Long Term Care Covid-19 Commission Mtg.

OPS Briefing on the Testing Strategy Presented by Ministries, Ontario Health and Public Health Ontario (OAHPP)
on Wednesday, November 25, 2020

neesons
A VERITEXT COMPANY

77 King Street West, Suite 2020
Toronto, Ontario M5K 1A1

neesonsreporting.com | 416.413.7755

MEETING OF THE LONG-TERM CARE COVID-19 COMMISSION

--- Held Virtually via Zoom, with all participants attending remotely, on the 25th day of November, 2020, 2:30 p.m. to 4:00 p.m.

BEFORE:

The Honourable Frank N. Marrocco, Lead Commissioner
Angela Coke, Commissioner
Dr. Jack Kitts, Commissioner

PRESENTERS:

Matthew Anderson, President and Chief Executive Officer, Ontario Health
Dr. Dirk Huyer, Ontario's Chief Coroner and Coordinator of Provincial Outbreak Response, Ministry of the Solicitor General
Dr. Vanessa Allen, Chief of Microbiology and Laboratory Science, Public Health Ontario
Fredrika Scarth, PhD, Director, Secretariat of Improving Healthcare and Ending Hallway Medicine, Ministry of Health
Olha Dobush, Executive Lead for Long-Term Care Stabilization, Ministry of Long-Term Care

OBSERVERS:

Catherine Brown, Interim Executive Lead, Health System Performance and Support, Ontario Health
Miren Chauhan, Vice President of Corporate Services at Health Shared Services, Ontario Health
Janice Dhanjal, Project Manager, Ontario Health
Alwin Kong, Chief Legal Officer, Public Health Ontario
Louise Verity, Strategic Advisor, Office of the CEO
Amy Leaman, Counsel, Ministry of Health and Ministry of Long-Term Care
Tori O'Dwyer, Counsel, Ontario Health

PARTICIPANTS:

Alison Drummond, Assistant Deputy Minister, Long-Term Care Commission Secretariat
John Callaghan, Counsel, Long-Term Care Commission Secretariat
Derek Lett, Policy Director, Long-Term Care Commission Secretariat
Jessica Franklin, Policy Lead of the Long-Term Care Commission
Lynn Mahoney, Counsel, Long-Term Care Commission Secretariat
Sunil S. Mathai, Counsel, Crown Law Office, Civil

ALSO PRESENT:

Olivia Arnaud, Stenographer/Transcriptionist

-- Upon commencing at 2:30 p.m.

COMMISSIONER FRANK MARROCCO (CHAIR): Well, some of you are back. We recognize you from having been here before. Sorry to keep doing this, but we keep finding out more things that we need to find out.

So we're very pleased that you -- you understand the drill. So we'll listen, and we'll ask questions as we go along, if that's okay.

The other thing that may have changed -- there's two things that may have changed. First of all, as you know, we issued an interim report. We may issue a second one.

Secondly, we've learned a little bit as we've gone on here, so you can move through basics a little quicker than you might normally do, but certainly, if you feel there's something fundamental or basic that you need to tell us to set up what you want to say, then go right ahead. But we're moving along in terms of our own knowledge.

And there's a transcript, as you know, which we will post eventually on the website so that people can follow along with what we're up to.

So, Mr. Anderson, I guess, if you're leading, when you're ready, we're ready.

MATTHEW ANDERSON: Great. Well, thank you very much. And thank you, Commissioners, for inviting us back and for allowing us to come and speak with you today.

Just to do a more formal introduction of myself and my colleagues. So we came here before. You recall me: I'm Matthew Anderson, president and CEO of Ontario Health.

I would like to say, consistent with my initial appearance before the Commission, I just need to disclose that I do have a personal, non-financial connection through my extended family to Extendicare, an operator of long-term care homes in Ontario. Should any questions arise as it pertains specifically to Extendicare, my colleagues will respond to those questions.

Joining me today is Dr. Vanessa Allen. Dr. Allen is the Chief of Microbiology and Laboratory Science at Public Health Ontario. She's also the Medical Director of Ontario Health's Provincial Diagnostic Network.

Also with us today is Dr. Dirk Huyer. Dr. Huyer is Ontario's Chief Coroner, Coordinator

of the Provincial Outbreak Response, a role he took on on August the 26th, 2020. He also played a role in the area of testing, specifically targeted testing campaigns during late spring and summer.

Also with us is Olha Dobush. Olha is the Executive Lead for Long-Term Care Stabilization for the Ministry of Long-Term Care.

And Fredrika Scarth: Fredrika is the Director of Testing Strategy Coordination with the Ministry of Health.

Today, as you know, we're going to be talking about testing, and, you know, just acknowledgement that the availability and access to timely, high-quality COVID-19 testing has been an important component of Ontario's pandemic response.

Testing in Ontario is supported by a great number of organizations and people. We work collaboratively in a true partnership to bring this capacity to the province and is somewhat evident by the number of people who have joined us today to talk about testing.

Our presentation overall, from an agenda perspective, I will cover initially the testing continuum just to do a little bit of a lay of the land on what we're talking about with

respect to testing.

We'll hand it over to Dr. Allen and Fredrika, who'll do the bulk of the discussion around the testing approach and strategy, and then to Ms. Dobush and Dr. Huyer to talk specifically about our testing in long-term care.

So with that, Commissioners, unless there's anything else, we can just get right into it, and if I can just get that -- whoever's [inaudible] -- that's perfect, thank you, whoever is doing our slides for us.

So this is our testing continuum slide, and we thought we would start here.

One of the challenges that we've faced over the last nine months is people just refer to "testing," and in fact, there are quite a number of elements to our testing. So if you'll indulge me, I'll just very rapidly walk you through what's on this chart.

I'll start at the top by saying that the Ministry of Health is responsible for the overall strategy for testing in the Province of Ontario. And there's a little asterisk on that at the bottom in the fine print that when we speak specifically of long-term care homes, we do look to

the Ministry of Long-Term Care to set the guidance for our long-term care testing strategy, but overall, we looked at the Ministry of Health, who sets the strategy.

I'm just going to walk you from left to right across our little chart here. And when we think about testing, there's really five components to it, and then a sixth, which is the tracing.

And so on the far left, you'll see the process starts with testing guidance, and so the testing guidance is ultimately set through the Ministry of Health but comes through our Chief Medical Officer of Health, and at Public Health Ontario, Public Health Ontario has established a testing expert panel.

So that expert panel will provide recommendations to the Chief Medical Officer of Health. The Chief Medical Officer of Health will then bring those forward to the Ministry of Health, and ultimately, a decision will be made as to any updates or changes to our testing guidance.

The changes to testing guidance we've [made into with] (ph) this conversation is is it's kind of a big deal. It has a lot of impacts when we think about being able to do comparative

analysis, as a for instance, around different periods of time in testing. So this is not something -- when we do change testing guidance, it's not done lightly. It is through this kind of a consultative process before testing guidance would change.

In terms of the lab itself, the lab processing itself, you'll see in the white box, towards the bottom there, it says "Ontario Health Coordinates." So the white box is really what we're referring to when we talk about the Provincial Diagnostic Network in Ontario Health's role in coordinating.

So there's different steps here.

The first one is specimen collection, and it is as it sounds. This is where you would be swabbed, one of our favourite terms. We talk about swabbing quite a bit. It's really specimen collection. And you can see in the bullet points below, there's a great number of places where we actually do specimen collection. In fact, there would be several hundred places where specimens are collected.

We typically talk about assessment centres that are hospital-based, but they're not

exclusively hospital-based. Our pharmacies are now doing specimen collection, Public Health is involved in specimen collection, and long-term care homes do specimen collection, and community providers. So we do a lot of specimen collection in communities where we ask community health centres, as a for instance, to participate in specimen collection.

Once the specimen is collected, it then needs to be transported. And we just listed again different folks who are involved, different agencies that are involved in transportation. Some of this, as our network matures up, we are being more deliberate and more centrally organizing transportation, but that's not always the case in, you know, all instances, since some providers will ship based off of their local courier pattern.

It then arrives at the lab, and this is where our network started is the coordination of these labs. And Dr. Allen will correct me if I've got the number not quite right, but essentially, we have a little over 20 what we call core labs. These are labs that are either at Public Health Ontario, in a hospital, or private labs. So this is a public-private laboratory network, and so we

will have labs from hospitals, PHO, and also our community labs as all part of this.

That's a little over 20. We have another 20 that we call affiliate labs where they do lower-volume tests for us but often in areas that are hard to reach. So think of up in the North, and again, Dr. Allen can expand on some of that through her talk.

So, you know, a few hundred specimen collection centres, through transportation, into about 40 labs. We have the joy of also -- but these labs are all run on different information systems, and so we have to coordinate across several different information systems, which makes most of this network or big parts of this network paper-based because we have to do data entry into the different information systems.

That information -- once the lab test has been processed, we produce a result. The result, typical, would be posted on Our Lab Information System1, lovingly referred to as OLIS, that has a web viewer so people can go and look at their lab result. The results are also communicated back to the ordering physician and, in the case of positive cases, is also communicated to

our public health units.

We also have a number of agencies, being the Ministry of Health, our public health units, and Ontario Health who produce aggregate reports off of the results that are posted into OLIS. Once we have a result, if it's positive, it kicks over into the Case Management System, which is run by our public health units.

That is my whirlwind tour. I wanted to just walk you through that so when we talk about testing, and there may be times in the question and answer where we want to delineate what we are referring to because these different components -- one of the things that we've learned through all of this is that all of these components have to be brought online and expanded basically in unison in order to maintain the integrity of the network.

If any one part gets too far ahead of the other parts, we can see a degradation in performance. And when Dr. Allen is presenting, she'll point out the period of time at the end of September where our specimen collection actually ramped up much faster than our transportation and laboratory capacity was in place for and we saw a period of long turnarounds.

I will say that our turnaround time -- and my last comment and then I'm going to hand it off to Dr. Allen -- is that what we endeavor to do when we measure turnaround time is we measure from the time -- so this entire process, everything under the white box. So from the time the specimen is collected to the time the result is posted in OLIS.

And our goal is that at least 80 percent of the time, we're able to do that entire process in under two days. It's an ambitious goal, particularly given that we've built all of this infrastructure. The pieces were all in place prior to March of 2020, but what I've just described in the coordination effort and putting it all through into OLIS, this has all been created over the last nine months, including the setting up of the assessment centres. So it's many, many moving parts.

If you're okay, Commissioners, I'll pause there, and I'll hand it over to Dr. Allen, who's going to take us through the strategies that are behind it. I just wanted to go over the bare bones of how the system operates.

COMMISSIONER FRANK MARROCCO (CHAIR):

Just before you do that -- Commissioner Coke?

COMMISSIONER ANGELA COKE: So just a question, a planning question.

So did your pre-COVID sort of pandemic plans include how you would quickly ramp-up your lab capacity? What was in your original plans before you even had to get to this stage?

MATTHEW ANDERSON: I believe that is the first slide that Dr. Allen is going to speak to.

COMMISSIONER ANGELA COKE: Okay.

MATTHEW ANDERSON: So if it's okay, we'll let her put that slide up, and she can speak directly to that question.

COMMISSIONER FRANK MARROCCO (CHAIR): And my question was, the guidance, did that always set out who could be tested? Like, who was eligible for testing and who wasn't?

MATTHEW ANDERSON: That is correct.

COMMISSIONER FRANK MARROCCO (CHAIR): All right.

MATTHEW ANDERSON: Okay. Dr. Allen, over to you.

DR. VANESSA ALLEN: Great. Thank you. Thank you, Mr. Anderson.

And thank you for the chance to speak with you today.

So to the question that was just raised, I think a lot was -- some of the questions are around what was the preparedness from a testing perspective with respect to COVID.

So I'll just walk you through the early days. There is an infrastructure; I don't describe it here. There is an influenza pandemic plan for testing that our approach actually was very consistent with, but we have never seen the scale of testing requirements that have been brought upon by COVID.

So I don't think any of the existing plans have projected this kind of capacity, but I think there are some very interesting turning points along the trajectory that might be helpful to inform your report.

So with respect to the initial chronology, PHO was established in the face of SARS and has established a robust capacity to respond to unknown or emerging infections. So we have a pathogen preparedness unit that actually develops protocols both for pathogens that have been identified internationally but also for pathogens

of unknown etiology.

So on January 3rd when we're notified of the seafood market in Wuhan, we had already developed a testing protocol and publicized that on the website for what we do for a sample from someone with symptoms who came from Wuhan or China for which we needed testing.

We did have a teleconference of provincial partners, and on January the 10th, we actually tested our first sample, and it was the first sample that was tested in Canada. That very weekend that we were testing the first sample, the viral sequence of COVID was released, or SARS-CoV-2 was released. And we actually compared it to the battery of tests that we were running our samples against, and it was a match to one of the tests that we were returning.

So specifically, we had developed a test for MERS, which is in the same group of coronaviruses, and it's a more generic test for that group of viruses, and so we already had a test ready to go.

But in the meantime, we had also established -- or not established but confirmed the relationship with NML, and, in fact, what had been

decided was that all samples tested until we had much more experience with this pathogen would be tested in duplicate both at PHO and at the National Microbiology Lab in Winnipeg.

So this sample, the first sample was negative, and it was confirmed as negative at the National Microbiology Lab that weekend.

On January the 25th, we had our first presumptive positive in Ontario and in Canada, and that was identified first at PHO and then confirmed two days later at the National Microbiology Lab using these diagnostic strategies.

So I'll describe the testing volumes over time, but there was actually very -- there was a lot of work in preparing for this test, but there weren't large, large volumes of test requests at this time. And, in fact, on February the 26th when we had tested no more than 600 samples in total or no more than 650 samples in total, we had made the formal recommendation that capacity beyond PHO for testing should be afforded to ensure that we had increased capacity should the demand surge.

We were seeing, for example, the initial outbreak in South Korea at that time, and so there was a lot of effort for further

preparedness for Ontario.

The other thing of note, and it speaks to the earlier part, is PHO actually never rejected a sample. So while there was testing criteria in those early days, what we did is for any sample that was submitted without clear articulation of meeting the surveillance guidelines, a microbiologist would actually phone the clinician and go over what the pros and cons were of testing.

But ultimately, if the clinician decided that the sample should be tested, it was always tested, and no sample was ever rejected.

COMMISSIONER JACK KITTS: Dr. Allen, can I ask you a question?

DR. VANESSA ALLEN: Of course.

COMMISSIONER JACK KITTS: So doing the tests initially at PHO and getting confirmed by NML, is that a quality control initiative to start?

DR. VANESSA ALLEN: Yeah, it's a great question. So they were doing pretty much the same battery of tests, but the premise of that was given that it was such a novel pathogen, it would be better to test it at two high-quality labs, what we do --

COMMISSIONER JACK KITTS: Okay.

DR. VANESSA ALLEN: -- for the false positive [inaudible].

COMMISSIONER JACK KITTS: And how many labs is PHO? Is it one lab or a number of labs?

DR. VANESSA ALLEN: We have 11 lab sites, but all of the testing at that time was at our Toronto site because that's where the bulk of both the instrumentation and the expertise lies.

COMMISSIONER JACK KITTS: Okay. Thank you.

COMMISSIONER FRANK MARROCCO (CHAIR): You know, the pathogen is in China, then it's in Korea. Was there a thought, then, that perhaps doing them all at one lab or doing them all in Toronto would be difficult, that the volumes would go up?

DR. VANESSA ALLEN: Absolutely. So, you know, we actually formally submitted a recommendation on February the 26th because we were concerned that this would need to be -- that there needed to be urgent consideration of using all of the high-quality molecular lab capacity in the province.

And, in fact, if you look at South Korea, they had MERS in 2015, and they

already had a very distributed laboratory capacity throughout their country, and so it was exactly to model on that to distribute that capacity.

So yes, that was formally recognized in the middle of February.

And just for context: So we had only tested 629 samples the day that that recommendation came. We're now testing 40,000 a day. So it's a very small number of samples at which we raised that flag, and it was more based on what we were seeing internationally.

COMMISSIONER FRANK MARROCCO (CHAIR): And was the guidance, what was it -- was who could be tested, then, was that at a high level, or did it require a person to be, like, seriously showing the disease or something of that nature in order to qualify for the test?

DR. VANESSA ALLEN: Excellent question. So at the early stages, there was a definition, and it was established by the Chief Medical Officer of Health, and it evolved over time.

So at the beginning, it was really looking for people that came from that seafood market, then it expanded to Wuhan City, then it expanded to the province. And the symptom range

was pretty broad. So I don't think there was a lot of debate. If someone had any respiratory symptoms, they were recommended for testing as per the guidelines.

So those were the Public Health guidelines, but complementing that, you know, as a public health laboratory, we're not only a public health service, but we're also a clinical service. And so what had been established was that if there was any clinical suspicion that we would review that -- and ultimately, it was the clinician's decision -- but certainly, anyone that fell within the CMOH's guidance would get tested, but many more got tested beyond that.

COMMISSIONER FRANK MARROCCO (CHAIR): So if there was a sample submitted, a clinician at the lab would communicate with whoever --

DR. VANESSA ALLEN: Exactly.

COMMISSIONER FRANK MARROCCO (CHAIR): -- submitted the sample, and the clinician would decide whether to test the sample or not?

DR. VANESSA ALLEN: Right. That's right. We would give the advice, but ultimately, the decision was his.

COMMISSIONER FRANK MARROCCO (CHAIR): I

see. Okay.

DR. VANESSA ALLEN: Thank you.

COMMISSIONER FRANK MARROCCO (CHAIR): All right. Thank you.

DR. VANESSA ALLEN: Thank you.

So the other thing that isn't in this slide, it's just to note that, in Ontario, the laboratory system that was leveraged after February 26th and ultimately makes up the Provincial Diagnostic Network that Mr. Anderson described really is three separate parts of the laboratory system.

So there's Public Health Ontario laboratory system. There's a hospital-based laboratory -- not system, but network of labs throughout hospitals and community labs.

And so it was really to merge these more coherently as a true functioning system for the provincial response.

COMMISSIONER FRANK MARROCCO (CHAIR): Dr. Allen, before you go on: So initially, the guidance focused on whether you had been in one of the places where the disease was rampant or quite obvious.

Did long-term care homes, since those

people aren't likely going anywhere or hadn't come from -- were they excluded from testing?

DR. VANESSA ALLEN: It's an excellent question. So in February, certainly the guidance was more around travel-related cases, from a provincial guidance perspective.

So as a clinician providing testing at the Public Health Ontario Lab, I don't recall of an example of a sample from long-term care for which we were requested for testing. It wasn't a big focus, certainly, in February with respect to the number of samples that were being requested.

COMMISSIONER FRANK MARROCCO (CHAIR): Was that because it wasn't foreseeable in February that this disease would cause lots of trouble in a long-term care facility? Did that become apparent after, or why was that?

MATTHEW ANDERSON: Do you want me --

DR. VANESSA ALLEN: Yeah, go ahead.

MATTHEW ANDERSON: Do you want me to just add in there, Dr. Allen?

DR. VANESSA ALLEN: Yeah.

MATTHEW ANDERSON: So just one quick thought on that is that in the time frame of late February into about early March -- and we have to

look at the exact dates -- we still had not confirmed community spread. So the guidance was still very much focused on travel or cases that were linked to travel. It had not become a more broad guidance around community spread.

And I believe, and correct me if I've got it wrong, Dr. Allen, that it's when we clicked over to the recognition of community spread that the guidance then broadened --

DR. VANESSA ALLEN: That's right.

MATTHEW ANDERSON: -- but again, we can check all those dates for you, Commissioner.

FREDRIKA SCARTH: And [inaudible] --

COMMISSIONER FRANK MARROCCO (CHAIR): It wasn't the dates. I was just trying to -- I'm sorry. Go ahead.

FREDRIKA SCARTH: I'm sorry. I was just saying, we do have some of that information a bit later in the presentation.

COMMISSIONER FRANK MARROCCO (CHAIR): Yeah, that's fine. I really was just trying to understand it. If it was travel-related, I was just having some difficulty how it could cover someone who wasn't travelling and couldn't travel, and I think I sort of...

FREDRIKA SCARTH: Right.

COMMISSIONER FRANK MARROCCO (CHAIR): I think I understand.

DR. VANESSA ALLEN: It wasn't a large focus at that point in terms of the high-probability cases. Okay.

So if I could go to the next slide, please?

So I'll be speaking to this, but this is work that Ontario Health really led.

So concurrently, there was an incredible build of sites for specimen collection, and so in March 2020, Ontario Health partnered with hospitals to establish the COVID assessment centres, and there was incredible mobilization [indecipherable] occur.

And currently, there are over 160 testing locations that now extend even beyond these assessment centres to community testing sites, pharmacies, and mobile capacity.

Next slide, please.

So with respect to the chronology of the testing volumes: So in January -- so again, we started on January 3rd to develop a structure and capacity for testing for this particular organism,

but the submissions in January for COVID testing were still relatively low, so 103.

Again, to your point, they were focused largely on individuals who had travelled from countries where there were known COVID cases, and then it started to increase over the course of February. And while this doesn't show it, by a weekly basis, it was really an incremental rise.

So throughout February, we tested over 1,800 samples; again, very low relative to the testing volumes that we're performing today, and it was on February 26th when it was only, in fact, a small subset of those samples that we asked for some assist- -- or made the recommendation that testing should be distributed beyond PHO.

And in March, so prior to the establishment of the Provincial Diagnostic Network, there was an informal collaboration across labs with the support of the Office of the Chief Medical Officer of Health. And so some hospital labs did start testing as early as March the 10th. And so throughout the month of March, we had tested almost 50,000 samples, two-thirds of that being still at Public Health Ontario but a third of them at hospital labs.

But what did happen at the end of March was that the guidance for testing had become much broader, and there was an acknowledgement or a recognition that there was community transmission, and the volumes exceeded the capacity that we had within this informal relationship between hospital labs and Public Health Ontario.

And it was on March the 29th that Ontario Health assisted with the establishment of a formal Provincial Diagnostic Network.

And since then, there has been incredible both formalization and efforts to increase both the capacity but also to reduce the turnaround time and the integration of all of the components of the testing framework that was described by Mr. Anderson earlier.

This week, our current daily average is over 40,000 tests per day, and there is further building for both capacity and active efforts to reduce the turnaround time for the samples that are received.

COMMISSIONER FRANK MARROCCO (CHAIR): Doctor, I just want to understand the timing. That's where my question's directed.

DR. VANESSA ALLEN: Okay.

COMMISSIONER FRANK MARROCCO (CHAIR): So January 3rd, Public Health Ontario has already concluded that it has to pay attention to this virus. If nothing else, it could be transmitted here by someone travelling from Wuhan to here, and then it would be loose in the Canadian countryside.

When do you start to think about -- from a testing perspective, when does this first come up on the radar screen? Because by January 3rd, a decision is made. I'm just trying to understand the timing.

DR. VANESSA ALLEN: If I may, I would sort of separate it into two components.

The first one is we are continuously developing diagnostic algorithms for emerging pathogens in the world. So Ebola, we have a test for when it emerged there. We have a test for Zika. We have tests for various different kinds of enterovirus that cause -- so this is part of our routine business and really a product of some of our mandated responsibilities post-SARS.

So that has been afforded both by the investments that have been made there but also some of the technological advances. So you can actually now do testing without knowing what the pathogen

is, which wasn't possible during SARS.

So that doesn't answer your question, but, like, the decision in January to develop that test raises a flag, but at that time, it was not clear that it was going to be at this scale.

But I do think that we were, you know, very aware, and as we always are for any of these pathogens, very aware that there is always the potential that it becomes more important in Ontario and what the potential consequences of that are and also to not have robust capacity in Ontario, what that could mean.

So the parallel example is Ebola. We're not going to have Ebola transmission in Ontario, but we know that it's really important to have testing capacity so we can deliver appropriate results quickly to our citizens.

So the real flag for us was really that third week of February, and it was primarily based on what we were seeing internationally. There was not yet the identification of community spread in Ontario, but it was recognized certainly by PHO and other laboratories within the system that, to work together, we would be much better prepared.

And when we did make that

recommendation to the Chief Medical Officer of Health, the day after, we had a meeting and we arranged it, and there was funding arranged to get some of those initial supplies up and ready, and that was where Mount Sinai, SharedLabs, SickKids all implemented testing the week of March the 10th.

COMMISSIONER FRANK MARROCCO (CHAIR): Okay.

DR. VANESSA ALLEN: If I could go to the next slide, please?

So as described both by Mr. Anderson and in some of the earlier slides that I spoke to, one of the key components to the success of a testing service for COVID is really the turnaround time.

There are many components to ensuring that turnaround time is minimized as much as possible, and it really goes along the continuum: So making sure that the specimens are collected and shipped rapidly, that the data components to it are smooth and rapid but the testing itself is as expedited as possible, and ultimately, the speed of getting results to both the public health units and to the providers that serve the clients that they saw.

And so overall, the goal, the target has been 80 percent of tests completed within two days, as Mr. Anderson described, and 60 percent of tests completed by one day. You know, we have been closer to meeting the 80 percent within two days, and the two times where this was most seriously threatened was when demand for tests well-exceeded the capacity that we had within the system.

And the two times that that occurred was late March when Ontario Health formalized the Provincial Diagnostic Network, and then in late September, which has since been resolved, but again, the demand for tests exceeded the capacity within the system.

There are currently, and I'll speak to it later, very, very active efforts to reduce turnaround time for tests, particularly in the setting of long-term care.

COMMISSIONER FRANK MARROCCO (CHAIR): I was just going to say that, Doctor, because one of the things we have heard when we were talking to residents, the families of the people who died, there was, in the context of those discussions, a sense that it was taking, like, seven days or

longer for results to come back.

And so our submission is, well, that's kind of futile; it's taking so long to get the sample results back. All the harm is done, et cetera. So was there that kind of -- from your perspective, was there that kind of problem with long-term care sampling?

DR. VANESSA ALLEN: So certainly, we've had reports and identified that some samples have taken a considerable amount of time. There has always been a prioritization framework for samples in outbreaks in long-term care, but we know a lot more work has to happen to make that better.

So, for example, sometimes samples would sit in a fridge for a day or two or they wouldn't come labelled or the system didn't deliver them in the time.

So just overall, this is basically a system that's been built in nine months -- really, the system itself has been since March, so it's really within the last six-plus months and really figuring out to improve the turnaround times there.

So I would say there is -- I would agree there is important need to reduce the turnaround time for samples relating to long-term

care, and I think that's a commitment that we all share.

I would say, to date, the experience has been variable, but our average turnaround time has been two days. So it's not that they're all at seven days, but I recognize the efforts that are underway and necessary to further reduce that.

MATTHEW ANDERSON: If I may, Commissioner, just add a comment in support of Dr. Allen's: So first is that what we're showing you is the provincial average, recognizing it's a very, very big province with all kinds of variations, and we do monitor underneath here. We would monitor by region and where we can by lab, by ordering facility, et cetera. So there's different ways to cut the data, but we just, for the sake of averages, shared this particular one.

I would say -- Dr. Allen also has spoken to it, and why I wanted to show that slide at the beginning on that test continuum -- because I too have heard and am very concerned about reports of long turnaround time, seven days and ten days and that sort of thing.

What we have to do when we hear those reports and what we do do is, first off, where

there is a documented incident of that is to try to unpack where did this break down.

And if you recall the slide that I showed earlier, in the lab processing component of the four steps, with the exception of that time period in September where we did have it sort of overloaded, that's our most reliable component.

The variation in the lab, the lab processing step of those four steps is between 12 to 18 hours, and that's very consistent and rarely changes except for that one period for about two weeks in September where that became an unreliable component from a turnaround perspective.

So what that means for us is that we have to then work through the other parts of that chain. Is it at the specimen collection, and as Dr. Allen suggested, is it transportation? And we have heard of areas where there isn't a standardized transportation network. So they might call a courier; the courier is arriving the next day; they're delivering the specimen the following day. So you've now lost two or three days before the specimen has even arrived at the lab.

The other element is the reporting back. There is some standardization with the

reporting back. If people don't have a cellphone, we will often fax or in some instances mail back the results, and so anywhere in there could be that issue.

So for us, what we're doing -- and we, I think, have a slide on that later if we get there -- is just systemically going through for each of the specimen collection areas, how do we standardize that process and make sure that through transportation to the lab and the reporting, it can be consistent all the way along through that while processing a little over a quarter of a million tests a week. And so we're trying to do both -- a little bit of trying to engineer that.

One of the things that we are looking at is is there a way -- again, most of this, unfortunately, until it gets to the lab, is paper-based. We are rolling out an electronic [inaudible] system at the front end, which makes the diagnostics a whole lot easier.

Going back -- so that's one of the things that we're working on. The only other comment that I would make, going back to Dr. Allen's point, is that there is a prioritization process for long-term care outbreak

specimens; however, that has to be followed.

And so we have to make sure -- and because it's paper-based, we have to make sure that everybody who is doing an outbreak study knows the process, follows the process; otherwise, those specimens will show up in the lab, and the lab won't know to prioritize those specimens. It will just go into the cue with any other specimen that has come along.

So all of these things we're working on in real time to try to improve that, and likewise, just lastly on long-term care, if there is a specimen collected in a long-term care home that's not part of an outbreak process, we also want to standardize that because, again, that could go into the -- from a lab perspective, we would never know that that specimen is being collected until it arrives at our door.

And so we're trying to make sure that if a specimen gets collected, it is shipped upon collection, it has all the information on it that we need, and it's certainly a little bit of a challenge as we create this [inaudible].

COMMISSIONER FRANK MARROCCO (CHAIR): Thank you.

Well, I'm fine. Go ahead, Doctor.

DR. VANESSA ALLEN: Okay. Thank you.

So what I'd like to go through is just the main components of the laboratory testing services. So we've discussed these a little bit already but just in a little bit more depth.

So what is the approach to who should be tested, how and where the sample is collected, how the sample is analyzed, how results get to those who need it, and ultimately, how individuals and clinicians and Public Health can get support for interpretation of test results.

All of these five components have evolved over the course of the pandemic, through both a lot of learnings but also optimizing it for the delivery of the testing component of the response.

Next slide, please.

So this was described earlier. So ultimately, it is the Ministry of Health and the Chief Medical Officer of Health who determines the testing guidance. It is informed by a testing strategy expert panel that was established in early April at the request of the Health Command, now Coordination Table.

The testing strategy expert panel is just one source of many inputs, but it includes experts really across the spectrum of expertise, so the experts have expertise in Public Health and microbiology, ethics, infection prevention and control, laboratory science, epidemiology and modelling and analytics.

And the initial mandate was really to provide evidence-based pragmatic recommendations for consideration by the Ministry of Health, and since July, the efforts have been ongoing review of routine testing recommendations, workplace testing, resource prioritization because, at times, the demand, as described earlier, exceeds the overall capacity, and any guidance for which we can help with respect to targeted testing.

It is housed at PHO, and then it's submitted to the Office of the Chief Medical Officer of Health, the recommendations that emerged on this.

COMMISSIONER FRANK MARROCCO (CHAIR): So does the Chief Medical Officer of Health make the decision?

DR. VANESSA ALLEN: We make these recommendations to the Chief Medical Officer of

Health, and the guidance document comes from the Chief Medical Officer of Health and the Ministry of Health.

I can pass it to Fredrika, if you'd like to add more.

FREDRIKA SCARTH: Sure.

COMMISSIONER FRANK MARROCCO (CHAIR): But is it guidance, or is it a directive? I mean, does it have the force of an order, or is it a suggestion?

DR. VANESSA ALLEN: Fredrika, do you want to answer?

FREDRIKA SCARTH: Sure. Yes, of course. The Chief Medical Officer of Health has a number of different powers or authorities at his disposal and can issue directives and can also provide guidance.

And in the case of testing, there have been several directives that are specific to a number of different settings, but some are specific to LTC, and he also issues testing guidance that is posted on the Ministry website.

I would say in addition to the guidance that the Chief Medical Officer of Health provides, individual ministries may also issue policies

related to testing and have done so, and those are government decisions above and beyond what advice that the Chief Medical Officer of Health may provide.

And so there are examples in the case of testing. You know, the Ministry of Long-Term Care has established several policies related to testing of asymptomatic long-term care home staff and visitors that go above beyond the public health guidance issued by the Chief Medical Officer of Health.

COMMISSIONER FRANK MARROCCO (CHAIR): But just help me with this: I thought that the testing strategy expert panel, they're just one input into the development of guidance. They don't provide guidance; they provide input into the development of testing guidance?

FREDRIKA SCARTH: That's correct. They provide advice. They provide advice to the Chief Medical Officer of Health. He considers that advice, and he may have other inputs into his decision-making.

COMMISSIONER FRANK MARROCCO (CHAIR): But is the Ministry of Long-Term Care also providing an input? I mean, you see, what was

confusing me is the testing expert panel provides, I initially thought, guidance. So there's your guidance.

But I take it they just provide input, and other people are providing input to the Chief Medical Officer of Health? But then --

FREDRIKA SCARTH: Yes.

COMMISSIONER FRANK MARROCCO (CHAIR): -- he issues guidance?

FREDRIKA SCARTH: Correct.

COMMISSIONER FRANK MARROCCO (CHAIR): Okay.

FREDRIKA SCARTH: Yeah. And --

MATTHEW ANDERSON: [Indecipherable].

COMMISSIONER FRANK MARROCCO (CHAIR): Sorry.

MATTHEW ANDERSON: No, go ahead, Fredrika. Go ahead.

FREDRIKA SCARTH: I was going to say, I think if we look at the next slide, I'm happy to describe the evolution of the testing guidance over time, and I guess what I can say in general, coming back to Dr. Allen's remarks about the earliest stages of the pandemic, that the guidance provided by the Chief Medical Officer of Health on testing

and testing eligibility has evolved throughout the pandemic as the pandemic itself has evolved.

So the earliest guidance issued by the Chief Medical Officer of Health was related to people who may have had exposure due to travel, and then when it was understood, when the science, you know, revealed that there -- and the data revealed that there might be community spread in Ontario, the guidance evolved, and he provided guidance that enabled testing or made people eligible for -- broadened the eligibility for testing to include those with symptoms, with respiratory symptoms, quite a wide range of respiratory symptoms.

So if you could move to the next slide?

So Dr. Allen described the period, you know, the sort of period in January, February as we were understanding how the virus was coming to Canada from its origin point in Wuhan.

But as of March, the testing guidance recognized that there was spread within Ontario, and the testing eligibility was anyone demonstrating symptoms, and that included, in March, symptomatic long-term care residents and staff. And there was additional -- you know, above and beyond the guidance, there were directives by

the Chief Medical Officer of Health that enforced this testing.

You can also see -- and so what's highlighted on this slide are decisions that were more specific to long-term care, but there was also broad testing guidance that was being issued through this period as well. And so you can see in April, surveillance testing of asymptomatic long-term care residents and staff added to the guidance on symptomatic residents and staff.

And that testing of long-term care residents and staff continued through the spring.

Later in the spring at the end of May, the province expanded the testing guidance once again. And so May 29th, the province issued a broad framework called the Protecting Ontarians Through Enhanced Testing Plan that broadened the guidance again and at that stage enabled anyone who felt that they may have been exposed, symptoms or no symptoms, to access testing at one of the testing sites.

So from May 29th, the guidance enabled anyone who wanted a test to access a publicly funded COVID test, and that broad guidance continued through until September. And

September 24th, the Chief Medical Officer of Health updated the guidance again to refocus testing on those who were demonstrating symptoms and had potential exposure to the virus.

All through this period, though, and here's -- I think I just want to explain or provide a little bit more detail on the relationship of the testing expert panel and the advice provided to these decisions.

Throughout this whole period, the testing expert panel was looking at -- you know, based upon data that was coming to us and the results coming to us through targeted testing of asymptomatic long-term care home staff and residents, the testing expert panel was not advising that we should continue testing asymptomatic residents and asymptomatic staff.

DR. VANESSA ALLEN: Low prevalence of populations, I would just...

FREDRIKA SCARTH: Sorry. You're right, Dr. Allen. Yes, in low-prevalence areas and low-prevalence populations because we weren't seeing a lot of positive test results.

So the Chief Medical Officer of Health received this advice, the Ministry received this

advice, government did but made a decision to continue the policy of testing asymptomatic staff and visitors in long-term care as a precautionary measure. And that testing has continued, and that testing has increased in frequency recently.

And, you know, Olha will be able to provide a lot more information on the policy specific to long-term care.

But this is just to illustrate that the advice provided by the expert panel is one input, that the Chief Medical Officer of Health also looks at other inputs and data and then issues guidance.

And it has changed, you know, as the shape of the pandemic has changed and as we understand that the areas of the province it's affecting.

DR. DIRK HUYER: And if I may, I may add something in there, Fredrika, if you were done that particular slide.

So, Commissioners, if I may?

COMMISSIONER FRANK MARROCCO (CHAIR): Sure. Go ahead.

DR. DIRK HUYER: Just go back to the April, May period of time. So as you can see on the slide that Fredrika's got, the asymptomatic

testing of long-term care residents and staff starting April 15th.

As I understand it, and I could be corrected on this, but I think I've got it correct: During that period of time, the Chief Medical Officer of Health and some public health units were working together in specific long-term care homes to evaluate not just outbreaks, which there was testing occurring, but also in some homes, testing for asymptomatic, as Fredrika has noted, to see if there was benefit for doing that testing.

That was progressing, and then around May 1st, there was a decision made -- not by the Chief Medical Officer of Health -- to test all residents and all staff in long-term care homes, and that was to be done over a two-week period of time.

That was May 1st to May 15th, and the public health units were tasked with completing that testing, either organizing it or doing it themselves. And that was essentially to understand the point prevalence, so what is present within the long-term care home setting during that period of time.

Because, as I understand it -- again, I

wasn't part of that decision, but as I understand it -- I came into the decision around May 1st after it was already happening.

It was my understanding that with the increasing recognition of infections in long-term care, there was concern that there were many people in long-term care homes that may be infected and not recognized as infected, and so that led to the complete set of resident and long-term care home tests being done, and that was over a two-week period.

At the same time, the emergency child care settings were also been tested, and those two decisions were made, not following guidance from the experts' testing strategy panel, but by other decision-makers.

COMMISSIONER FRANK MARROCCO (CHAIR): Who made that decision? If it's not made by the Chief Medical Officer of Health, then who made that?

FREDRIKA SCARTH: The decision specifically to test all asymptomatic long-term care home residents in April was a government decision, so that was a decision made by the Premier of Ontario and carried out.

COMMISSIONER FRANK MARROCCO (CHAIR): Okay.

DR. DIRK HUYER: Yeah. And the role I had around that time was to help facilitate and just provide some support and coordination and kind of keep track of what was going on during the period of time.

So I was capturing data and supporting the public health units in completing that testing. So I would ask hospitals to help out or paramedics to help out. That was kind of the role that I was providing. Not a big scientific role in any way or a medical role, more of a coordinating role in trying to support the testing being done.

And then that led to some decisions from analysis. We didn't have all of the data, which Mr. Anderson spoke about earlier, about the challenge of keeping track and understanding that data from the OLIS system.

But what we found is when there was not an outbreak and when there was no symptoms, analyzing the data set that we had was .2 -- so 0.2 percent of the time, there was a positive test. And what we weren't able to do is to drill down as to whether that was a false positive or not false

positive. But if there was no COVID in the home, so no outbreak and no symptoms, we did not find a signific- -- we didn't find anything more than .2.

And that led to a decision to not continue with asymptomatic testing on a routine basis within long-term care home residents or in retirement home residents.

So that was a decision point right around May 19th, May 20th because we'd completed the overall testing May 15th. It was around May 19th, May 20th, just to give you a timeline around those decisions, Commissioners.

COMMISSIONER FRANK MARROCCO (CHAIR): Okay. So, Doctor, if you're continuing, go ahead.

DR. VANESSA ALLEN: Sure. Wonderful. Okay. So if we could go to the next slide?

COMMISSIONER JACK KITTS: Just before you do it, sorry, just the last comment there: So there was a decision made not to test asymptomatic long-term care residents in mid-May or whatever.

The decision since Wave 2 started, has that decision been reversed, or is it still the same?

FREDRIKA SCARTH: That is still the same. So the policy -- you know, as I said, there

are two different policies to keep in mind through this whole period. One is related to testing of asymptomatic staff and visitors, and another policy around asymptomatic residents. So asymptomatic residents are not regularly tested, but the testing of asymptomatic staff has continued throughout this period.

COMMISSIONER JACK KITTS: Thank you.

DR. DIRK HUYER: I'll just put a small clarification that -- in the fact that if there's an outbreak or if there's concerns of COVID, and an outbreak can be one person or one staff, then people with or without symptoms within that facility will be tested broadly whether they have symptoms or not.

So it's routine testing of asymptomatic people, as Fredrika said, but to build on what she said only.

FREDRIKA SCARTH: Mm-hm.

COMMISSIONER JACK KITTS: Thank you. Thank you, both.

OLHA DOBUSH: I would be happy to provide Commissioners with some additional information about the testing of residents and when that occurs.

So just confirming that it has not changed since that time, and currently, any resident that is symptomatic will be tested for COVID as well as if there is a known exposure or if and as directed by Public Health as part of the investigation of the suspected outbreak or confirmed outbreak.

COMMISSIONER JACK KITTS: Thank you.

DR. VANESSA ALLEN: So if it's okay, Commissioners, we can move to the next ones. I think we can go through these relatively quickly.

So in terms of the five different components --

COMMISSIONER FRANK MARROCCO (CHAIR): All right.

DR. VANESSA ALLEN: -- who should be tested, and then there's how a sample is collected.

Of note, the gold standard specimen collection type is a nasopharyngeal swab. This is actually quite an invasive swab type, if you might have received it or heard about it, but we do know -- we have the most evidence for its efficacy because it really gets to the sort of area where the viral load would be the highest.

The challenge with this, though, is it

is a controlled act, and so it actually has a limited number of healthcare providers that can offer this, namely a physician or a nurse practitioner, and it's also quite uncomfortable for the patient. So for screening purposes, this can be quite a challenge to be able to deliver serial NP swabs over time.

So in that light -- next slide, please -- there are other acceptable sample collection types, and PHO has worked with Ontario Health and the Ministry to really broaden the range of options. And specifically, there's a combination of throat and nasal, like, the end of the nose that actually offers comparable performance. And so there's a lot of supportive material to offer different strategies for specimen collection that are better.

I think the one challenge, though, is the much easier specimen collection types, such as nasal, do perform significantly less well than a nasopharyngeal swab and have not been pursued as a diagnostic preference particularly in long-term care because we want to make sure the best tests are offered to that setting. So it's always a trade-off between the overall performance of the

test and the accessibility that those specimen collection types offer.

We've also done some innovation in terms of specimen collection types. So on the next slide, there's been a lot of work on saliva, and swish and gargle. Again, they're not the preferred modality for someone who's either very at risk of serious consequences of the disease but do offer alternative options for specimen collection, particularly in the realm of screening.

Next slide, please.

So then we get to the tests, so what are the different kinds of tests that are offered.

So the gold standard for diagnostics is the molecular tests, so this looks for the genetic material of the virus. Again, the gold standard is a nasopharyngeal swab, but you can use other collection methods for it including throat and nose as a good alternative. This is the best test to determine whether someone has or does not have COVID, particularly at a time when an individual is symptomatic. No test is perfect, but it is the gold standard.

The second group of tests are antigen tests. These are what I describe as the

new-kid-on-the-block or the new-test modality, and instead of looking for genetic material, these look for proteins of the virus.

What's nice about these tests is they're relatively portable. They're much easier to use and don't need to be used in a lab-based setting, but they are less sensitive than the lab-based test. And what that means is there's a risk of false negatives, so you can miss cases by using them.

So I think there's a lot of optimism and a lot of work going on. I think they will play a very important role as we go forward, but the modality for which they're probably going to be most useful is for routine screening, so people that are tested on a regular cycle who are otherwise asymptomatic, and this can serve as an early warning signal as opposed to a concrete diagnostic tool.

The last test modality is not a mainstay, but it's looking for antibodies or the use of serology in blood, and until we have a better understanding of the immune correlates of COVID, this is not a primary modality. It may become more useful once either we understand more

about the immunity and also when vaccines come out, but for now, that's not a primary focus of the lab testing strategy in Ontario or worldwide.

For all of these tests, there's lab-based versions and rapid or point-of-care versions, and a lot of the efforts underway are really thinking about the safe and effective deployment of some of the rapid modalities, particularly in the context of long-term care.

Next slide, please.

So with respect to the rapid tests, there's really three different sets, kinds of rapid tests. There's one that's just really the equivalent of a small cartridge. The analogy would be it looks somewhat like a urine pregnancy test. They're very portable, and one can use them in various different contexts.

You still need some degree of training, some degree of quality oversight but gives access in a way that I think is very interesting to the pandemic response [indecipherable] in Ontario.

The second --

COMMISSIONER FRANK MARROCCO (CHAIR): Can I just...?

DR. VANESSA ALLEN: Of course.

COMMISSIONER FRANK MARROCCO (CHAIR): Are residents of long-term care homes eligible for these rapid tests?

DR. VANESSA ALLEN: So they are, and everyone on this call is very much involved in that. I think they are -- there is very active work to deploy these. The approach, though, is to do these concurrent with lab-based testing until we understand that they're safe.

So they will be deployed, and Olha and Fredrika and Matt can all speak to them in more detail, but yes, they will be there, but there is not a lot of data to support them. So we need to make sure that we're both fast in deploying but also careful that we make sure that they work at the same time.

COMMISSIONER FRANK MARROCCO (CHAIR): But they're proved; otherwise, you can't deploy them, right?

DR. VANESSA ALLEN: Yeah, yeah. Yes. But there's very little data, field data.

COMMISSIONER FRANK MARROCCO (CHAIR): All right.

DR. VANESSA ALLEN: Yeah. Sorry, can we go back to the -- just to --

COMMISSIONER ANGELA COKE: Can I just ask: For those tests, who can actually administer them?

DR. VANESSA ALLEN: There was legislative changes that Fredrika was more involved in, but there's a broad range of healthcare practitioners that can both collect specimens and administer the test, and that was just changed on Friday. [Indecipherable]. And for the full list, we can send it to you unless others on the call have --

FREDRIKA SCARTH: Yes, the test can be performed by a physician, an NP -- a nurse practitioner -- a registered nurse, a registered practical nurse, a dentist, a pharmacist, a community paramedic, or a community paramedicine provider, so quite a broad range of providers now that can perform rapid testing.

And as Dr. Allen noted, that's a reg change that just came into force last Friday to enable the broader use of these tests.

DR. DIRK HUYER: I think the only thing to add into it along that question is, currently, right now, the one rapid test is still a nasopharyngeal swab.

And as you'll recall from Dr. Allen's slide where the person is bent back on the neck and as she described is somewhat intrusive, as I'm a swab provider, I know how to do it, but it is something that does require some additional work, and it's not necessarily as accepted by many people.

FREDRIKA SCARTH: So this is all quite recent developments. So these tests, the first rapid tests were approved in Canada by Health Canada at the end of September and early October, and the Federal Government has been procuring these tests and has been allocating them to the provinces.

We received our first supplies of these tests toward the end of October. The one that Dr. Huyer just described, the Panbio, which is an antigen test with an NP swab, we just received on October 30th. And as you can see, you know, we are making regulation changes to enable their use, and we have been providing them to the -- providing them out to providers.

Long-term care homes are included in those plans, and in particular, there are two uses, really, in the long-term care context. The ID NOW,

which is a rapid point-of-care PCR test that we have that is approved and we are using it in Ontario now, will be supporting long-term care homes for early outbreak identification.

So the sort of use case here or the value of a rapid test in this context is that if you have access to a rapid device which provides you with a result within 20 minutes, 15 to 20 minutes, it can give you an early read on whether you have, in fact -- whether the symptomatic people that you're seeing in your environment may represent a cluster of cases, and that can support Public Health and much quicker outbreak response.

The other way in which we hope that the rapid tests will be helpful in the long-term care home environment is as an alternative to the routine staff testing, the routine staff asymptomatic testing that's now being done with PCR.

And we don't know yet know whether it's going to be an acceptable -- as Dr. Allen noted, we're trying to understand whether these tests are accurate and safe enough to be used in highly vulnerable environments like long-term care, but we

are piloting the use of the rapid antigen tests for asymptomatic staff and visitor testing.

COMMISSIONER FRANK MARROCCO (CHAIR): How would you determine that? If you're trying to determine whether it's safe to give it to people, and you haven't given it to them, how...?

Where's the data going to come from?

FREDRIKA SCARTH: So I probably misspoke. It's not about whether it's safe to give to people but certainly that the administration of the test is safe, the procedure is safe. It's collecting a sample in the same way that you would collect a sample for any other test.

So the question is really is the test accurate enough, and does it provide results that we can trust and then take action on in the long-term care home context.

COMMISSIONER FRANK MARROCCO (CHAIR): When they approve it, when it's approved for use in Canada, what does that mean?

FREDRIKA SCARTH: So Health Canada provides -- Health Canada does regulatory approval, and the regulatory approval tests the efficacy of the test, and it tells us the test meets certain thresholds of performance. And those thresholds

are -- you know, Health Canada reviews the data that is provided by the test manufacturer to make that decision and determination.

I think one factor, and I would sort of turn to Dr. Allen here to elaborate on this, is that the data that Health Canada looks at when it makes it regulatory decision is typically a fairly limited set of data that is in a lab setting, is in a controlled setting or comes from the test being used in a controlled setting.

And then, you know, what we're doing in Ontario is using it in the field, in a wide range of contexts and a wide range of users. And what we know from other jurisdictions that have rolled out rapid testing is that when they have gone from -- when they have gone and -- you know, when they have implemented these tests in a wide range of settings, you can see very quite different results with a variety of users.

In long-term care homes specifically, there was a rollout of rapid antigen testing across the United States in nursing homes, and, you know, nursing homes in different states saw very different results with the tests, and some states were concerned about the proportion of false

positives that they were seeing with these tests in that context.

So what we were really trying to understand is, what's the difference between the sort of controlled lab-based data that we have for these tests and how they will function in real life.

Dr. Allen, though, if you'd like to -- if you would want to add to that?

DR. VANESSA ALLEN: Yeah. So there is that disconnect: They're just looking at how it performs in a lab versus in the field, but I think the other thing that's been a major shift in terms of the approvals not just in Canada -- the same thing is happening in the U.S. -- is that the tolerance for performance has been lowered because the thought is that these tests, if they're used in different ways, you wouldn't need the same test performance.

So what does this mean concretely?

So they're aiming for the antigen test to have an 80 percent sensitivity. So what that means is two out of every ten infections --

COMMISSIONER FRANK MARROCCO (CHAIR): Right.

DR. VANESSA ALLEN: -- would be told that they're negative when they're not, in fact, negative. And what we don't know yet, and this has to do more with the pandemic, is missing two okay? Right? Like, are we okay with that approach, particularly in a setting such as long-term care?

So we really need to understand what are different ways to deploy these tests so we can make sure that we use it in ways where it actually protects individuals and it helps with the pandemic response.

One way to do that, at least at the beginning, is to offer this as a supplement to existing testing programs. So in homes that are already doing PCR screening of staff and visitors, they would still receive the PCR tests weekly in those contexts that are higher risk, and this would be supplemented at the beginning with the antigen test while we understand what the strengths and limitations are.

Because it's so new, it's sort of -- the analogy might be, then, to the fact at the beginning that we sent everything to NML. We knew the test was good, but we want to be extra careful given the population for whom we're serving.

COMMISSIONER JACK KITTS: Can I ask just a -- maybe this is unfair, but are there going to be any issues in supply for all the long-term care homes?

FREDRIKA SCARTH: In terms of rapid tests specifically?

COMMISSIONER JACK KITTS: Yes.

FREDRIKA SCARTH: No, we don't anticipate any issues of supply. This is one area that, you know, helpfully, the Federal Government has procured significant numbers of both rapid PCR and rapid antigen tests. In fact, they have purchased, essentially, the entire production run of two tests, and they're introducing a third, a second antigen test.

So we do think we have enough of these tests. I think, you know, the key thing that we're working through right now is how are they best used, and how can we make sure that they really fulfill the purpose?

You can see on the slide, on the slide that's on the screen right now, the sort of aims of rapid testing, and as Dr. Allen noted, we see this as an adjunct, as an additional layer, not a replacement for lab-based PCR, which remains the

gold standard, but there are areas -- there are aspects of our pandemic response where we think the rapid testing can be very helpful.

So one of those is where we have persistent challenges with turnaround time, most of these have to -- many of these have to do with the geography, but geography of the province, right? So we have rural and remote areas where just the sheer fact of having to transport a specimen over long distance inevitably adds to the turnaround time.

And so one of the ways -- we've been speaking about long-term care here, but one of our priorities for deploying rapid tests is to isolate it in -- isolate it in more remote areas of the province so that they can actually have rapid results.

Even if some of those results need to be confirmed with PCR, they still have access to rapid results that they can work with in a shorter time frame. So that is one of our -- so one of our key priorities is to isolate the remote rural communities.

The other that we've been speaking about is enabling rapid action in the context of

outbreak. So we do hope that rapid testing will prove to be of value. We're quite confident on this: They will be of value in the context of early outbreak identification.

So if you have rapid tests at a setting like a long-term care home, then you'll be able to use those to quickly identify whether you have an outbreak, so whether you have a cluster of cases and can take quick action as determined by Public Health.

COMMISSIONER JACK KITTS: Okay.

COMMISSIONER FRANK MARROCCO (CHAIR): But it moves so quickly --

FREDRIKA SCARTH: Mm-hm.

COMMISSIONER FRANK MARROCCO (CHAIR): -- that you wouldn't have a lot of time to make up your mind that you're going to -- that somebody's tested positive, and now you're going to rapid test everybody in the home to see, to try to contain.

You wouldn't have much time to make up your mind, right?

FREDRIKA SCARTH: So this is -- no, we wouldn't, and I don't know, Dr. Huyer, if you'd want to speak to this, and these are the kinds of decisions that Public Health officials make as they

work with homes that are -- you know, when they identify early and when they identify an outbreak.

COMMISSIONER FRANK MARROCCO (CHAIR): So that wouldn't go to a table? The decision to do that would go to, what, the local medical officer of health? Like, who would be deciding, trying to figure this out and make a decision?

DR. DIRK HUYER: Yeah, that'd be the local public officer of health, and there are supports available beyond that, if necessary, but the local public health officer would manage that outbreak. And as Mr. Anderson talked about earlier and Dr. Allen talked about, there's a process for testing those outbreak samples.

They go all in together; they get prioritized so we get a turnaround very quickly of those results. Not as quick as the ID NOW as Fredrika was talking about, but absolutely, once there's the idea -- so they have that fairly quickly, and those that were in close contact to that initial person would be separated and cohorted off, isolated to not potentially spread to others is the hope and the goal.

But it'd be the local officer, medical officer of health, yes.

COMMISSIONER FRANK MARROCCO (CHAIR): So go ahead.

DR. VANESSA ALLEN: Okay.

FREDRIKA SCARTH: Okay. Maybe we'll go to the next slide. I think we've described overall the rapid testing program, and maybe, Vanessa...

DR. VANESSA ALLEN: Yeah. This is just a summary, I think, of those uses. So, you know, essentially diagnostics, the gold standard needs to be PCR, and at no point would we recommend at this point that it be replaced by a rapid test, but the rapid tests do have incredible promise both as this early signal to reduce the turnaround time in areas where turnaround time is important and particularly in long-term care and as a screening test of purely asymptomatic, and that would require frequent and onsite screening.

So I think we will see exactly where that does support the efforts, but I think a lot of effort has gone into making sure that this is done in a way that is both expedient, which I didn't highlight before, but also measured.

So next slide, please.

So we've gone over most of these, but just in terms of the considerations: So very

innovative; the potential is to identify more cases and have more rapid identification.

There is another piece of information, which is there's some thought that the antigen tests might better target those that are most infectious; I think we still require data to support that. And overall, increase the test capacity in the province given that laboratory-based PCR is very, very labour-intensive, and there is a certain amount of capacity that's not expandable.

With respect to cons, again, very limited data on field performance, and we really need to have that data to make sure that it's safe. We want to make sure that we don't give people either false reassurance or false identification or that there are strategies to mitigate against that.

The other critical component is just to reinforce that these tests in and of themselves are not a prevention strategy and that they must be offered in tandem with robust critical prevention strategies. This is already a foundation of the work in long-term care, but the White House example is an unfortunate example of where testing was used as the sole modality of prevention.

We still require some quality in reporting infrastructure, so these tests do require some amount of training and checking and making sure that they still work and making sure that the test results get to those who need them. And so there's been a lot of work to sort that out over the last weeks to months.

The other consideration that has been described is really that the specimen collection types have been limited to date, particularly for the antigen or the small cartridge test. There is work underway to see if we can explore alternative ways of specimen collection, either by working through the company or looking at other options.

Next slide, please.

And the last piece is they may seem small, but the results reporting -- again, Mr. Anderson described that we have a myriad of different lab information systems, and getting results to those who need them has been a tremendous effort.

There's been some incredible success but still some way to go, and particularly, again, in some of the long-term care settings, the clinician who orders it may have a different

practice, making sure that the fax number is the fax number at the home where people can act on those results as quickly as possible is a very good example, and there's been several examples where that needs to be streamlined.

So that work, all of the long-term care homes' fax numbers are actually being confirm- -- have been confirmed, but those small things make a big difference in terms of getting results to people quickly.

And then lastly, results interpretation: Again, no test is perfect, and it's often helpful to have supports for the interpretations, so false positive results can occur and providing advice for how these results are interpreted for ultimate action. So there's been a lot of consultation and participation, but there's also a 24-hour-7 microbiology service for assistance with that interpretation at the moment.

So with that, I'll pass it, I believe, back to Dr. Huyer.

DR. DIRK HUYER: And I'll pass over to Ms. Dobush. Olha, do you want to go ahead?

OLHA DOBUSH: Yeah. If there are no questions, Commissioners, for Dr. Allen, then I can

continue.

So this slide presents the overview of the approach for testing requirements in the long-term care sector.

So staff, which we have covered to some extent already, surveillance testing is currently in place. Effective this Monday, it is mandatory.

Here is the Minister's directive for employers, meaning operators, to test staff, which also extends to students and volunteers, and the testing requirement is currently biweekly if the home is located in the green and yellow areas and zones and weekly if the home is located in orange, red, and lockdown zones.

The requirement to provide proof of similar testing frequency is also extended to visitors, caregivers, and support workers. They need to provide proof of a negative test to be granted entry into the home.

For residents, as I have already briefly mentioned, testing occurs if a resident displays symptoms and as part of the admission or re-admission and as part of the outbreak investigation or management as directed by public health unit.

The next slide actually talks a little bit about the evolution of the guidance as well as the requirements and direction for the long-term care sector in the area of testing, and it highlights a number of answers to the questions that, Justice Marrocco, you had raised earlier in terms of who is providing the direction or the guidance.

So the colour-coding on this particular slide, in addition to providing the timeline, it also identifies where the direction was provided through which authority. And as you can see, most of the guidance and directives for long-term care sector followed Public Health guidance; however, in addition, there were some additional directions that went above and beyond the Public Health guidance and directives, and this is primarily in the area of staff surveillance testing.

I will also highlight, as the question came earlier in the presentation, about sort of, you know, in the early days.

So on March 9th, the communication went out to the sector stating that all symptomatic tests, symptomatic residents, their tests will also be tested for COVID. So this was the earliest time

that testing was communicated in terms of the long-term care sector.

So the next slide talks about the current work to enhance COVID testing in long-term care homes. We have raised through Dr. Allen's presentations and through Mr. Anderson's presentation about the specimen prioritization protocol currently for long-term care homes.

We are also actually this week rolling out a number of training webinars, particularly targeting the technical knowledge and information about specimen collection, about transportation, about packaging, requisition for preparation to enhance the quality of both specimen collection as well as providing these specimens to the lab for testing.

And additionally, the implementation of the rapid test is also very actively being considered and deployed in the long-term care sector.

I will stop here, if there are any questions. Thank you.

COMMISSIONER FRANK MARROCCO (CHAIR): So the rapid testing is being deployed in the long-term care sector?

OLHA DOBUSH: That's correct, Justice Marrocco. We have been working with a number of operators. Right now, the interest in being the early users or early trial pilot site users is we have heard the interest from six large operator chains, and we have deployed the testing kits to those operators.

And we are still finalizing the clinical and the program guidance to be provided to the sector so that they can start actually using them; however, the work in terms of deployment and preparation and the shipment of tests has already occurred or is underway.

COMMISSIONER FRANK MARROCCO (CHAIR): Okay. When you speak to -- could they have said no? Like, did they refuse?

OLHA DOBUSH: Yes, participation is voluntary.

COMMISSIONER FRANK MARROCCO (CHAIR): Oh, okay. All right. Thank you.

OLHA DOBUSH: I could just add --

DR. DIRK HUYER: For the Panbio -- we're talking about the Panbio, though, right? Well, I mean --

OLHA DOBUSH: Yeah.

DR. DIRK HUYER: You may have already understood this, Commissioner, because I'm sometimes slow to keep up, but just the mandatory testing to the operators from the Minister's directive is that the operators are to make sure the staff get tested on a regular basis at one week at a time right now and then the two weeks in the not-as-bad areas of Ontario. So that's the operators that need to mandate that.

The people could still refuse, and the operators need to make the decisions what they're going to do with their employees that don't continue to do the tests.

But the Panbio itself is being deployed with -- I think as Dr. Allen talked about earlier, both the Panbio test will be done and a PCR test will be done right now so there's more field experience.

So have I got that right, Olha? Just to make sure that we have a better field of understanding, don't want to take a chance with a test that isn't fully understood, and Dr. Allen may have more to add and Olha as well. That just -- I think that's where they're all right.

OLHA DOBUSH: Thank you, Dr. Huyer, and

I would concur that clarification that the testing, surveillance testing of staff as well as the requirements on the visitor testing, that is mandatory; however, the deployment of Panbio, given that this is an early pilot-type of deployment, is voluntary.

COMMISSIONER FRANK MARROCCO (CHAIR): Okay.

OLHA DOBUSH: I think that concludes our presentation.

MATTHEW ANDERSON: Yep.

COMMISSIONER FRANK MARROCCO (CHAIR): Well, are there any -- I don't think the Commissioners have any further questions.

I just want to thank you for this. It's an area that we really were anxious to get some understanding of, and this has certainly helped us understand the state of testing and how it evolved. And all information relative to long-term care facilities is a matter of importance to us.

That, of course, is our perspective, and we don't have any broader perspective or any broader interest. We're only really looking at this from the long-term care home point of view or

with that interest in mind.

And so thank you very much for a very helpful presentation.

MATTHEW ANDERSON: Thank you. Thank you for the time and the Commission. We really appreciate it.

COMMISSIONER FRANK MARROCCO (CHAIR): Thank you. Bye-bye.

COMMISSIONER JACK KITTS: Thank you.

COMMISSIONER ANGELA COKE: Thank you.

DR. DIRK HUYER: Continue great work, by you all.

-- Adjourned at 4:00 p.m.

FOOTNOTE

1 Page 12: OLIS actually stands for Ontario Laboratories Information System

REPORTER'S CERTIFICATE

I, OLIVIA ARNAUD, CSR, Certified Shorthand Reporter, certify:

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

That all remarks made at the time were recorded stenographically by me and were thereafter transcribed;

That the foregoing is a true and correct transcript of my shorthand notes so taken.

Dated this 25th day of November, 2020.

_____

NEESONS, A VERITEXT COMPANY
PER: OLIVIA ARNAUD, CSR
CHARTERED SHORTHAND REPORTER

WORD INDEX

< 0 >
0.2 49:*23*

< 1 >
1 79:*24*
1,800 27:*10*
103 27:*2*
10th 17:*9* 27:*21* 31:*6*
11 20:*5*
12 35:*9* 79:*24*
15 60:*8*
15th 47:*2*, *18* 50:*10*
160 26:*17*
18 35:*10*
19th 50:*9*, *11*
1st 47:*13*, *18* 48:*2*

< 2 >
2 49:*22* 50:*3*, *21*
2:30 1:*16* 5:*1*
20 11:*22* 12:*3*, *4* 60:*8*, *9*
2015 20:*25*
2020 1:*16* 7:*2* 14:*14* 26:*13* 80:*18*
20th 50:*9*, *11*
24-hour-7 72:*18*
24th 45:*1*
25th 1:*15* 18:*8* 80:*18*
26th 7:*2* 18:*17* 20:*19* 23:*9* 27:*12*
29th 28:*8* 44:*15*, *22*

< 3 >
30th 59:*19*
3rd 17:*2* 26:*24* 29:*2*, *10*

< 4 >
4:00 1:*16* 79:*14*
40 12:*11*
40,000 21:*8* 28:*18*

< 5 >
50,000 27:*23*

< 6 >
60 32:*3*
600 18:*18*
629 21:*7*
650 18:*19*

< 8 >
80 14:*10* 32:*2*, *5* 63:*22*

< 9 >
9th 74:*22*

< A >
Absolutely 20:*17* 68:*18*
acceptable 53:*9* 60:*22*
accepted 59:*6*
access 7:*13* 44:*20*, *23* 56:*19* 60:*7* 66:*19*
accessibility 54:*1*
accurate 60:*24* 61:*15*
acknowledgement 7:*13* 28:*3*
act 53:*1* 72:*2*
action 61:*16* 66:*25* 67:*9* 72:*16*
active 28:*19* 32:*17* 57:*6*
actively 75:*18*
add 24:*21* 34:*9* 40:*5* 46:*18* 58:*23* 63:*9* 76:*21* 77:*23*
added 44:*9*
addition 40:*23* 74:*10*, *15*
additional 43:*24* 51:*23* 59:*5* 65:*24* 74:*15*
additionally 75:*17*
adds 66:*10*
Adjourned 79:*14*
adjunct 65:*24*
administer 58:*2*, *8*
administration 61:*10*
admission 73:*22*
advances 29:*24*
advice 22:*23* 41:*2*, *19*, *21* 45:*8*, *25* 46:*1*, *10* 72:*15*
advising 45:*16*
Advisor 3:*10*
affiliate 12:*4*
afforded 18:*21* 29:*22*
after 23:*8* 24:*17* 31:*2* 48:*2*
agencies 11:*12* 13:*2*
agenda 7:*23*
aggregate 13:*4*
agree 33:*24*
ahead 5:*20* 13:*18* 24:*19* 25:*16* 38:*1* 42:*17*, *18* 46:*22* 50:*14* 69:*2* 72:*23*
aiming 63:*21*
aims 65:*22*
algorithms 29:*15*
Alison 4:*3*
Allen 2:*14* 6:*19*, *20* 8:*2* 11:*20* 12:*7* 13:*20* 14:*3*, *21* 15:*9*, *22*, *24* 19:*13*, *15*, *19* 20:*1*, *5*, *17* 21:*18* 22:*18*, *22* 23:*2*, *5*, *21* 24:*3*, *19*, *21*, *22* 25:*7*, *10* 26:*4* 28:*25* 29:*12* 31:*9* 33:*8* 34:*18* 35:*17* 38:*2* 39:*24* 40:*11* 43:*15* 45:*18*, *21* 50:*15* 52:*9*, *16* 56:*25* 57:*4*, *20*, *24* 58:*4*, *19* 60:*22* 62:*5* 63:*8*, *10* 64:*1* 65:*23* 68:*13* 69:*3*, *7* 72:*25* 77:*15*, *22*
Allen's 34:*10* 36:*24* 42:*23* 59:*1* 75:*5*
allocating 59:*13*
allowing 6:*5*
alternative 54:*9*, *19* 60:*17* 71:*12*
Alwin 3:*8*
ambitious 14:*12*
amount 33:*10* 70:*10* 71:*3*
Amy 3:*11*
analogy 56:*14* 64:*22*
analysis 10:*1* 49:*16*
analytics 39:*7*
analyzed 38:*9*
analyzing 49:*22*
Anderson 2:*9* 6:*1*, *3*, *9* 15:*8*, *12*, *19*, *22*, *25* 23:*10* 24:*18*, *20*, *23* 25:*11* 28:*16* 31:*11* 32:*3* 34:*8* 42:*14*, *17* 49:*17* 68:*12* 71:*18* 78:*11* 79:*4*
Anderson's 75:*6*
Angela 2:*4* 15:*2*, *11* 58:*1* 79:*10*
answers 74:*5*
antibodies 55:*21*
anticipate 65:*9*
antigen 54:*24* 59:*18* 61:*1* 62:*21* 63:*21* 64:*18* 65:*12*, *15* 70:*4* 71:*11*
anxious 78:*16*
apparent 24:*16*
appearance 6:*12*
appreciate 79:*6*
approach 8:*4* 16:*10* 38:*7* 57:*7* 64:*5* 73:*3*
appropriate 30:*16*
approval 61:*22*, *23*
approvals 63:*14*
approve 61:*19*
approved 59:*10* 60:*2* 61:*19*
April 38:*24* 44:*8* 46:*24* 47:*2* 48:*23*
area 7:*3* 52:*23* 65:*9* 74:*4*, *18* 78:*16*
areas 12:*5* 35:*18* 36:*8* 45:*21* 46:*15* 66:*1*, *8*, *15* 69:*13* 73:*12* 77:*8*
Arnaud 4:*17* 80:*3*, *24*
arranged 31:*3*
arrived 35:*23*
arrives 11:*18* 37:*18*
arriving 35:*20*
articulation 19:*6*
asked 27:*13*
aspects 66:*2*
assessment 10:*24* 14:*18* 26:*14*, *19*
assist 27:*14*
assistance 72:*19*
Assistant 4:*3*
assisted 28:*9*
asterisk 8:*23*
asymptomatic 41:*8* 44:*8* 45:*14*, *17* 46:*2*, *25* 47:*10* 48:*22* 50:*5*, *19* 51:*3*, *4*, *6*, *16* 55:*17* 60:*19* 61:*2* 69:*16*
attending 1:*15*
attention 29:*3*
August 7:*2*
authorities 40:*15*
authority 74:*12*
availability 7:*13*
available 68:*10*
average 28:*17* 34:*4*, *11*
averages 34:*17*
aware 30:*7*, *8*

< B >

back 5:*4* 6:*5* 12:*24* 33:*1*, *4* 35:*25* 36:*1*, *2*, *21*, *23* 42:*23* 46:*23* 57:*25* 59:*2* 72:*21*
bare 14:*23*
based 11:*17* 21:*10* 30:*19* 45:*12*
basic 5:*19*
basically 13:*16* 33:*18*
basics 5:*16*
basis 27:*8* 50:*6* 77:*6*
battery 17:*15* 19:*21*
beginning 21:*22* 34:*20* 64:*13*, *18*, *23*
believe 15:*8* 25:*6* 72:*20*
benefit 47:*11*
bent 59:*2*
best 53:*23* 54:*19* 65:*18*
better 19:*23* 30:*24* 33:*13* 53:*17* 55:*23* 70:*5* 77:*20*
big 9:*24* 12:*15* 24:*10* 34:*12* 49:*12* 72:*9*
bit 5:*15* 7:*24* 10:*18* 25:*19* 36:*14* 37:*22* 38:*5*, *6* 45:*7* 74:*2*
biweekly 73:*11*
blood 55:*22*
bones 14:*24*
bottom 8:*24* 10:*9*
box 10:*8*, *10* 14:*6*
break 35:*2*
briefly 73:*21*
bring 7:*18* 9:*19*
broad 22:*1* 25:*5* 44:*6*, *16*, *24* 58:*6*, *17*
broaden 53:*11*
broadened 25:*9* 43:*11* 44:*17*
broader 28:*3* 58:*21* 78:*23*, *24*
broadly 51:*14*
brought 13:*16* 16:*12*
Brown 3:*3*
build 26:*12* 51:*17*
building 28:*19*
built 14:*12* 33:*19*
bulk 8:*3* 20:*7*
bullet 10:*19*
business 29:*20*
Bye-bye 79:*8*

< C >
call 11:*22* 12:*4* 35:*20* 57:*5* 58:*10*
Callaghan 4:*5*
called 44:*16*
campaigns 7:*4*
Canada 17:*11* 18:*9* 43:*18* 59:*10*, *11* 61:*20*, *21*, *22* 62:*1*, *6* 63:*14*
Canadian 29:*6*
capacity 7:*19* 13:*24* 15:*6* 16:*15*, *21* 18:*20*, *22* 20:*22* 21:*1*, *3* 26:*20*, *25* 28:*5*, *13*, *19* 30:*11*, *16* 32:*8*, *14* 39:*15* 70:*8*, *11*
capturing 49:*8*
CARE 1:*7* 2:*19*, *20* 3:*12* 4:*4*, *5*, *7*, *9*, *11* 6:*15* 7:*6*, *7* 8:*6*, *25* 9:*1*, *2* 11:*3* 23:*25* 24:*9*, *16* 32:*19* 33:*7*, *12* 34:*1* 36:*25* 37:*12*, *13* 41:*7*, *8*, *24* 43:*23* 44:*5*, *9*, *11* 45:*14* 46:*3*, *8* 47:*1*, *7*, *15*, *23* 48:*6*, *7*, *9*, *13*, *23* 50:*6*, *20* 53:*23* 56:*9* 57:*2* 59:*23*, *25* 60:*3*, *16*, *25* 61:*17* 62:*20* 64:*6* 65:*4* 66:*13* 67:*6* 69:*15* 70:*23* 71:*24* 72:*6* 73:*4* 74:*4*, *13* 75:*2*, *5*, *8*, *19*, *25* 78:*20*, *25*
careful 57:*15* 64:*24*
caregivers 73:*17*
carried 48:*25*
cartridge 56:*14* 71:*11*
case 11:*15* 12:*25* 13:*7* 40:*18* 41:*5* 60:*5*
cases 12:*25* 24:*5* 25:*3* 26:*6* 27:*5* 55:*9* 60:*12* 67:*8* 70:*1*
Catherine 3:*3*
cellphone 36:*1*
centrally 11:*14*
centres 10:*25* 11:*7* 12:*10* 14:*18* 26:*15*, *19*
CEO 3:*10* 6:*10*
certain 61:*24* 70:*10*
certainly 5:*18* 22:*12* 24:*4*, *11* 30:*22* 33:*8* 37:*22* 61:*10* 78:*17*
CERTIFICATE 80:*1*
Certified 80:*3*
certify 80:*4*
cetera 33:*5* 34:*15*
chain 35:*16*
chains 76:*6*
CHAIR 5:*3* 14:*25* 15:*15*, *20* 20:*11* 21:*12* 22:*15*, *19*, *25* 23:*3*, *20* 24:*13* 25:*14*, *20* 26:*2* 28:*22* 29:*1* 31:*7* 32:*20* 37:*24* 39:*21* 40:*7* 41:*12*, *23* 42:*8*, *11*, *15* 46:*21* 48:*17* 49:*1* 50:*13* 52:*14* 56:*23* 57:*1*, *17*, *22* 61:*3*, *18* 63:*24* 67:*12*, *15* 68:*3* 69:*1* 75:*23* 76:*14*, *19* 78:*7*, *12* 79:*7*
challenge 37:*23* 49:*18* 52:*25* 53:*6*, *18*
challenges 8:*14* 66:*5*
chance 16:*1* 77:*21*
change 10:*3*, *6* 58:*20*
changed 5:*12*, *13* 46:*13*, *14* 52:*2* 58:*8*
changes 9:*21*, *22* 35:*11* 58:*5* 59:*20*
chart 8:*19* 9:*6*
CHARTERED 80:*25*
Chauhan 3:*5*
check 25:*12*
checking 71:*3*
Chief 2:*9*, *11*, *14* 3:*8* 6:*20*, *25* 9:*13*, *17*, *18* 21:*20* 27:*19* 31:*1* 38:*21* 39:*18*, *22*, *25* 40:*2*, *14*, *24* 41:*3*, *10*, *20* 42:*6*, *25* 43:*4* 44:*1* 45:*1*, *24* 46:*11* 47:*5*, *14* 48:*19*
child 48:*12*
China 17:*6* 20:*12*
chronology 16:*20* 26:*22*
citizens 30:*17*
City 21:*24*
Civil 4:*13*
clarification 51:*10* 78:*1*
clear 19:*6* 30:*5*
clicked 25:*7*
clients 31:*24*
clinical 22:*8*, *10* 76:*9*
clinician 19:*8*, *10* 22:*16*, *20* 24:*7* 71:*25*
clinicians 38:*11*
clinician's 22:*11*
close 68:*20*
closer 32:*5*
cluster 60:*12* 67:*8*
CMOH's 22:*13*
coherently 23:*18*
cohorted 68:*21*
Coke 2:*4* 15:*1*, *2*, *11* 58:*1* 79:*10*
collaboration 27:*18*
collaboratively 7:*18*
colleagues 6:*8*, *17*
collect 58:*7* 61:*13*
collected 10:*23* 11:*9* 14:*7* 31:*19* 37:*13*, *17*, *20* 38:*8* 52:*17*
collecting 61:*12*
collection 10:*15*, *19*, *21* 11:*2*, *3*, *4*, *5*, *8* 12:*10* 13:*22* 26:*12* 35:*16* 36:*8* 37:*21* 52:*19* 53:*10*, *17*, *19* 54:*2*, *4*, *9*, *18* 71:*9*, *13* 75:*12*, *14*
colour-coding 74:*9*
combination 53:*13*
come 6:*5* 24:*1* 29:*9* 33:*1*, *16* 37:*9* 56:*1* 61:*7*
comes 9:*12* 40:*1* 62:*9*
coming 42:*22* 43:*17* 45:*12*, *13*
Command 38:*24*
commencing 5:*1*

comment 14:*2* 34:*9* 36:*23* 50:*18*
COMMISSION 1:*7* 4:*4*, *5*, *8*, *10*, *11* 6:*12* 79:*5*
Commissioner 2:*3*, *4*, *5* 5:*3* 14:*25* 15:*1*, *2*, *11*, *15*, *20* 19:*13*, *16*, *25* 20:*3*, *9*, *11* 21:*12* 22:*15*, *19*, *25* 23:*3*, *20* 24:*13* 25:*12*, *14*, *20* 26:*2* 28:*22* 29:*1* 31:*7* 32:*20* 34:*9* 37:*24* 39:*21* 40:*7* 41:*12*, *23* 42:*8*, *11*, *15* 46:*21* 48:*17* 49:*1* 50:*13*, *17* 51:*8*, *20* 52:*8*, *14* 56:*23* 57:*1*, *17*, *22* 58:*1* 61:*3*, *18* 63:*24* 65:*1*, *7* 67:*11*, *12*, *15* 68:*3* 69:*1* 75:*23* 76:*14*, *19* 77:*2* 78:*7*, *12* 79:*7*, *9*, *10*
Commissioners 6:*4* 8:*7* 14:*20* 46:*20* 50:*12* 51:*23* 52:*10* 72:*25* 78:*14*
commitment 34:*1*
communicate 22:*17*
communicated 12:*24*, *25* 75:*1*
communication 74:*22*
communities 11:*6* 66:*23*
community 11:*4*, *6* 12:*2* 23:*16* 25:*2*, *5*, *8* 26:*19* 28:*4* 30:*21* 43:*8* 58:*16*
company 71:*14* 80:*23*
comparable 53:*14*
comparative 9:*25*
compared 17:*14*
complementing 22:*6*
complete 48:*9*
completed 32:*2*, *4* 50:*9*
completing 47:*19* 49:*9*
component 7:*15* 35:*4*, *7*, *13* 38:*16* 70:*18*
components 9:*7* 13:*13*, *15* 28:*15* 29:*13* 31:*13*, *16*, *20* 38:*4*, *13* 52:*13*
concern 48:*6*
concerned 20:*20* 34:*21* 62:*25*
concerns 51:*11*
concluded 29:*3*
concludes 78:*9*
concrete 55:*18*
concretely 63:*20*
concur 78:*1*
concurrent 57:*8*
concurrently 26:*11*
confident 67:*2*
confirm 72:*7*
confirmed 17:*24* 18:*6*, *10* 19:*17* 25:*2* 52:*7* 66:*19* 72:*8*
confirming 52:*1*
confusing 42:*1*
connection 6:*14*
cons 19:*9* 70:*12*
consequences 30:*10* 54:*8*
considerable 33:*10*
consideration 20:*21* 39:*10* 71:*8*
considerations 69:*25*
considered 75:*19*
considers 41:*20*
consistent 6:*11* 16:*11* 35:*10* 36:*11*
consultation 72:*17*
consultative 10:*5*
contact 68:*20*
contain 67:*19*
context 21:*6* 32:*24* 56:*9* 59:*25* 60:*6* 61:*17* 63:*2* 66:*25* 67:*3*
contexts 56:*17* 62:*13* 64:*17*
continue 45:*16* 46:*2* 50:*5* 73:*1* 77:*13* 79:*11*
continued 44:*12*, *25* 46:*4* 51:*6*
continuing 50:*14*
continuously 29:*14*
continuum 7:*24* 8:*12* 31:*18* 34:*20*
control 19:*18* 39:*6*
controlled 53:*1* 62:*9*, *10* 63:*5*
conversation 9:*23*
coordinate 12:*13*
Coordinates 10:*10*
coordinating 10:*13* 49:*13*
Coordination 7:*9* 11:*19* 14:*15* 38:*25* 49:*5*
Coordinator 2:*12* 6:*25*
core 11:*22*
coronaviruses 17:*20*
Coroner 2:*11* 6:*25*
Corporate 3:*5*
correct 11:*20* 15:*19* 25:*6* 41:*18* 42:*10* 47:*4* 76:*1* 80:*15*
corrected 47:*4*
correlates 55:*23*
Counsel 3:*11*, *13* 4:*5*, *11*, *13*
countries 27:*5*
country 21:*2*
countryside 29:*6*
courier 11:*17* 35:*20*
course 19:*15* 27:*6* 38:*14* 40:*14* 56:*25* 78:*22*
cover 7:*23* 25:*23*
covered 73:*5*
COVID 16:*6*, *13* 17:*13* 26:*14* 27:*1*, *5* 31:*14* 44:*24* 50:*1* 51:*11* 52:*4* 54:*21* 55:*24* 74:*25* 75:*4*
COVID-19 1:*7* 7:*14*
create 37:*23*
created 14:*16*
criteria 19:*4*
critical 70:*18*, *21*
Crown 4:*13*
CSR 80:*3*, *24*
cue 37:*8*
current 28:*17* 75:*4*
currently 26:*17* 32:*16* 52:*2* 58:*23* 73:*6*, *11* 75:*8*
cut 34:*16*
cycle 55:*16*

< D >
daily 28:*17*
data 12:*16* 31:*20* 34:*16* 43:*7* 45:*12* 46:*12* 49:*8*, *16*, *19*, *22* 57:*13*, *21* 61:*7* 62:*1*, *6*, *8* 63:*5* 70:*6*, *13*, *14*
date 34:*3* 71:*10*
Dated 80:*18*
dates 25:*1*, *12*, *15*
day 1:*15* 21:*7*, *8* 28:*18* 31:*2* 32:*4* 33:*15* 35:*21*, *22* 80:*18*
days 14:*11* 16:*8* 18:*11* 19:*5* 32:*3*, *6*, *25* 34:*5*, *6*, *22*, *23* 35:*22* 74:*21*
deal 9:*24*
debate 22:*2*
decide 22:*21*
decided 18:*1* 19:*11*
deciding 68:*6*
decision 9:*20* 22:*12*, *24* 29:*10* 30:*3* 39:*23* 46:*1* 47:*13* 48:*1*, *2*, *18*, *21*, *24* 50:*4*, *8*, *19*, *21*, *22* 62:*3*, *7* 68:*4*, *7*
decision-makers 48:*16*
decision-making 41:*22*
decisions 41:*2* 44:*4* 45:*9* 48:*14* 49:*15* 50:*12* 67:*25* 77:*11*
definition 21:*19*
degradation 13:*19*
degree 56:*18*, *19*
deliberate 11:*14*
delineate 13:*12*
deliver 30:*16* 33:*16* 53:*6*
delivering 35:*21*
delivery 38:*16*
demand 18:*22* 32:*7*, *14* 39:*14*
demonstrating 43:*22* 45:*3*
dentist 58:*15*
deploy 57:*7*, *18* 64:*8*

deployed 57:*10* 75:*19*, *24* 76:*6* 77:*14*
deploying 57:*14* 66:*14*
deployment 56:*8* 76:*11* 78:*4*, *5*
depth 38:*6*
Deputy 4:*3*
Derek 4:*7*
describe 16:*8* 18:*13* 42:*21* 54:*25*
described 14:*15* 23:*11* 28:*16* 31:*11* 32:*3* 38:*19* 39:*14* 43:*15* 59:*3*, *17* 69:*5* 71:*9*, *18*
detail 45:*7* 57:*12*
determination 62:*3*
determine 54:*20* 61:*4*, *5*
determined 67:*9*
determines 38:*21*
develop 26:*24* 30:*3*
developed 17:*4*, *18*
developing 29:*15*
development 41:*15*, *17*
developments 59:*9*
develops 16:*23*
device 60:*7*
Dhanjal 3:*7*
Diagnostic 6:*23* 10:*12* 18:*12* 23:*10* 27:*17* 28:*10* 29:*15* 32:*12* 53:*22* 55:*19*
diagnostics 36:*20* 54:*14* 69:*9*
died 32:*23*
difference 63:*4* 72:*9*
different 10:*1*, *14* 11:*11* 12:*12*, *14*, *17* 13:*13* 29:*18* 34:*15* 40:*15*, *20* 51:*1* 52:*12* 53:*16* 54:*13* 56:*12*, *17* 62:*18*, *23*, *24* 63:*18* 64:*8* 71:*19*, *25*
difficult 20:*15*
difficulty 25:*23*
directed 28:*24* 52:*5* 73:*24*
direction 74:*3*, *7*, *11*
directions 74:*15*
directive 40:*8* 73:*8* 77:*5*
directives 40:*16*, *19* 43:*25* 74:*13*, *17*
directly 15:*14*
Director 2:*16* 4:*7* 6:*22* 7:*9*
Dirk 2:*11* 6:*24* 46:*17*, *23* 49:*3* 51:*9* 58:*22* 68:*8* 72:*22* 76:*22* 77:*1* 79:*11*
disclose 6:*13*
disconnect 63:*11*
discussed 38:*5*
discussion 8:*3*
discussions 32:*24*
disease 21:*16* 23:*23* 24:*15* 54:*8*
displays 73:*22*
disposal 40:*16*
distance 66:*10*
distribute 21:*3*
distributed 21:*1* 27:*15*
Dobush 2:*19* 7:*5* 8:*5* 51:*22* 72:*23*, *24* 76:*1*, *17*, *21*, *25* 77:*25* 78:*9*
Doctor 28:*23* 32:*21* 38:*1* 50:*14*
document 40:*1*
documented 35:*1*
doing 5:*5* 8:*11* 11:*2* 19:*16*, *20* 20:*14* 36:*5* 37:*4* 47:*11*, *20* 62:*11* 64:*15*
door 37:*18*
drill 5:*9* 49:*24*
Drummond 4:*3*
due 43:*5*
duplicate 18:*3*

< E >
earlier 19:*3* 28:*16* 31:*12* 35:*4* 38:*19* 39:*14* 49:*17* 68:*12* 74:*6*, *20* 77:*15*
earliest 42:*23* 43:*3* 74:*25*
early 16:*7* 19:*5* 21:*19* 24:*25* 27:*21* 38:*23* 55:*18* 59:*11* 60:*4*, *9* 67:*4* 68:*2* 69:*13* 74:*21* 76:*4* 78:*5*
easier 36:*20* 53:*19* 55:*5*
Ebola 29:*16* 30:*13*, *14*
effective 56:*7* 73:*7*
efficacy 52:*22* 61:*23*
effort 14:*15* 18:*25* 69:*20* 71:*21*
efforts 28:*12*, *19* 32:*17* 34:*6* 39:*11* 56:*6* 69:*19*
elaborate 62:*5*
electronic 36:*18*
element 35:*24*
elements 8:*17*
eligibility 43:*1*, *11*, *21*
eligible 15:*18* 43:*10* 57:*2*
emerged 29:*17* 39:*19*
emergency 48:*12*
emerging 16:*22* 29:*15*
employees 77:*12*
employers 73:*9*
enable 58:*21* 59:*20*
enabled 43:*10* 44:*18*, *22*
enabling 66:*25*
endeavor 14:*3*
enforced 44:*1*
engineer 36:*14*
enhance 75:*4*, *14*
Enhanced 44:*17*
ensure 18:*21*
ensuring 31:*16*
enterovirus 29:*19*
entire 14:*5*, *11* 65:*13*
entry 12:*16* 73:*19*
environment 60:*12*, *17*
environments 60:*25*
epidemiology 39:*6*
equivalent 56:*14*
essentially 11:*21* 47:*21* 65:*13* 69:*9*
establish 26:*14*
established 9:*15* 16:*20*, *21* 17:*24* 21:*20* 22:*9* 38:*23* 41:*7*
establishment 27:*17* 28:*9*
ethics 39:*5*
etiology 17:*1*
evaluate 47:*8*
eventually 5:*24*
everybody 37:*4* 67:*19*
evidence 52:*22*
evidence-based 39:*9*
evident 7:*19*
evolution 42:*21* 74:*2*
evolved 21:*21* 38:*14* 43:*1*, *2*, *9* 78:*19*
exact 25:*1*
exactly 21:*2* 22:*18* 69:*18*
example 18:*23* 24:*9* 30:*13* 33:*14* 70:*23*, *24* 72:*4*
examples 41:*5* 72:*4*
exceeded 28:*5* 32:*14*
exceeds 39:*14*
Excellent 21:*18* 24:*3*
exception 35:*5*
excluded 24:*2*
exclusively 11:*1*
Executive 2:*9*, *19* 3:*3* 7:*6*
existing 16:*14* 64:*14*
expand 12:*7*
expandable 70:*11*
expanded 13:*16* 21:*24*, *25* 44:*14*
expedient 69:*21*
expedited 31:*22*
experience 18:*2* 34:*3* 77:*18*
expert 9:*15*, *16* 38:*23* 39:*1* 41:*14* 42:*1* 45:*8*, *11*, *15* 46:*10*
expertise 20:*8* 39:*3*, *4*
experts 39:*3*, *4* 48:*15*
explain 45:*6*
explore 71:*12*
exposed 44:*19*
exposure 43:*5* 45:*4* 52:*4*
extend 26:*18*
extended 6:*14* 73:*16*
Extendicare 6:*15*, *17*

extends 73:*10*
extent 73:*6*
extra 64:*24*

< F >
face 16:*20*
faced 8:*14*
facilitate 49:*4*
facilities 78:*20*
facility 24:*16* 34:*15* 51:*14*
fact 8:*16* 10:*21* 17:*25* 18:*17* 20:*24* 27:*12* 51:*10* 60:*10* 64:*2*, *22* 65:*12* 66:*9*
factor 62:*4*
fairly 62:*7* 68:*19*
false 20:*1* 49:*25* 55:*9* 62:*25* 70:*16* 72:*14*
families 32:*23*
family 6:*14*
fast 57:*14*
faster 13:*23*
favourite 10:*17*
fax 36:*2* 72:*1*, *2*, *7*
February 18:*17* 20:*19* 21:*5* 23:*9* 24:*4*, *11*, *14*, *25* 27:*7*, *9*, *12* 30:*19* 43:*16*
Federal 59:*12* 65:*10*
feel 5:*18*
fell 22:*12*
felt 44:*19*
field 57:*21* 62:*12* 63:*12* 70:*13* 77:*17*, *20*
figure 68:*7*
figuring 33:*22*
finalizing 76:*8*
find 5:*7* 50:*2*, *3*
finding 5:*6*
fine 8:*24* 25:*21* 38:*1*
flag 21:*10* 30:*4*, *18*
focus 24:*11* 26:*5* 56:*2*
focused 23:*22* 25:*3* 27:*3*
folks 11:*11*
follow 5:*25*
followed 37:*1* 74:*14*
following 35:*21* 48:*14*
follows 37:*5*
FOOTNOTE 79:*22*
force 40:*9* 58:*20*
foregoing 80:*6*, *14*
foreseeable 24:*14*
formal 6:*7* 18:*20* 28:*10*
formalization 28:*12*
formalized 32:*11*
formally 20:*18* 21:*4*
forth 80:*8*
forward 9:*19* 55:*13*
found 49:*20*
foundation 70:*22*
frame 24:*24* 66:*21*
framework 28:*15* 33:*11* 44:*16*
Frank 2:*3* 5:*3* 14:*25* 15:*15*, *20* 20:*11* 21:*12* 22:*15*, *19*, *25* 23:*3*, *20* 24:*13* 25:*14*, *20* 26:*2* 28:*22* 29:*1* 31:*7* 32:*20* 37:*24* 39:*21* 40:*7* 41:*12*, *23* 42:*8*, *11*, *15* 46:*21* 48:*17* 49:*1* 50:*13* 52:*14* 56:*23* 57:*1*, *17*, *22* 61:*3*, *18* 63:*24* 67:*12*, *15* 68:*3* 69:*1* 75:*23* 76:*14*, *19* 78:*7*, *12* 79:*7*
Franklin 4:*9*
Fredrika 2:*16* 7:*8* 8:*3* 25:*13*, *17* 26:*1* 40:*4*, *6*, *11*, *13* 41:*18* 42:*7*, *10*, *13*, *18*, *19* 45:*20* 46:*18* 47:*10* 48:*21* 50:*24* 51:*17*, *19* 57:*11* 58:*5*, *12* 59:*8* 61:*8*, *21* 65:*5*, *8* 67:*14*, *22* 68:*18* 69:*4*
Fredrika's 46:*25*
frequency 46:*5* 73:*16*
frequent 69:*16*
Friday 58:*9*, *20*
fridge 33:*15*
front 36:*19*
fulfill 65:*20*
full 58:*9*
fully 77:*22*
function 63:*6*
functioning 23:*18*
fundamental 5:*19*
funded 44:*24*
funding 31:*3*
futile 33:*3*

< G >
gargle 54:*6*
General 2:*13* 42:*22*
generic 17:*20*
genetic 54:*15* 55:*2*
geography 66:*7*
give 22:*23* 50:*11* 60:*9* 61:*5*, *9* 70:*15*
given 14:*12* 19:*21* 61:*6* 64:*25* 70:*8* 78:*4*
gives 56:*19*
goal 14:*9*, *12* 32:*1* 68:*23*
gold 52:*18* 54:*14*, *16*, *23* 66:*1* 69:*9*
good 54:*19* 64:*24* 72:*3*
government 41:*2* 46:*1* 48:*23* 59:*12* 65:*10*
granted 73:*19*
Great 6:*3* 7:*17* 10:*20* 15:*24* 19:*19* 79:*11*
green 73:*12*
group 17:*19*, *21* 54:*24*
guess 6:*1* 42:*22*
guidance 9:*1*, *10*, *11*, *21*, *22* 10:*3*, *5* 15:*16* 21:*13* 22:*13* 23:*22* 24:*4*, *6* 25:*2*, *5*, *9* 28:*2* 38:*22* 39:*15* 40:*1*, *8*, *17*, *21*, *23* 41:*10*, *15*, *16*, *17* 42:*2*, *3*, *9*, *21*, *24* 43:*3*, *9*, *19*, *25* 44:*6*, *10*, *14*, *18*, *22*, *24* 45:*2* 46:*12* 48:*14* 74:*2*, *8*, *13*, *14*, *17* 76:*9*
guidelines 19:*7* 22:*4*, *6*

< H >
Hallway 2:*17*
hand 8:*2* 14:*2*, *21*
happen 28:*1* 33:*13*
happening 48:*3* 63:*15*
happy 42:*20* 51:*22*
hard 12:*6*
harm 33:*4*
Health 2:*10*, *15*, *18* 3:*3*, *4*, *6*, *7*, *8*, *11*, *13* 6:*10*, *21* 7:*10* 8:*21* 9:*3*, *12*, *13*, *14*, *18*, *19* 10:*9* 11:*2*, *6*, *23* 13:*1*, *3*, *4*, *8* 21:*21* 22:*5*, *7*, *8* 23:*13* 24:*8* 26:*10*, *13* 27:*20*, *24* 28:*7*, *9* 29:*2* 31:*2*, *23* 32:*11* 38:*11*, *20*, *21*, *24* 39:*4*, *10*, *19*, *22* 40:*1*, *2*, *3*, *14*, *24* 41:*3*, *9*, *11*, *20* 42:*6*, *25* 43:*4* 44:*1* 45:*1*, *24* 46:*11* 47:*6*, *14*, *19* 48:*19* 49:*9* 52:*5* 53:*11* 59:*11* 60:*13* 61:*21*, *22* 62:*1*, *6* 67:*10*, *25* 68:*6*, *9*, *11*, *25* 73:*25* 74:*14*, *16*
Healthcare 2:*17* 53:*2* 58:*6*
Health's 6:*22* 10:*12*
hear 34:*24*
heard 32:*22* 34:*21* 35:*18* 52:*21* 76:*5*
Held 1:*14*
help 39:*15* 41:*13* 49:*4*, *10*, *11*
helped 78:*18*
helpful 16:*17* 60:*16* 66:*3* 72:*13* 79:*3*
helpfully 65:*10*
helps 64:*10*
high 21:*14*
higher 64:*17*
highest 52:*24*
highlight 69:*22* 74:*19*
highlighted 44:*4*
highlights 74:*5*
highly 60:*24*
high-probability 26:*6*
high-quality 7:*14* 19:*23* 20:*22*
home 37:*13* 41:*8* 45:*14* 47:*23* 48:*9*, *23* 50:*1*, *6*, *7* 60:*17* 61:*17* 67:*6*, *19* 72:*2* 73:*12*, *13*, *19* 78:*25*
homes 6:*15* 8:*25* 11:*4*

23:*25* 47:*7*, *9*, *15* 48:*7* 57:*2* 59:*23* 60:*4* 62:*20*, *22*, *23* 64:*14* 65:*4* 68:*1* 72:*7* 75:*5*, *8*
Honourable 2:*3*
hope 60:*15* 67:*1* 68:*23*
hospital 11:*24* 27:*20*, *25* 28:*6*
hospital-based 10:*25* 11:*1* 23:*14*
hospitals 12:*1* 23:*16* 26:*14* 49:*10*
hours 35:*10*
House 70:*23*
housed 39:*17*
hundred 10:*22* 12:*9*
Huyer 2:*11* 6:*24*, *25* 8:*5* 46:*17*, *23* 49:*3* 51:*9* 58:*22* 59:*17* 67:*23* 68:*8* 72:*21*, *22* 76:*22* 77:*1*, *25* 79:*11*

< I >
ID 59:*25* 68:*17*
idea 68:*19*
identification 30:*21* 60:*4* 67:*4* 70:*2*, *16*
identified 16:*25* 18:*10* 33:*9*
identifies 74:*11*
identify 67:*7* 68:*2* 70:*1*
illustrate 46:*9*
immune 55:*23*
immunity 56:*1*
impacts 9:*24*
implementation 75:*17*
implemented 31:*6* 62:*17*
importance 78:*20*
important 7:*15* 30:*9*, *15* 33:*24* 55:*13* 69:*14*
improve 33:*22* 37:*11*
Improving 2:*17*
inaudible 8:*10* 20:*2* 25:*13* 36:*19* 37:*23*
incident 35:*1*
include 15:*5* 43:*11*
included 43:*22* 59:*23*
includes 39:*2*
including 14:*17* 54:*18*
increase 27:*6* 28:*13* 70:*7*
increased 18:*22* 46:*5*
increasing 48:*5*
incredible 26:*12*, *15* 28:*12* 69:*12* 71:*22*
incremental 27:*8*
indecipherable 26:*16* 42:*14* 56:*21* 58:*9*
individual 40:*25* 54:*21*
individuals 27:*4* 38:*10* 64:*10*
indulge 8:*17*
inevitably 66:*10*
infected 48:*7*, *8*
infection 39:*5*
infections 16:*22* 48:*5* 63:*23*
infectious 70:*6*
influenza 16:*9*
inform 16:*18*
informal 27:*18* 28:*6*
information 12:*12*, *14*, *17*, *18*, *21* 25:*18* 37:*21* 46:*7* 51:*24* 70:*3* 71:*19* 75:*11* 78:*19* 79:*25*
informed 38:*22*
infrastructure 14:*13* 16:*8* 71:*2*
initial 6:*12* 16:*19* 18:*24* 31:*4* 39:*8* 68:*21*
initially 7:*23* 19:*17* 23:*21* 42:*2*
initiative 19:*18*
innovation 54:*3*
innovative 70:*1*
input 41:*15*, *16*, *25* 42:*4*, *5* 46:*10*
inputs 39:*2* 41:*21* 46:*12*
instance 10:*1* 11:*7*
instances 11:*16* 36:*2*
instrumentation 20:*8*
integration 28:*14*
integrity 13:*17*
interest 76:*3*, *5* 78:*24* 79:*1*
interesting 16:*16* 56:*20*
Interim 3:*3* 5:*14*
internationally 16:*25* 21:*11* 30:*20*
interpretation 38:*12* 72:*12*, *19*
interpretations 72:*14*
interpreted 72:*16*
introducing 65:*14*
introduction 6:*7*
intrusive 59:*3*
invasive 52:*20*
investigation 52:*6* 73:*24*
investments 29:*23*
inviting 6:*5*
involved 11:*3*, *11*, *12* 57:*5* 58:*5*
isolate 66:*14*, *15*, *22*
isolated 68:*22*
issue 5:*14* 36:*4* 40:*16*, *25*
issued 5:*13* 41:*10* 43:*3* 44:*6*, *15*
issues 40:*21* 42:*9* 46:*12* 65:*3*, *9*
it'd 68:*24*

< J >
Jack 2:*5* 19:*13*, *16*, *25* 20:*3*, *9* 50:*17* 51:*8*, *20* 52:*8* 65:*1*, *7* 67:*11* 79:*9*
Janice 3:*7*
January 17:*2*, *9* 18:*8* 26:*23*, *24* 27:*1* 29:*2*, *10* 30:*3* 43:*16*
Jessica 4:*9*
John 4:*5*
joined 7:*20*
Joining 6:*19*
joy 12:*11*
July 39:*11*
jurisdictions 62:*14*
Justice 74:*6* 76:*2*

< K >
keeping 49:*18*
key 31:*13* 65:*17* 66:*22*
kicks 13:*7*
kind 9:*24* 10:*4* 16:*15* 33:*3*, *5*, *6* 49:*5*, *11*
kinds 29:*18* 34:*12* 54:*13* 56:*12* 67:*24*
kits 76:*7*
Kitts 2:*5* 19:*13*, *16*, *25* 20:*3*, *9* 50:*17* 51:*8*, *20* 52:*8* 65:*1*, *7* 67:*11* 79:*9*
knew 64:*23*
knowing 29:*25*
knowledge 5:*22* 75:*11*
known 27:*5* 52:*4*
knows 37:*4*
Kong 3:*8*
Korea 18:*24* 20:*13*, *25*

< L >
lab 10:*7* 11:*18* 12:*18*, *20*, *23* 15:*6* 18:*4*, *7*, *11* 20:*4*, *5*, *14*, *22* 22:*17* 24:*8* 34:*14* 35:*4*, *8*, *23* 36:*10*, *17* 37:*6*, *16* 56:*2* 62:*8* 63:*12* 71:*19* 75:*15*
lab-based 55:*6*, *8* 56:*5* 57:*8* 63:*5* 65:*25*
labelled 33:*16*
laboratories 30:*23* 79:*25*
Laboratory 2:*15* 6:*21* 11:*25* 13:*24* 21:*1* 22:*7* 23:*8*, *12*, *14*, *15* 38:*4* 39:*6*
laboratory-based 70:*9*
labour-intensive 70:*10*
labs 11:*20*, *22*, *23*, *24* 12:*1*, *2*, *4*, *11*, *12* 19:*23* 20:*4* 23:*15*, *16* 27:*18*, *20*, *25* 28:*7*
land 7:*25*
large 18:*16* 26:*4* 76:*5*
largely 27:*4*
lastly 37:*12* 72:*11*
late 7:*4* 24:*24* 32:*11*, *12*
Law 4:*13*
lay 7:*24*
layer 65:*24*
Lead 2:*3*, *19* 3:*3* 4:*9* 7:*6*
leading 6:*2*
Leaman 3:*11*
learned 5:*15* 13:*14*
learnings 38:*15*
led 26:*10* 48:*8*

49:*15* 50:*4*
left 9:*5*, *9*
Legal 3:*8*
legislative 58:*5*
Lett 4:*7*
level 21:*14*
leveraged 23:*8*
lies 20:*8*
life 63:*7*
light 53:*8*
lightly 10:*4*
likewise 37:*11*
limitations 64:*20*
limited 53:*2* 62:*8* 70:*13* 71:*10*
linked 25:*4*
listed 11:*10*
listen 5:*9*
load 52:*24*
local 11:*17* 68:*5*, *9*, *11*, *24*
located 73:*12*, *13*
locations 26:*18*
lockdown 73:*14*
long 13:*25* 33:*3* 34:*22* 66:*10*
longer 33:*1*
LONG-TERM 1:*7* 2:*19*, *20* 3:*12* 4:*4*, *5*, *7*, *9*, *11* 6:*15* 7:*6*, *7* 8:*6*, *25* 9:*1*, *2* 11:*3* 23:*25* 24:*9*, *16* 32:*19* 33:*7*, *12*, *25* 36:*25* 37:*12*, *13* 41:*6*, *8*, *24* 43:*23* 44:*5*, *9*, *11* 45:*14* 46:*3*, *8* 47:*1*, *7*, *15*, *23* 48:*5*, *7*, *9*, *22* 50:*6*, *20* 53:*22* 56:*9* 57:*2* 59:*23*, *25* 60:*3*, *16*, *25* 61:*17* 62:*20* 64:*6* 65:*4* 66:*13* 67:*6* 69:*15* 70:*23* 71:*24* 72:*6* 73:*4* 74:*3*, *13* 75:*2*, *4*, *8*, *19*, *25* 78:*20*, *25*
looked 9:*3*
looking 21:*23* 36:*15* 45:*11* 55:*2*, *21* 63:*11* 71:*14* 78:*24*
looks 46:*11* 54:*15* 56:*15* 62:*6*
loose 29:*6*
lost 35:*22*
lot 9:*24* 11:*5* 16:*4* 18:*15*, *25* 22:*1* 33:*12* 36:*20* 38:*15* 45:*23* 46:*7* 53:*15* 54:*5* 55:*11*, *12* 56:*6* 57:*13* 67:*16* 69:*19* 71:*6* 72:*17*
lots 24:*15*
Louise 3:*10*
lovingly 12:*21*
low 27:*2*, *10* 45:*18*
lowered 63:*16*
lower-volume 12:*5*
low-prevalence 45:*21*, *22*
LTC 40:*21*
Lynn 4:*11*

< M >
made 9:*20*, *23* 18:*19* 27:*14* 29:*10*, *23* 43:*10* 46:*1* 47:*13* 48:*14*, *18*, *19*, *24* 50:*19* 80:*10*
Mahoney 4:*11*
mail 36:*2*
main 38:*4*
mainstay 55:*21*
maintain 13:*17*
major 63:*13*
making 31:*19* 59:*20* 69:*20* 71:*3*, *4* 72:*1*
manage 68:*11*
Management 13:*7* 73:*24*
Manager 3:*7*
mandate 39:*8* 77:*9*
mandated 29:*21*
mandatory 73:*7* 77:*3* 78:*4*
manufacturer 62:*2*
March 14:*14* 24:*25* 26:*13* 27:*16*, *21*, *22* 28:*1*, *8* 31:*6* 32:*11* 33:*20* 43:*19*, *23* 74:*22*
market 17:*3* 21:*24*
Marrocco 2:*3* 5:*3* 14:*25* 15:*15*, *20* 20:*11* 21:*12* 22:*15*, *19*, *25* 23:*3*, *20* 24:*13* 25:*14*, *20* 26:*2* 28:*22* 29:*1* 31:*7* 32:*20* 37:*24* 39:*21* 40:*7* 41:*12*, *23* 42:*8*, *11*, *15* 46:*21* 48:*17* 49:*1* 50:*13* 52:*14* 56:*23* 57:*1*, *17*, *22* 61:*3*, *18* 63:*24* 67:*12*, *15* 68:*3* 69:*1* 74:*6* 75:*23* 76:*2*, *14*, *19* 78:*7*, *12* 79:*7*
match 17:*16*
material 53:*16* 54:*16* 55:*2*
Mathai 4:*13*
Matt 57:*11*
matter 78:*20*
Matthew 2:*9* 6:*3*, *9* 15:*8*, *12*, *19*, *22* 24:*18*, *20*, *23* 25:*11* 34:*8* 42:*14*, *17* 78:*11* 79:*4*
matures 11:*13*
meaning 73:*9*
means 35:*14* 55:*8* 63:*23*
measure 14:*4* 46:*4*
measured 69:*22*
Medical 6:*22* 9:*13*, *17*, *18* 21:*20* 27:*19* 31:*1* 38:*21* 39:*18*, *22*, *25* 40:*2*, *14*, *24* 41:*3*, *10*, *20* 42:*6*, *25* 43:*4* 44:*1* 45:*1*, *24* 46:*11* 47:*5*, *14* 48:*19* 49:*13* 68:*5*, *24*
Medicine 2:*17*
MEETING 1:*7* 19:*7* 31:*2* 32:*5*
meets 61:*24*
mentioned 73:*21*
merge 23:*17*
MERS 17:*19* 20:*25*
methods 54:*18*
microbiologist 19:*8*
Microbiology 2:*14* 6:*20* 18:*4*, *7*, *11* 39:*5* 72:*18*
middle 21:*5*
mid-May 50:*20*
million 36:*12*
mind 51:*1* 67:*17*, *21* 79:*1*
minimized 31:*17*
Minister 4:*3*
Minister's 73:*8* 77:*4*
ministries 40:*25*
Ministry 2:*13*, *18*, *20* 3:*11*, *12* 7:*7*, *10* 8:*21* 9:*1*, *3*, *12*, *19* 13:*3* 38:*20* 39:*10* 40:*2*, *22* 41:*6*, *24* 45:*25* 53:*11*
minutes 60:*8*, *9*
Miren 3:*5*
missing 64:*4*
misspoke 61:*9*
mitigate 70:*17*
Mm-hm 51:*19* 67:*14*
mobile 26:*20*
mobilization 26:*15*
modalities 56:*8*
modality 54:*7* 55:*1*, *14*, *20*, *24* 70:*25*
model 21:*3*
modelling 39:*7*
molecular 20:*22* 54:*15*
moment 72:*19*
Monday 73:*7*
monitor 34:*13*, *14*
month 27:*22*
months 8:*15* 14:*17* 33:*19*, *21* 71:*7*
Mount 31:*5*
move 5:*16* 43:*14* 52:*10*
moves 67:*13*
moving 5:*21* 14:*19*
myriad 71:*18*

< N >
nasal 53:*13*, *20*
nasopharyngeal 52:*19* 53:*21* 54:*17* 58:*25*
National 18:*3*, *7*, *11*
nature 21:*16*
necessarily 59:*6*
necessary 34:*7* 68:*10*
neck 59:*2*
needed 17:*7* 20:*21*
needs 11:*10* 69:*9* 72:*5*
NEESONS 80:*23*
negative 18:*6* 64:*2*, *3* 73:*18*
negatives 55:*9*
Network 6:*23* 10:*12* 11:*13*, *19*, *25* 12:*15* 13:*17* 23:*10*, *15* 27:*17* 28:*10* 32:*12* 35:*19*
new 64:*21*
new-kid-on-the-block 55:*1*

new-test 55:*1*
nice 55:*4*
NML 17:*25* 19:*18* 64:*23*
non-financial 6:*14*
normally 5:*17*
North 12:*7*
nose 53:*14* 54:*18*
not-as-bad 77:*8*
note 19:*2* 23:*7* 52:*18*
noted 47:*10* 58:*19* 60:*22* 65:*23*
notes 80:*15*
notified 17:*2*
novel 19:*22*
November 1:*15* 80:*18*
NP 53:*7* 58:*13* 59:*18*
number 7:*17*, *20* 8:*16* 10:*20* 11:*21* 13:*2* 20:*4* 21:*9* 24:*12* 40:*15*, *20* 53:*2* 72:*1*, *2* 74:*5* 75:*10* 76:*3*
numbers 65:*11* 72:*7*
nurse 53:*3* 58:*13*, *14*, *15*
nursing 62:*22*, *23*

< O >
OBSERVERS 3:*1*
obvious 23:*24*
occur 26:*16* 72:*15*
occurred 32:*10* 76:*13*
occurring 47:*9*
occurs 51:*25* 73:*21*
October 59:*12*, *16*, *19*
O'Dwyer 3:*13*
offer 53:*3*, *16* 54:*2*, *8* 64:*13*
offered 53:*24* 54:*13* 70:*21*
offers 53:*14*
Office 3:*10* 4:*13* 27:*19* 39:*18*
Officer 2:*10* 3:*8* 9:*13*, *17*, *18* 21:*20* 27:*20* 31:*1* 38:*21* 39:*19*, *22*, *25* 40:*2*, *14*, *24* 41:*3*, *10*, *20* 42:*6*, *25* 43:*4* 44:*1* 45:*1*, *24* 46:*11* 47:*6*, *14* 48:*19* 68:*5*, *9*, *11*, *24*, *25*
officials 67:*25*
Olha 2:*19* 7:*5* 46:*6* 51:*22* 57:*10* 72:*23*, *24* 76:*1*, *17*, *21*, *25* 77:*19*, *23*, *25* 78:*9*
OLIS 12:*21* 13:*6* 14:*8*, *16* 49:*19* 79:*24*
Olivia 4:*17* 80:*3*, *24*
ones 52:*10*
ongoing 39:*11*
online 13:*16*
onsite 69:*17*
Ontarians 44:*16*
Ontario 2:*10*, *15* 3:*4*, *6*, *7*, *9*, *13* 6:*10*, *16*, *21*, *22* 7:*16* 8:*23* 9:*14* 10:*9*, *12* 11:*24* 13:*4* 18:*9* 19:*1* 23:*7*, *13* 24:*8* 26:*10*, *13* 27:*24* 28:*7*, *9* 29:*2* 30:*9*, *11*, *15*, *22* 32:*11* 43:*8*, *20* 48:*25* 53:*11* 56:*3*, *21* 60:*3* 62:*12* 77:*8* 79:*24*
Ontario's 2:*11* 6:*25* 7:*15*
operates 14:*24*
operator 6:*15* 76:*6*
operators 73:*9* 76:*3*, *7* 77:*4*, *5*, *9*, *11*
opposed 55:*18*
optimism 55:*11*
optimizing 38:*15*
options 53:*12* 54:*9* 71:*14*
orange 73:*13*
order 13:*17* 21:*16* 40:*9*
ordering 12:*24* 34:*15*
orders 71:*25*
organism 26:*25*
organizations 7:*17*
organizing 11:*14* 47:*20*
origin 43:*18*
original 15:*6*
Outbreak 2:*12* 7:*1* 18:*24* 36:*25* 37:*4*, *14* 49:*21* 50:*2* 51:*11*, *12* 52:*6*, *7* 60:*4*, *14* 67:*1*, *4*, *8* 68:*2*, *12*, *14* 73:*23*
outbreaks 33:*12* 47:*8*
overall 7:*22* 8:*22* 9:*3* 32:*1* 33:*18* 39:*14* 50:*10* 53:*25* 69:*5* 70:*7*
overloaded 35:*7*
oversight 56:*19*
overview 73:*2*

< P >
p.m 1:*16* 5:*1* 79:*14*
packaging 75:*13*
Panbio 59:*17* 76:*22*, *23* 77:*14*, *16* 78:*4*
pandemic 7:*15* 15:*4* 16:*9* 38:*14* 42:*24* 43:*2* 46:*14* 56:*21* 64:*4*, *10* 66:*2*
panel 9:*15*, *16* 38:*23* 39:*1* 41:*14* 42:*1* 45:*8*, *11*, *15* 46:*10* 48:*15*
paper-based 12:*16* 36:*18* 37:*3*
parallel 30:*13*
paramedic 58:*16*
paramedicine 58:*16*
paramedics 49:*10*
part 12:*2* 13:*18* 19:*3* 29:*19* 37:*14* 48:*1* 52:*5* 73:*22*, *23*
participants 1:*14* 4:*1*
participate 11:*7*
participation 72:*17* 76:*17*
particular 26:*25* 34:*17* 46:*19* 59:*24* 74:*9*
particularly 14:*12* 32:*18* 53:*22* 54:*10*, *21* 56:*9* 64:*6* 69:*14* 71:*10*, *23* 75:*10*
partnered 26:*13*
partners 17:*9*
partnership 7:*18*
parts 12:*15* 13:*19* 14:*19* 23:*11* 35:*15*
pass 40:*4* 72:*20*, *22*
pathogen 16:*23* 18:*2* 19:*22* 20:*12* 29:*25*
pathogens 16:*24*, *25* 29:*16* 30:*8*
patient 53:*5*
pattern 11:*17*
pause 14:*21*
pay 29:*3*
PCR 60:*1*, *20* 64:*15*, *16* 65:*11*, *25* 66:*19* 69:*10* 70:*9* 77:*16*
people 5:*25* 7:*17*, *20* 8:*15* 12:*22* 21:*23* 24:*1* 32:*23* 36:*1* 42:*5* 43:*5*, *10* 48:*6* 51:*13*, *17* 55:*15* 59:*7* 60:*11* 61:*5*, *10* 70:*15* 72:*2*, *10* 77:*10*
percent 14:*10* 32:*2*, *3*, *5* 49:*23* 63:*22*
perfect 8:*10* 54:*22* 72:*12*
perform 53:*20* 58:*18*
Performance 3:*4* 13:*20* 53:*15*, *25* 61:*25* 63:*16*, *19* 70:*13*
performed 58:*13*
performing 27:*11*
performs 63:*12*
period 13:*21*, *25* 35:*6*, *11* 43:*15*, *16* 44:*7* 45:*5*, *10* 46:*24* 47:*5*, *16*, *23* 48:*11* 49:*7* 51:*2*, *7*
periods 10:*2*
persistent 66:*5*
person 21:*15* 51:*12* 59:*2* 68:*21*
personal 6:*13*
perspective 7:*23* 16:*6* 24:*6* 29:*8* 33:*6* 35:*13* 37:*16* 78:*22*, *23*
pertains 6:*17*
ph 9:*23*
pharmacies 11:*1* 26:*20*
pharmacist 58:*15*
PhD 2:*16*
PHO 12:*1* 16:*20* 18:*3*, *10*, *20* 19:*3*, *17* 20:*4* 27:*15* 30:*22* 39:*17* 53:*10*
phone 19:*8*
physician 12:*24* 53:*3* 58:*13*

piece 70:*3* 71:*16*
pieces 14:*13*
pilot 76:*4*
piloting 61:*1*
pilot-type 78:*5*
place 13:*24* 14:*14* 73:*7* 80:*7*
places 10:*20*, *22* 23:*23*
plan 16:*9* 44:*17*
planning 15:*3*
plans 15:*5*, *6* 16:*15* 59:*24*
play 55:*12*
played 7:*2*
pleased 5:*8*
point 13:*21* 26:*5* 27:*3* 36:*24* 43:*18* 47:*22* 50:*8* 69:*10*, *11* 78:*25*
point-of-care 56:*5* 60:*1*
points 10:*19* 16:*17*
policies 40:*25* 41:*7* 51:*1*
Policy 4:*7*, *9* 46:*2*, *7* 50:*25* 51:*3*
population 64:*25*
populations 45:*19*, *22*
portable 55:*5* 56:*16*
positive 12:*25* 13:*6* 18:*9* 20:*2* 45:*23* 49:*23*, *25* 50:*1* 67:*18* 72:*14*
positives 63:*1*
possible 30:*1* 31:*18*, *22* 72:*3*
post 5:*24*
posted 12:*20* 13:*5* 14:*7* 40:*22*
post-SARS 29:*21*
potential 30:*9*, *10* 45:*4* 70:*1*
potentially 68:*22*
powers 40:*15*
practical 58:*15*
practice 72:*1*
practitioner 53:*4* 58:*14*
practitioners 58:*7*
pragmatic 39:*9*
precautionary 46:*3*
pre-COVID 15:*4*
preference 53:*22*
preferred 54:*6*
pregnancy 56:*15*
Premier 48:*25*
premise 19:*21*
preparation 75:*13* 76:*12*
prepared 30:*24*
preparedness 16:*5*, *23* 19:*1*
preparing 18:*15*
PRESENT 4:*15* 47:*22*
presentation 7:*22* 25:*19* 74:*20* 75:*7* 78:*10* 79:*3*
presentations 75:*6*
PRESENTERS 2:*7*
presenting 13:*20*
presents 73:*2*
President 2:*9* 3:*5* 6:*10*
presumptive 18:*9*
pretty 19:*20* 22:*1*
prevalence 45:*18* 47:*22*
prevention 39:*5* 70:*20*, *21*, *25*
primarily 30:*19* 74:*17*
primary 55:*24* 56:*2*
print 8:*24*
prior 14:*14* 27:*16*
priorities 66:*14*, *22*
prioritization 33:*11* 36:*25* 39:*13* 75:*7*
prioritize 37:*7*
prioritized 68:*16*
private 11:*24*
problem 33:*6*
procedure 61:*11*
proceedings 80:*6*
process 9:*10* 10:*5* 14:*5*, *11* 36:*9*, *25* 37:*5*, *14* 68:*13*
processed 12:*19*
processing 10:*8* 35:*4*, *9* 36:*12*
procured 65:*11*
procuring 59:*13*
produce 12:*19* 13:*4*
product 29:*20*
production 65:*13*
program 69:*6* 76:*9*
programs 64:*14*
progressing 47:*12*
Project 3:*7*
projected 16:*15*
promise 69:*12*
proof 73:*15*, *18*
proportion 62:*25*
pros 19:*9*
Protecting 44:*16*
protects 64:*10*
proteins 55:*3*
protocol 17:*4* 75:*8*
protocols 16:*24*
prove 67:*2*
proved 57:*18*
provide 9:*16* 39:*9* 40:*17* 41:*4*, *16*, *19* 42:*4* 45:*6* 46:*7* 49:*5* 51:*23* 61:*15* 73:*15*, *18*
provided 42:*24* 43:*9* 45:*8* 46:*10* 62:*2* 74:*11* 76:*9*
provider 58:*17* 59:*4*
providers 11:*5*, *16* 31:*24* 53:*2* 58:*17* 59:*22*
provides 40:*24* 42:*1* 60:*7* 61:*22*
providing 24:*7* 41:*25* 42:*5* 49:*12* 59:*21* 72:*15* 74:*7*, *10* 75:*15*
province 7:*19* 8:*22* 20:*23* 21:*25* 34:*12* 44:*14*, *15* 46:*15* 66:*7*, *16* 70:*8*
provinces 59:*14*
Provincial 2:*12* 6:*23* 7:*1* 10:*12* 17:*9* 23:*10*, *19* 24:*6* 27:*17* 28:*10* 32:*12* 34:*11*
Public 2:*15* 3:*8* 6:*21* 9:*14* 11:*2*, *23* 13:*1*, *3*, *8* 22:*5*, *7* 23:*13* 24:*8* 27:*24* 28:*7* 29:*2* 31:*23* 38:*11* 39:*4* 41:*9* 47:*6*, *19* 49:*9* 52:*5* 60:*13* 67:*10*, *25* 68:*9*, *11* 73:*24* 74:*14*, *16*
publicized 17:*4*
publicly 44:*23*
public-private 11:*25*
purchased 65:*13*
purely 69:*15*
purpose 65:*20*
purposes 53:*5*
pursued 53:*21*
put 15:*13* 51:*9*
putting 14:*15*

< Q >
qualify 21:*17*
quality 19:*18* 56:*19* 71:*1* 75:*14*
quarter 36:*12*
question 13:*11* 15:*3*, *14*, *16* 16:*3* 19:*14*, *20* 21:*18* 24:*4* 30:*2* 58:*23* 61:*14* 74:*19*
questions 5:*10* 6:*16*, *18* 16:*4* 72:*25* 74:*5* 75:*22* 78:*14*
question's 28:*24*
quick 24:*23* 67:*9* 68:*17*
quicker 5:*17* 60:*13*
quickly 15:*5* 30:*17* 52:*11* 67:*7*, *13* 68:*16*, *20* 72:*3*, *10*
quite 8:*16* 10:*18* 11:*21* 23:*23* 43:*13* 52:*20* 53:*4*, *6* 58:*17* 59:*8* 62:*18* 67:*2*

< R >
radar 29:*9*
raised 16:*4* 21:*9* 74:*6* 75:*5*
raises 30:*4*
rampant 23:*23*
ramped 13:*23*
ramp-up 15:*5*
range 21:*25* 43:*13* 53:*12* 58:*6*, *17* 62:*12*, *13*, *17*
rapid 31:*21* 56:*5*, *8*, *11*, *12* 57:*3* 58:*18*, *24* 59:*10* 60:*1*, *6*, *7*, *16* 61:*1* 62:*15*, *21* 65:*5*, *11*, *12*, *23* 66:*3*, *14*, *16*, *20*, *25* 67:*1*, *5*, *18* 69:*6*, *11*, *12* 70:*2* 75:*18*, *24*
rapidly 8:*18* 31:*20*
rarely 35:*10*
reach 12:*6*
read 60:*9*
re-admission 73:*23*

ready 6:*2* 17:*22* 31:*4*
real 30:*18* 37:*11* 63:*6*
really 9:*7* 10:*10*, *18* 21:*22* 23:*11*, *17* 25:*21* 26:*10* 27:*8* 29:*20* 30:*15*, *18* 31:*14*, *18* 33:*19*, *21* 39:*3*, *8* 52:*23* 53:*11* 56:*7*, *12*, *13* 59:*25* 61:*14* 63:*3* 64:*7* 65:*19* 70:*13* 71:*9* 78:*16*, *24* 79:*6*
realm 54:*10*
reassurance 70:*16*
recall 6:*9* 24:*8* 35:*3* 59:*1*
receive 64:*16*
received 28:*21* 45:*25* 52:*21* 59:*15*, *18*
recognition 25:*8* 28:*4* 48:*5*
recognize 5:*4* 34:*6*
recognized 21:*4* 30:*22* 43:*20* 48:*8*
recognizing 34:*11*
recommend 69:*10*
recommendation 18:*20* 20:*19* 21:*7* 27:*14* 31:*1*
recommendations 9:*17* 39:*9*, *12*, *19*, *25*
recommended 22:*3*
recorded 80:*11*
red 73:*14*
reduce 28:*13*, *20* 32:*17* 33:*24* 34:*7* 69:*13*
refer 8:*15*
referred 12:*21*
referring 10:*11* 13:*13*
refocus 45:*2*
refuse 76:*16* 77:*10*
reg 58:*19*
region 34:*14*
registered 58:*14*
regular 55:*16* 77:*6*
regularly 51:*5*
regulation 59:*20*
regulatory 61:*22*, *23* 62:*7*
reinforce 70:*19*
rejected 19:*3*, *12*
related 41:*1*, *7* 43:*4* 51:*2*
relating 33:*25*
relationship 17:*25* 28:*6* 45:*7*
relative 27:*10* 78:*19*
relatively 27:*2* 52:*11* 55:*5*
released 17:*13*, *14*
reliable 35:*7*
remains 65:*25*
remarks 42:*23* 80:*10*
remote 66:*8*, *15*, *22*
remotely 1:*15*
replaced 69:*11*
replacement 65:*25*
report 5:*14* 16:*18*
Reporter 80:*4*, *25*
REPORTER'S 80:*1*
reporting 35:*24* 36:*1*, *10* 71:*2*, *17*
reports 13:*5* 33:*9* 34:*22*, *25*
represent 60:*12*
request 38:*24*
requested 24:*10*, *12*
requests 18:*16*
require 21:*15* 59:*5* 69:*16* 70:*6* 71:*1*, *2*
requirement 73:*11*, *15*
requirements 16:*12* 73:*3* 74:*3* 78:*3*
requisition 75:*13*
resident 48:*9* 52:*3* 73:*21*
residents 32:*23* 43:*23* 44:*9*, *10*, *12* 45:*15*, *17* 47:*1*, *15* 48:*23* 50:*6*, *7*, *20* 51:*4*, *5*, *24* 57:*2* 73:*20* 74:*24*
resolved 32:*13*
resource 39:*13*
respect 8:*1* 16:*6*, *19* 24:*11* 26:*22* 39:*16* 56:*11* 70:*12*
respiratory 22:*2* 43:*12*, *13*
respond 6:*18* 16:*21*
Response 2:*12* 7:*1*, *15* 23:*19* 38:*17* 56:*21* 60:*14* 64:*11* 66:*2*
responsibilities 29:*21*
responsible 8:*21*
result 12:*19*, *20*, *23* 13:*6* 14:*7* 60:*8*
results 12:*23* 13:*5* 30:*17* 31:*23* 33:*1*, *4* 36:*3* 38:*9*, *12* 45:*13*, *23* 61:*15* 62:*18*, *24* 66:*17*, *18*, *20* 68:*17* 71:*5*, *17*, *20* 72:*3*, *9*, *11*, *14*, *15*
retirement 50:*7*
returning 17:*17*
revealed 43:*7*
reversed 50:*22*
review 22:*10* 39:*11*
reviews 62:*1*
rise 27:*8*
risk 54:*7* 55:*9* 64:*17*
robust 16:*21* 30:*11* 70:*21*
role 7:*1*, *2* 10:*13* 49:*3*, *11*, *12*, *13* 55:*13*
rolled 62:*14*
rolling 36:*18* 75:*9*
rollout 62:*21*
routine 29:*20* 39:*12* 50:*5* 51:*16* 55:*15* 60:*18*
run 12:*12* 13:*8* 65:*13*
running 17:*15*
rural 66:*8*, *22*

< S >
safe 56:*7* 57:*9* 60:*24* 61:*5*, *9*, *11* 70:*14*
sake 34:*16*
saliva 54:*5*
sample 17:*5*, *10*, *11*, *12* 18:*5* 19:*4*, *5*, *11*, *12* 22:*16*, *20*, *21* 24:*9* 33:*4* 38:*8*, *9* 52:*17* 53:*9* 61:*12*, *13*
samples 17:*15* 18:*1*, *18*, *19* 21:*7*, *9* 24:*12* 27:*10*, *13*, *23* 28:*20* 33:*9*, *11*, *14*, *25* 68:*14*
sampling 33:*7*
SARS 16:*20* 30:*1*
SARS-CoV-2 17:*13*
scale 16:*11* 30:*5*
Scarth 2:*16* 7:*8* 25:*13*, *17* 26:*1* 40:*6*, *13* 41:*18* 42:*7*, *10*, *13*, *19* 45:*20* 48:*21* 50:*24* 51:*19* 58:*12* 59:*8* 61:*8*, *21* 65:*5*, *8* 67:*14*, *22* 69:*4*
Science 2:*15* 6:*21* 39:*6* 43:*6*
scientific 49:*12*
screen 29:*9* 65:*22*
screening 53:*5* 54:*10* 55:*15* 64:*15* 69:*15*, *17*
seafood 17:*3* 21:*23*
Secondly 5:*15*
Secretariat 2:*16* 4:*4*, *6*, *8*, *12*
sector 73:*4* 74:*4*, *14*, *23* 75:*2*, *20*, *25* 76:*10*
send 58:*10*
sense 32:*25*
sensitive 55:*7*
sensitivity 63:*22*
separate 23:*11* 29:*13*
separated 68:*21*
September 13:*22* 32:*13* 35:*6*, *12* 44:*25* 45:*1* 59:*11*
sequence 17:*13*
serial 53:*6*
serious 54:*8*
seriously 21:*15* 32:*7*
serology 55:*22*
serve 31:*24* 55:*17*
service 22:*8* 31:*14* 72:*18*
Services 3:*5*, *6* 38:*5*
serving 64:*25*
set 5:*20* 9:*1*, *11* 15:*17* 48:*9* 49:*22* 62:*8* 80:*7*
sets 9:*4* 56:*12*
setting 14:*17* 32:*19* 47:*23* 53:*24* 55:*7* 62:*8*, *9*, *10* 64:*6* 67:*5*
settings 40:*20* 48:*13* 62:*18*

71:*24*
shape 46:*14*
share 34:*2*
Shared 3:*6* 34:*17*
SharedLabs 31:*5*
sheer 66:*9*
she'll 13:*21*
shift 63:*13*
ship 11:*17*
shipment 76:*12*
shipped 31:*20* 37:*20*
shorter 66:*20*
Shorthand 80:*4*, *15*, *25*
show 27:*7* 34:*19* 37:*6*
showed 35:*4*
showing 21:*15* 34:*10*
SickKids 31:*5*
signal 55:*18* 69:*13*
signific 50:*3*
significant 65:*11*
significantly 53:*20*
similar 73:*16*
Sinai 31:*5*
sit 33:*15*
site 20:*7* 76:*4*
sites 20:*6* 26:*12*, *19* 44:*21*
six-plus 33:*21*
sixth 9:*8*
slide 8:*12* 15:*9*, *13* 23:*7* 26:*7*, *21* 31:*10* 34:*19* 35:*3* 36:*6* 38:*18* 42:*20* 43:*14* 44:*4* 46:*19*, *25* 50:*16* 53:*8* 54:*5*, *11* 56:*10* 59:*2* 65:*21* 69:*5*, *23* 71:*15* 73:*2* 74:*1*, *10* 75:*3*
slides 8:*11* 31:*12*
slow 77:*3*
small 21:*9* 27:*13* 51:*9* 56:*14* 71:*11*, *17* 72:*8*
smooth 31:*21*
sole 70:*25*
Solicitor 2:*13*
somebody's 67:*17*
somewhat 7:*19* 56:*15* 59:*3*
Sorry 5:*5* 25:*16*, *17* 42:*16* 45:*20* 50:*18* 57:*24*
sort 15:*4* 25:*25* 29:*13* 34:*23* 35:*6* 43:*16* 52:*23* 60:*5* 62:*4* 63:*5* 64:*21* 65:*22* 71:*6* 74:*20*
sounds 10:*16*
source 39:*2*
South 18:*24* 20:*25*
speak 6:*6* 8:*24* 15:*9*, *13* 16:*1* 32:*16* 57:*11* 67:*24* 76:*15*
speaking 26:*9* 66:*13*, *24*
speaks 19:*2*
specific 40:*19*, *20* 44:*5* 46:*8* 47:*7*
specifically 6:*17* 7:*3* 8:*5*, *25* 17:*18* 48:*22* 53:*12* 62:*20* 65:*6*
specimen 10:*15*, *18*, *21* 11:*2*, *3*, *4*, *5*, *8*, *9* 12:*9* 13:*22* 14:*6* 26:*12* 35:*16*, *21*, *23* 36:*8* 37:*8*, *13*, *17*, *20* 52:*18* 53:*16*, *19* 54:*1*, *4*, *9* 66:*9* 71:*9*, *13* 75:*7*, *12*, *14*
specimens 10:*22* 31:*19* 37:*1*, *6*, *7* 58:*7* 75:*15*
spectrum 39:*3*
speed 31:*22*
spoke 31:*12* 49:*17*
spoken 34:*19*
spread 25:*2*, *5*, *8* 30:*21* 43:*8*, *20* 68:*22*
spring 7:*4* 44:*12*, *13*
Stabilization 2:*20* 7:*6*
staff 41:*8* 43:*24* 44:*9*, *10*, *12* 45:*14*, *17* 46:*2* 47:*1*, *15* 51:*3*, *6*, *12* 60:*18* 61:*2* 64:*15* 73:*5*, *9* 74:*18* 77:*6* 78:*2*
stage 15:*7* 44:*18*
stages 21:*19* 42:*24*
standard 52:*18* 54:*14*, *16*, *23* 66:*1* 69:*9*
standardization 35:*25*
standardize 36:*9* 37:*15*
standardized 35:*19*
stands 79:*24*
start 8:*13*, *20* 19:*18* 27:*21* 29:*7* 76:*10*
started 11:*19* 26:*24* 27:*6* 50:*21*
starting 47:*2*
starts 9:*10*
state 78:*18*
States 62:*22*, *23*, *24*
stating 74:*23*
Stenographer/Transcriptionist 4:*17*
stenographically 80:*11*
step 35:*9*
steps 10:*14* 35:*5*, *9*
stop 75:*21*
Strategic 3:*10*
strategies 14:*22* 18:*12* 53:*16* 70:*17*, *22*
Strategy 7:*9* 8:*4*, *22* 9:*2*, *4* 38:*23* 39:*1* 41:*14* 48:*15* 56:*3* 70:*20*
streamlined 72:*5*
strengths 64:*19*
structure 26:*24*
students 73:*10*
study 37:*4*
submission 33:*2*
submissions 27:*1*
submitted 19:*6* 20:*18* 22:*16*, *20* 39:*18*
subset 27:*13*
success 31:*13* 71:*22*
suggested 35:*17*
suggestion 40:*10*
summary 69:*8*
summer 7:*4*
Sunil 4:*13*
supplement 64:*13*
supplemented 64:*18*
supplies 31:*4* 59:*15*
supply 65:*3*, *9*
Support 3:*4* 27:*19* 34:*9* 38:*11* 49:*5*, *14* 57:*13* 60:*13* 69:*19* 70:*7* 73:*17*
supported 7:*16*
supporting 49:*8* 60:*3*
supportive 53:*15*
supports 68:*10* 72:*13*
surge 18:*22*
surveillance 19:*7* 44:*8* 73:*6* 74:*18* 78:*2*
suspected 52:*6*
suspicion 22:*10*
swab 52:*19*, *20* 53:*21* 54:*17* 58:*25* 59:*4*, *18*
swabbed 10:*17*
swabbing 10:*18*
swabs 53:*7*
swish 54:*6*
symptom 21:*25*
symptomatic 43:*23* 44:*10* 52:*3* 54:*22* 60:*11* 74:*23*, *24*
symptoms 17:*6* 22:*3* 43:*12*, *13*, *22* 44:*19*, *20* 45:*3* 49:*21* 50:*2* 51:*13*, *15* 73:*22*
System 3:*4* 13:*7* 14:*24* 23:*8*, *12*, *14*, *15*, *18* 30:*23* 32:*9*, *15* 33:*16*, *19*, *20* 36:*19* 49:*19* 79:*25*
System1 12:*21*
systemically 36:*7*
systems 12:*13*, *14*, *17* 71:*19*

< T >
Table 38:*25* 68:*4*
talk 7:*21* 8:*5* 10:*11*, *17*, *24* 12:*8* 13:*10*
talked 68:*12*, *13* 77:*15*
talking 7:*12*, *25* 32:*22* 68:*18* 76:*23*
talks 74:*1* 75:*3*
tandem 70:*21*
target 32:*1* 70:*5*
targeted 7:*3* 39:*16* 45:*13*
targeting 75:*11*
tasked 47:*19*
technical 75:*11*
technological 29:*24*
teleconference 17:*8*
tells 61:*24*

terms 5:*21* 10:*7*, *17* 26:*5* 52:*12* 54:*4* 63:*13* 65:*5* 69:*25* 72:*9* 74:*7* 75:*1* 76:*11*
test 12:*18* 17:*19*, *20*, *21* 18:*15*, *16* 19:*23* 21:*17* 22:*21* 29:*16*, *17* 30:*4* 34:*20* 38:*12* 44:*23*, *24* 45:*23* 47:*14* 48:*22* 49:*23* 50:*19* 54:*1*, *19*, *22* 55:*8*, *20* 56:*15* 58:*8*, *12*, *24* 59:*18* 60:*1*, *6* 61:*11*, *13*, *14*, *24* 62:*2*, *9* 63:*18*, *21* 64:*19*, *24* 65:*15* 67:*18* 69:*11*, *15* 70:*7* 71:*5*, *11* 72:*12* 73:*9*, *18* 75:*18* 77:*16*, *22*
tested 15:*17* 17:*10*, *11* 18:*1*, *3*, *18* 19:*11*, *12* 21:*7*, *14* 22:*13*, *14* 27:*9*, *22* 38:*8* 48:*13* 51:*5*, *14* 52:*3*, *17* 55:*16* 67:*18* 74:*25* 77:*6*
testing 7:*3*, *4*, *9*, *12*, *14*, *16*, *21*, *24* 8:*1*, *4*, *6*, *12*, *16*, *17*, *22* 9:*2*, *7*, *10*, *11*, *15*, *21*, *22* 10:*2*, *3*, *5* 13:*11* 15:*18* 16:*5*, *10*, *12* 17:*4*, *7*, *12* 18:*13*, *21* 19:*4*, *9* 20:*6* 21:*8* 22:*3* 24:*2*, *7*, *10* 26:*18*, *19*, *23*, *25* 27:*1*, *11*, *15*, *21* 28:*2*, *15* 29:*8*, *25* 30:*16* 31:*6*, *14*, *21* 38:*4*, *16*, *22* 39:*1*, *12*, *16* 40:*18*, *21* 41:*1*, *6*, *8*, *14*, *17* 42:*1*, *21*, *25* 43:*1*, *10*, *11*, *19*, *21* 44:*2*, *6*, *8*, *11*, *14*, *17*, *20*, *21* 45:*2*, *8*, *11*, *13*, *15*, *16* 46:*2*, *4*, *5* 47:*1*, *9*, *11*, *20* 48:*15* 49:*9*, *14* 50:*5*, *10* 51:*2*, *5*, *16*, *24* 56:*3* 57:*8* 58:*18* 60:*18*, *19* 61:*2* 62:*15*, *21* 64:*14* 65:*23* 66:*3* 67:*1* 68:*14* 69:*6* 70:*24* 73:*3*, *6*, *11*, *16*, *21* 74:*4*, *18* 75:*1*, *4*, *16*, *24* 76:*6* 77:*4* 78:*1*, *2*, *3*, *18*
tests 12:*5* 17:*15*, *16* 19:*17*, *21* 28:*18* 29:*18* 32:*2*, *4*, *7*, *14*, *18* 36:*13* 48:*10* 53:*23* 54:*12*, *13*, *15*, *24*, *25* 55:*4* 56:*4*, *11*, *13* 57:*3* 58:*2*, *21* 59:*9*, *10*, *13*, *16* 60:*16*, *23* 61:*1*, *23* 62:*17*, *24* 63:*1*, *6*, *17* 64:*8*, *16* 65:*6*, *12*, *14*, *17* 66:*14* 67:*5* 69:*12* 70:*5*, *19* 71:*2* 74:*24* 76:*12* 77:*13*
that'd 68:*8*
thing 5:*11* 19:*2* 23:*6* 34:*23* 58:*22* 63:*13*, *15* 65:*17*
things 5:*6*, *12* 13:*14* 32:*22* 36:*15*, *22* 37:*10* 72:*8*
thinking 56:*7*
third 27:*24* 30:*19* 65:*14*
thought 8:*13* 20:*13* 24:*24* 41:*13* 42:*2* 63:*17* 70:*4*
threatened 32:*7*
thresholds 61:*25*
throat 53:*13* 54:*18*
time 10:*2* 13:*21* 14:*1*, *4*, *5*, *6*, *7*, *10* 18:*14*, *17*, *24* 20:*6* 21:*21* 24:*24* 28:*14*, *20* 30:*4* 31:*15*, *17* 32:*18* 33:*10*, *17*, *25* 34:*4*, *22* 35:*5* 37:*11* 42:*22* 46:*24* 47:*5*, *17*, *24* 48:*12* 49:*4*, *7*, *23* 52:*2* 53:*7* 54:*21* 57:*16* 66:*5*, *11*, *21* 67:*16*, *20* 69:*13*, *14* 74:*25* 77:*7* 79:*5* 80:*7*, *10*
timeline 50:*11* 74:*10*
timely 7:*14*
times 13:*11* 32:*6*, *10* 33:*22* 39:*13*
timing 28:*23* 29:*11*
today 6:*6*, *19*, *24* 7:*11*, *20* 16:*2* 27:*11*
told 64:*1*
tolerance 63:*16*
tool 55:*19*
top 8:*20*
Tori 3:*13*
Toronto 20:*7*, *15*
total 18:*18*, *19*
tour 13:*9*
tracing 9:*8*
track 49:*6*, *18*
trade-off 53:*25*
training 56:*18* 71:*3* 75:*10*
trajectory 16:*17*
transcribed 80:*12*
transcript 5:*23* 80:*15*
transmission 28:*4* 30:*14*
transmitted 29:*4*
transport 66:*9*
transportation 11:*12*, *15* 12:*10* 13:*23* 35:*17*, *19* 36:*10* 75:*12*
transported 11:*10*
travel 25:*3*, *4*, *24* 43:*5*
travelled 27:*4*
travelling 25:*24* 29:*5*
travel-related 24:*5* 25:*22*
tremendous 71:*21*
trial 76:*4*
trouble 24:*15*
true 7:*18* 23:*18* 80:*14*
trust 61:*16*
trying 25:*15*, *21* 29:*10* 36:*13*, *14* 37:*19* 49:*14* 60:*23* 61:*4* 63:*3* 68:*6*
turn 62:*5*
turnaround 14:*1*, *4* 28:*14*, *20* 31:*14*, *17* 32:*18* 33:*22*, *25* 34:*4*, *22* 35:*13* 66:*5*, *10* 68:*16* 69:*13*, *14*
turnarounds 13:*25*
turning 16:*16*
two-thirds 27:*23*
two-week 47:*16* 48:*10*
type 52:*19*, *20*
types 53:*10*, *19* 54:*2*, *4* 71:*10*
typical 12:*20*
typically 10:*24* 62:*7*

< U >
U.S 63:*15*
ultimate 72:*16*
ultimately 9:*11*, *20* 19:*10* 22:*11*, *23* 23:*9* 31:*22* 38:*10*, *20*
uncomfortable 53:*4*
underneath 34:*13*
understand 5:*9* 25:*22* 26:*3* 28:*23* 29:*11* 46:*15* 47:*3*, *21*, *25* 48:*1* 55:*25* 57:*9* 60:*23* 63:*4* 64:*7*, *19* 78:*18*
understanding 43:*17* 48:*4* 49:*18* 55:*23* 77:*21* 78:*17*
understood 43:*6* 77:*2*, *22*
underway 34:*7* 56:*6* 71:*12* 76:*13*
unfair 65:*2*
unfortunate 70:*24*
unfortunately 36:*17*
unison 13:*16*
unit 16:*23* 73:*25*
United 62:*22*
units 13:*1*, *4*, *8* 31:*23* 47:*6*, *19* 49:*9*
unknown 16:*22* 17:*1*
unpack 35:*2*
unreliable 35:*12*
updated 45:*2*
updates 9:*21*
urgent 20:*21*
urine 56:*15*
useful 55:*15*, *25*
users 62:*13*, *19* 76:*4*, *5*
uses 59:*24* 69:*8*

< V >
vaccines 56:*1*
value 60:*6* 67:*2*, *3*
Vanessa 2:*14* 6:*19* 15:*24* 19:*15*, *19* 20:*1*, *5*, *17* 21:*18* 22:*18*, *22* 23:*2*, *5* 24:*3*, *19*, *22*

25:*10* 26:*4* 28:*25* 29:*12* 31:*9* 33:*8* 38:*2* 39:*24* 40:*11* 45:*18* 50:*15* 52:*9*, *16* 56:*25* 57:*4*, *20*, *24* 58:*4* 63:*10* 64:*1* 69:*3*, *6*, *7*
variable 34:*4*
variation 35:*8*
variations 34:*13*
variety 62:*19*
various 29:*18* 56:*17*
VERITEXT 80:*23*
Verity 3:*10*
versions 56:*5*, *6*
versus 63:*12*
Vice 3:*5*
view 78:*25*
viewer 12:*22*
viral 17:*13* 52:*24*
Virtually 1:*14*
virus 29:*4* 43:*17* 45:*4* 54:*16* 55:*3*
viruses 17:*21*
visitor 61:*2* 78:*3*
visitors 41:*9* 46:*3* 51:*3* 64:*15* 73:*17*
volumes 18:*13*, *16* 20:*15* 26:*23* 27:*11* 28:*5*
voluntary 76:*18* 78:*6*
volunteers 73:*10*
vulnerable 60:*25*

< W >
walk 8:*18* 9:*5* 13:*10* 16:*7*
wanted 13:*9* 14:*23* 34:*19* 44:*23*
warning 55:*18*
Wave 50:*21*
ways 34:*16* 63:*18* 64:*8*, *9* 66:*12* 71:*13*
web 12:*22*
webinars 75:*10*
website 5:*24* 17:*5* 40:*22*
week 28:*17* 30:*19* 31:*6* 36:*13* 75:*9* 77:*6*
weekend 17:*12* 18:*7*
weekly 27:*8* 64:*16* 73:*13*
weeks 35:*12* 71:*7* 77:*7*
well-exceeded 32:*8*
whirlwind 13:*9*
white 10:*8*, *10* 14:*6* 70:*23*
whoever's 8:*9*
wide 43:*13* 62:*12*, *13*, *17*
Winnipeg 18:*4*
Wonderful 50:*15*
won't 37:*7*
work 7:*17* 18:*15* 26:*10* 30:*23* 33:*13* 35:*15* 54:*5* 55:*12* 57:*7*, *15* 59:*5* 66:*20* 68:*1* 70:*23* 71:*4*, *6*, *12* 72:*6* 75:*4* 76:*11* 79:*11*
worked 53:*10*
workers 73:*17*
working 36:*22* 37:*10* 47:*7* 65:*18* 71:*13* 76:*2*
workplace 39:*12*
world 29:*16*
worldwide 56:*3*
wrong 25:*7*
Wuhan 17:*3*, *6* 21:*24* 29:*5* 43:*18*

< Y >
Yeah 19:*19* 24:*19*, *22* 25:*21* 42:*13* 49:*3* 57:*20*, *24* 63:*10* 68:*8* 69:*7* 72:*24* 76:*25*
yellow 73:*12*
Yep 78:*11*

< Z >
Zika 29:*18*
zones 73:*13*, *14*
Zoom 1:*14*