HILLMER: Thank you. This is a 8 summary slide about what we learned from our 9 additional analysis. So the rates of COVID-19 in 10 the community, and the number of residents in a 11 home is associated with the occurrence of 12 outbreaks, spread of COVID-19 and death. 13 A home that experienced an outbreak in 14 wave 1 had better COVID-19 outcomes in wave 2. 15 In wave 1, older homes and membership 16 in a chain was associated with increased spread or 17 extent. We call it "extent", but it's synonymous 18 with spread. Number of residents, the extent of an 19 outbreak in number of resident deaths, but not with 20 risk of an outbreak. 21 Chain ownership was not a risk factor 22 in wave 2. 23 Ownership status and older design 24 standards were associated with increased extent of 25 an outbreak and number of resident deaths, but</p>	<p>Page 34</p>	<p>1 you went higher in the number of residents 2 infected. 3 And really, we can't answer the really 4 important question of why this phenomenon has 5 happened. We can tell you that older design 6 standard is an enduring, important driver, but we 7 lack detailed data on many other important 8 mediators of outcomes. 9 So the next -- 10 JOHN CALLAGHAN: Go ahead. I'll come 11 back to it. 12 MICHAEL HILLMER: I was just going to 13 say that the next several slides get into the more 14 detailed analyses that are summarized here. 15 JOHN CALLAGHAN: Go ahead, you might as 16 well just continue. 17 COMMISSIONER JACK KITTS: Let me just 18 ask, Michael, just one -- 19 So chain ownership was not a risk 20 factor in wave 2; it was not a risk factor for 21 having an outbreak, spread of the COVID once the 22 outbreak was in the home and death; is that 23 correct? 24 MICHAEL HILLMER: That is correct. 25 You'll see it really clearly in the next few</p>	<p>Page 36</p>

<p>1 slides.</p> <p>2 COMMISSIONER JACK KITTS: Okay.</p> <p>3 MICHAEL HILLMER: So just quickly, so</p> <p>4 you understand what we did: We used a particular</p> <p>5 kind of statistical model for the risk of an</p> <p>6 outbreak that does a really good job of helping to</p> <p>7 model yes-no events. Is it an outbreak or not,</p> <p>8 then yes or no.</p> <p>9 For the extent of the outbreak and the</p> <p>10 number of deaths, we used a different kind of model</p> <p>11 that's really good at modelling count data, so 1,</p> <p>12 2, 3, 4, 5 cases or deaths.</p> <p>13 Used the same methodology that Dr.</p> <p>14 Stall and his collaborators employed in the paper</p> <p>15 they published last year.</p> <p>16 And the data that you see here, at</p> <p>17 least for wave 2, is September 1st to January 22nd.</p> <p>18 We also include the end-to-end data which was</p> <p>19 March 29th to -- I forget the end date offhand, but</p> <p>20 it's February-something. I'll get to that.</p> <p>21 We used the same factors that Dr. Stall</p> <p>22 used, with the addition of the previous number of</p> <p>23 residents infected. And some other statistical</p> <p>24 details there. If no questions, we'll get to what</p> <p>25 we found here.</p>	<p>Page 37</p> <p>1 And again, the homes within the</p> <p>2 different ownership categories are shown here. And</p> <p>3 above the 20 percent mark, you see a higher</p> <p>4 proportion of older homes, again, and distributed</p> <p>5 amongst chains and single homes.</p> <p>6 So the next set of slides get to the</p> <p>7 results of the statistical analysis. So I'll just</p> <p>8 spend a minute orienting you to what these graphs</p> <p>9 mean.</p> <p>10 So these are the results of the</p> <p>11 statistical analysis that control for all these</p> <p>12 factors. So you would look at this graph, and I'll</p> <p>13 use the cumulative cases per thousand as my</p> <p>14 example.</p> <p>15 So you'd look across, and you'd look</p> <p>16 for the blue dot, and you'd see that around 1.1.</p> <p>17 And what that would tell you is the rate of</p> <p>18 cumulative cases in the surrounding community, for</p> <p>19 every case per thousand there was an increase, a</p> <p>20 ten percent increase in the risk that that home</p> <p>21 would go into outbreak, holding all these other</p> <p>22 factors constant.</p> <p>23 So that's what the blue dot means.</p> <p>24 Same thing for number of active residents. So, for</p> <p>25 every -- I think it's in blocks of 50 -- for every</p>
<p>Page 38</p> <p>1 So similar graphs here, as we showed</p> <p>2 for wave 1. The top one is the number of residents</p> <p>3 with COVID-19. We've used the same colour scheme</p> <p>4 and legend, so it's easy to compare.</p> <p>5 You do see a similar pattern in the</p> <p>6 number of, the percentage of residents with</p> <p>7 COVID-19, more chain homes that are older.</p> <p>8 You're employing the same approach that</p> <p>9 John took if you look at the quartiles. In this</p> <p>10 case you can look at an upper quartile above</p> <p>11 100 percent, and that's because some of the homes</p> <p>12 might have new residents admitted and whether that</p> <p>13 was -- and then some residents passing away.</p> <p>14 Some homes actually had more than</p> <p>15 100 percent of the residents infected when you</p> <p>16 accounted for turnover. There wasn't many but</p> <p>17 there were a few.</p> <p>18 And within each, you know, each</p> <p>19 quartile from top to bottom you can see the</p> <p>20 patterns, the for-profit has more older homes and</p> <p>21 more chains, and you know, quite a few down at the</p> <p>22 bottom within each category.</p> <p>23 And similar pattern for the mortality.</p> <p>24 So this is the percentage of residents who died</p> <p>25 from COVID-19 in wave 2.</p>	<p>Page 39</p> <p>1 block of 50 residents more, the home is 50 percent</p> <p>2 more likely to go into outbreak.</p> <p>3 And then the bars that surround it are</p> <p>4 your 95 percent confidence interval.</p> <p>5 So if that confidence interval crosses</p> <p>6 this red line at 1, we say that it's not a</p> <p>7 statistically significant factor --</p> <p>8 JOHN CALLAGHAN: Crosses it to the</p> <p>9 left.</p> <p>10 MICHAEL HILLMER: Thank you, crosses it</p> <p>11 to the left, or to the right, if it happens to be a</p> <p>12 dot that shows up on the left. And so any dot that</p> <p>13 shows up on the right, that's -- there's more risk</p> <p>14 of the home going into outbreak if the dot is in</p> <p>15 the right.</p> <p>16 And then you can see, if you go down to</p> <p>17 wave 1, less than 50 percent residents infected or</p> <p>18 more than 50 percent residents infected.</p> <p>19 What you can say from this is that if</p> <p>20 you are in a home that had fewer than 50 percent</p> <p>21 residents infected, you were 50 percent less likely</p> <p>22 to have an outbreak. And then if you had more than</p> <p>23 50 percent residents infected, you were almost</p> <p>24 essentially not going to have an outbreak at all.</p> <p>25 I mean, it was an incredibly protective factor.</p>
	<p>Page 40</p>

<p style="text-align: right;">Page 41</p> <p>1 So that's how these graphs work, and 2 it's just a quick way to say, well, okay, I can now 3 understand the strength of the benefit or the risk 4 of individual factors, all other things being 5 equal. So this is risk of outbreak and we see the 6 ownership category makes no difference. 7 It's fine to go to the next one. 8 JOHN CALLAGHAN: If we can go back, 9 just to be clear. On the staff to bed ratio, 10 because we've heard some fairly horrific stories of 11 people dying without any attendants. So this is 12 not in the midst of an outbreak, right? 13 MICHAEL HILLMER: This is historical 14 staffing data. 15 JOHN CALLAGHAN: Right. 16 MICHAEL HILLMER: It's not what was 17 present in the home either at the time of outbreak 18 or even during wave 2. 19 JOHN CALLAGHAN: Right. The 20 information that we have that was both in written 21 form and anecdotal was there were a lot of these 22 homes that were highly understaffed by the time 23 anybody got to them because staff were all sick and 24 afraid to come. So that's not really what we're 25 talking about here?</p>	<p style="text-align: right;">Page 43</p> <p>1 reasoning, we would look at, for the significant 2 factors the ones that don't cross the red line, and 3 we see the for-profit versus not-for-profit. 4 So you would say from this that it was 5 more likely from this model that COVID-19 would 6 spread in a for-profit home. The older design 7 standard still very important. 8 And then, yes, thank you. The local 9 community incidence, as it goes up, more likely to 10 put a home into high spread. 11 And then interestingly, number of 12 active residents per outbreak. The occurrence of 13 outbreak was more risk, but once you move into the 14 spread situation, the more residents you have, it 15 becomes a protective factor. And I think there are 16 a couple of reasons for that. 17 One, the number of active residents is 18 also a proxy for the number of staff; so there may 19 be more staff available to help deal with the 20 situation. And the home is likely larger as well, 21 and there may be more room to put into effect 22 practices like cohorting, which are very important 23 in times of outbreak. 24 Same presentation here. The one thing 25 I neglected to mention when we showed the table</p>
<p style="text-align: right;">Page 42</p> <p>1 MICHAEL HILLMER: That's not reflected 2 in this data or these results. 3 JOHN CALLAGHAN: Okay. 4 MICHAEL HILLMER: If we can go to the -- 5 okay, thank you. 6 This table is showing the same thing as 7 the graph but just in numerical format. The 8 benefit of this table is it shows you what was 9 significant in wave 1 versus wave 2. And you can 10 see that COVID-19 incidence in the local community, 11 it's just as important in wave 1 as it is in wave 12 2. 13 Although, you know, interestingly, the 14 strength of the effect seems to be less in wave 2, 15 perhaps related to the number of residents infected 16 in the homes. 17 And then you can see the number of 18 residents is significant. The older design 19 standard, not a factor in wave 2. And of course 20 the number of residents infected only is relevant 21 for the wave 2 analysis. 22 So that was the risk of an outbreak 23 occurring. This is now showing the extent of the 24 outbreak, or the spread. 25 So now using the same underlying</p>	<p style="text-align: right;">Page 44</p> <p>1 last time was that you can see the impact of 2 adjusting. 3 And so if you look at wave 2, for 4 example, the for-profit number, that's just a -- we 5 call that the crude rate. So that just means, you 6 know, the number of residents infected in each 7 home. And then it's not adjusting for anything. 8 And the partially adjusted model then 9 tries to look at the surrounding community, whether 10 it's the rate of COVID or the size of the 11 community. 12 And then the fully adjusted model then 13 includes all of the home characteristics. And you 14 can see as you move along by adding more of these 15 factors, the rate goes from 2.65 to 1.6. And 16 that's the impact of holding all those other things 17 constant. 18 JOHN CALLAGHAN: This is all done off 19 the nonprofit, right? 20 MICHAEL HILLMER: Correct. 21 JOHN CALLAGHAN: If one looks at the 22 unadjusted in wave 2, it's 265 percent more likely 23 to have the outbreak. And municipals are less 24 likely to have less than 69 percent of the chance 25 of a nonprofit.</p>

<p style="text-align: right;">Page 45</p> <p>1 And if you adjust it down against 2 nonprofits, when it's fully adjusted, there's still 3 a 60 percent increase over nonprofit, and there's 4 still a benefit under the municipal at 78 percent, 5 correct?</p> <p>6 MICHAEL HILLMER: The only 7 clarification I'd make there -- I'd agree with 8 almost everything you said. In this case the 9 municipal didn't end up achieving this statistical 10 significance. So you would say it was 11 statistically no different than the nonprofits.</p> <p>12 JOHN CALLAGHAN: Right. You haven't 13 done it, but you could do municipal to profit?</p> <p>14 MICHAEL HILLMER: You could.</p> <p>15 JOHN CALLAGHAN: So this doesn't do 16 that. It does nonprofit to profit, nonprofit to 17 municipal, correct?</p> <p>18 MICHAEL HILLMER: Yeah, you have to 19 pick one, and you can pick -- I'm just saying you 20 could pick any one you wanted and you could do 21 that.</p> <p>22 JOHN CALLAGHAN: I just want to make 23 sure the Commissioners understand, okay.</p> <p>24 MICHAEL HILLMER: All right. If 25 there's no questions, let's keep going.</p>	<p style="text-align: right;">Page 47</p> <p>1 that, I mean one speculation, but one possible 2 suggestion is maybe people are a little complacent 3 because they didn't get hit as hard in wave 1, they 4 sort of think they're okay?</p> <p>5 MICHAEL HILLMER: Yeah, it --</p> <p>6 COMMISSION CHAIR FRANK MARROCCO: I 7 know that's really speculation.</p> <p>8 MICHAEL HILLMER: Yeah, I'm afraid I 9 can't speculate with any degree of certainty.</p> <p>10 COMMISSIONER JACK KITTS: I think, if 11 you just go back. I think what you're saying, 12 Michael, is that it's almost like herd immunity. 13 If you had a high number of infected in the first 14 round, they're protected in the second round; 15 second wave?</p> <p>16 MICHAEL HILLMER: I think based on -- I 17 think that's one possible explanation, Commissioner 18 Kitts. It's why we included this based on the 19 advice of the epidemiologist that you were likely 20 to -- if you didn't account for it, you might see, 21 you know, very, very different patterns. And so it 22 was on that logic that he suggested including it, 23 based on the potential immunity or healthy survivor 24 of that.</p> <p>25 COMMISSIONER JACK KITTS: You're</p>
<p style="text-align: right;">Page 46</p> <p>1 So this is now looking at mortality. 2 And you can see -- thank you for the highlight 3 there, the green dot sitting at -- this is 4 for-profit versus nonprofit.</p> <p>5 So an increased risk in wave 2. The 6 community COVID rate remains significant. The 7 number of active residents, it's flirting with the 8 non-significance but it is a benefit.</p> <p>9 The older design standard remains a 10 higher risk. And again, in this case the number of 11 residents infected in the previous wave -- if you 12 didn't have that many residents infected in the 13 previous wave, that was a risk for having more 14 residents die in the second wave.</p> <p>15 COMMISSION CHAIR FRANK MARROCCO: Can 16 you give me that again?</p> <p>17 MICHAEL HILLMER: Absolutely.</p> <p>18 COMMISSION CHAIR FRANK MARROCCO: The 19 last one.</p> <p>20 MICHAEL HILLMER: The last one. So if 21 your home in wave 1 had fewer than 50 percent of 22 the residents infected, in wave 2 your residents 23 were 50 percent more likely to pass away from 24 COVID.</p> <p>25 COMMISSION CHAIR FRANK MARROCCO: So</p>	<p style="text-align: right;">Page 48</p> <p>1 reading now about maybe one dose for patients or 2 staff in long-term care -- sorry, residents of 3 long-term care, one dose may be effective, 4 particularly if they've had COVID before; is that 5 where this comes from?</p> <p>6 MICHAEL HILLMER: This includes data 7 from September 1st up to the January 22nd. So some 8 of these residents would have started to have been 9 vaccinated around -- well, the program started in 10 the middle of December; there weren't that many 11 residents that were vaccinated during the December 12 time period. That started in earnest after New 13 Years.</p> <p>14 So it wouldn't pick up a whole lot of 15 residents that were vaccinated, just because it 16 really did start around that first week of January.</p> <p>17 COMMISSIONER JACK KITTS: Thank you.</p> <p>18 MICHAEL HILLMER: So this is again the 19 same slide here, showing both wave 1 results and 20 wave 2.</p> <p>21 And you can see the impact of adjusting 22 with different sets of variables, both the 23 community characteristics and then the home 24 characteristics. Unless there are questions here, 25 I'm happy to keep going.</p>

<p>1 COMMISSION CHAIR FRANK MARROCCO: Page 49 I 2 don't think we have any. 3 MICHAEL HILLMER: Okay, thank you. 4 So, the next set of slides, and these 5 are analysis we just completed this week. And so 6 they're hot off the press. 7 We look at all of the data from end of 8 March until really just a couple of days ago. And 9 we see, when we do that, no impact of -- right, of 10 ownership category. 11 We've included here, as a separate 12 category, the for-profit homes -- sorry -- the 13 not-for-profit homes operated by for-profit 14 corporations; that's the second one. The third one 15 is municipal housing. 16 And again, community COVID, the number 17 of active residents in your home, and the community 18 population in that characteristic at the bottom 19 there are the most likely factors to put you at 20 risk of outbreak. 21 JOHN CALLAGHAN: You had earlier said, 22 I think, that chain ownership was. Was that not 23 what the original assessment was? 24 MICHAEL HILLMER: If you look at wave 1 25 separately, actually, if you go back to a few</p>	<p>1 The population size between 10,000 and Page 51 2 500,000 is, for a reason I don't completely 3 understand, was somewhat protective. And then 4 number of active residents and older design were 5 the significant factors. 6 So just to conclude, we found the 7 patterns changed as you looked at different time 8 periods, whether wave 1 separately, wave 2 9 separately, and then all together. 10 So I do think the time period matters 11 in that it really does demonstrate the dynamics of 12 transmission and spread. 13 Plus factors that we're not able to 14 detect and include in this model are driving the 15 different patterns that I presented to you. 16 COMMISSION CHAIR FRANK MARROCCO: So 17 whether it's profit or for-profit or not 18 for-profit, when you look at the two waves 19 together, your conclusion is that that is not a 20 significant factor? 21 MICHAEL HILLMER: Correct. 22 COMMISSION CHAIR FRANK MARROCCO: In 23 mortality? 24 MICHAEL HILLMER: In any of the 25 outbreak, spread or mortality.</p>
<p>1 slides, we can compare, if you look at the "Risk of Page 50 2 Outbreak" model, there we go. 3 Chain ownership, for risk of outbreak, 4 was not a factor in risk of outbreak. 5 JOHN CALLAGHAN: Right. But I thought 6 risk of mortality. 7 MICHAEL HILLMER: If we can go to the 8 next one, "Risk of Mortality", which was not this 9 one. 10 So it was risk of spread and risk of 11 mortality in wave 1, but not wave 2. 12 So if we go back -- I think we can go 13 to the next one. Thank you. 14 This is the extent or spread of the 15 outbreak, once it occurs. Again, no significant 16 difference by ownership category. 17 The cumulative cases per thousand is a 18 factor. The number of active residents, again, 19 like the other models, becomes protective. Older 20 design standard is a risk again, as is chain 21 ownership. Or chain membership, rather. 22 And if we look at risk of death, again, 23 no difference by ownership category; a similar 24 story here as when we looked at some of the other 25 models where community COVID is important.</p>	<p>1 COMMISSIONER JACK KITTS: Can you go Page 52 2 back to the graphs then? Right there. 3 So for-profit versus nonprofit, the dot 4 is to the right. But because the line goes over 5 the other, you can't call that statistically 6 significant? 7 MICHAEL HILLMER: Exactly right, 8 Commissioner Kitts. 9 COMMISSIONER JACK KITTS: So I know 10 that non-analysts like me, I mean, if you look at 11 that, it looks like there's a trend. Is there 12 enough data to show that? Or that's the 13 statistical significance but... 14 MICHAEL HILLMER: The only thing I can 15 say with certainty is that because the confidence 16 interval includes the null effect; one is no 17 effect, you can't be certain. So you are at risk 18 of saying that there's an effect when it could be 19 given a chance. 20 COMMISSIONER JACK KITTS: I know. 21 Thank you, Michael. 22 COMMISSION CHAIR FRANK MARROCCO: And 23 can I just ask you to refresh my memory. "Chain 24 home" means, where you have "chain home" -- 25 U/T MICHAEL HILLMER: Two or more. We did,</p>

<p style="text-align: right;">Page 53</p> <p>1 Commissioner Marrocco, look at the size of the 2 chain, I don't have the graphs here and we can 3 provide them to you, if you're interested in that. 4 That didn't seem to make a difference 5 whether it was a big or a small chain, I think we 6 used 3 or 4 different cut points for chain size. 7 If we can go to the final slide here. 8 So, in conclusion, we looked at the 9 factors that we had ready access to, to look for 10 the patterns of outbreak and spread and death. And 11 really, it is to drive policy response and to 12 highlight factors that might be relevant and to 13 stimulate further investigation. 14 So if you were to really want to 15 understand why a particular home performed the way 16 it did, it would require the kind of data we don't 17 have ready access to, some of which we talked 18 about. 19 And ultimately, as I've said, these 20 models don't really answer the important question 21 of why. They give you clues and hints. And, as 22 we've seen, the time period you pick matters and 23 how you construct the models matter. 24 So I would end that the older design 25 standard really does, and the rates of community</p>	<p style="text-align: right;">Page 55</p> <p>1 MICHAEL HILLMER: -- break? Exactly. 2 We present wave 1 and wave 2 results to 3 decision-makers, just so they can understand how 4 the response is stacking up against what happened 5 in the first wave. 6 COMMISSION CHAIR FRANK MARROCCO: And 7 so when you say the models are point in time. 8 Point of time, if you chose different points of 9 time you might get different results. But the 10 collective professional consensus was that 11 August 31st was the best point in time to choose 12 for this kind of analysis. 13 MICHAEL HILLMER: That is correct, sir. 14 The point in time, the other dimension 15 to that is, if we were to go another month forward 16 and -- let's say there were some very bad outbreaks 17 because of the variants of concern, which we hope 18 not to be the case because of vaccines and other 19 measures, and they happened in a particular set of 20 homes -- that would almost certainly result in 21 different model outputs. 22 And I might be here telling you the 23 same, you know, the same or different factors are 24 apparent now because of the changing dynamics of 25 the virus.</p>
<p style="text-align: right;">Page 54</p> <p>1 COVID seem to be the enduring factors from start to 2 finish. Some of these other factors seem to pop in 3 and out of significance depending on the time 4 period. 5 COMMISSION CHAIR FRANK MARROCCO: You 6 chose, I think the end of August. Was that a 7 consensus amongst epidemiologists that that was a 8 good place to break off if you were trying to 9 separate wave 1 from wave 2? 10 MICHAEL HILLMER: We consulted with a 11 small group of epidemiologists and scientists, and 12 that was the consensus. 13 And it was really based on the, at that 14 point, the rates of community COVID and the number 15 of outbreaks in homes had dropped to very low 16 levels. 17 And if I were to show you a graph, and 18 you being a newcomer, you would likely pick that 19 point as well, because it sort of represents the 20 dip in case counts and outbreaks. 21 COMMISSION CHAIR FRANK MARROCCO: In 22 terms of the work you were doing, that was one of 23 the first things you had to do, I assume. 24 MICHAEL HILLMER: Decide when to -- 25 COMMISSION CHAIR FRANK MARROCCO: Yes.</p>	<p style="text-align: right;">Page 56</p> <p>1 COMMISSION CHAIR FRANK MARROCCO: But 2 in terms of the work you did, and the research you 3 did, this was the time to divide the two. Any 4 other arbitrary choice would have been really 5 contrary to the professional thinking with whom you 6 consulted. 7 MICHAEL HILLMER: Correct. 8 COMMISSION CHAIR FRANK MARROCCO: Got it. 9 COMMISSIONER ANGELA COKE: I just want 10 to confirm something that you had said before. So 11 the two factors that endure, no matter how you've 12 looked at this, is the older homes and the 13 community spread; is that the most impactful? 14 MICHAEL HILLMER: If we can go back 15 I'll quickly summarize. 16 If we look at a couple of slides. 17 Let's look at the tables where we've got the yellow 18 highlighting. I think they're the nicest ones. 19 So if we go to "Risk of Outbreak". So 20 the risk of outbreak, community rates of COVID are 21 important through wave 1 and wave 2, and start to 22 finish. And the home size as -- or sorry, the 23 number of residents, which is a proxy for home 24 size, were the important factors in all models for 25 risk of outbreak.</p>

<p>Page 57</p> <p>1 And then if you look at the extent of 2 outbreak, which is the next table, depending -- so 3 again, rates of community COVID important in wave 1 4 and wave 2, and older design standards and number 5 of residents, I believe, were the significant 6 factors in all three.</p> <p>7 I don't -- it would be easiest if I had 8 the third column there, showing the start to 9 finish. But I'm going off memory, but I think 10 that's true.</p> <p>11 And then mortality, again, older design 12 standards, rates of community COVID and I believe 13 the size of -- the number of residents were 14 significant in all three.</p> <p>15 U/T Probably best if I maybe send you a 16 table after the fact that lines all three up, just 17 so you can see them.</p> <p>18 COMMISSION CHAIR FRANK MARROCCO: That 19 would be helpful, actually.</p> <p>20 COMMISSIONER ANGELA COKE: Yes.</p> <p>21 MICHAEL HILLMER: We're happy to do 22 that.</p> <p>23 COMMISSIONER ANGELA COKE: Thank you.</p> <p>24 MICHAEL HILLMER: That was I believe 25 the final slide of my presentation, so I'm happy to</p>	<p>Page 59</p> <p>1 very much.</p> <p>2 MICHAEL HILLMER: Very nice to see you 3 all, Commissioners. And thank you, John, for 4 leading us through this.</p> <p>5 JOHN CALLAGHAN: Thank you.</p> <p>6</p> <p>7 -- Adjourned at 5:19 p.m.</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p>Page 58</p> <p>1 discuss or, if, John, you've got other questions 2 you'd like to pose?</p> <p>3 JOHN CALLAGHAN: I think that's fine. 4 I have the other data, the other data which we 5 talked about is data that's accurate and we can 6 look at it for that purpose. I don't think I need 7 to take your time on that, so thank you.</p> <p>8 COMMISSION CHAIR FRANK MARROCCO: Well, 9 obviously we've asked our questions and thank you 10 again, Mr. Hillmer.</p> <p>11 We have been reflecting on the profit, 12 not-for-profit issue, and this analysis quite on 13 that point.</p> <p>14 And so, therefore, will be something we 15 have to think about quite carefully. But thank you 16 for presenting this to us because it's helpful on 17 that question. It's very helpful.</p> <p>18 MICHAEL HILLMER: It was our pleasure, 19 Commissioner Marrocco, and please, as you have to 20 date, feel free to reach out any time and if we can 21 help, we will.</p> <p>22 COMMISSION CHAIR FRANK MARROCCO: 23 Great. Thank you and good evening. Thank you, 24 all.</p> <p>25 COMMISSIONER ANGELA COKE: Thank you</p>	<p>Page 60</p> <p>1 REPORTER'S CERTIFICATE</p> <p>2</p> <p>3 I, JUDITH M. CAPUTO, RPR, CSR, CRR, 4 Certified Shorthand Reporter, certify;</p> <p>5</p> <p>6 That the foregoing proceedings were 7 taken before me at the time and place therein set 8 forth;</p> <p>9</p> <p>10 That all of the remarks made at the 11 time were recorded stenographically by me and were 12 thereafter transcribed at my direction;</p> <p>13</p> <p>14 That the foregoing is a true and 15 correct transcript of my shorthand notes so taken.</p> <p>16</p> <p>17 Dated this 20th day of February, 2021.</p> <p>18</p> <p>19 </p> <p>20</p> <p>21 NEESONS, A VERITEXT COMPANY</p> <p>22 PER: JUDITH M. CAPUTO, RPR, CSR, CRR</p> <p>23</p> <p>24</p> <p>25</p>

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