Healthcare-Associated Infections Advisory Committee
September 8, 2021

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Speaker: Okay. Hi everybody, I'm Dennis Trapeza. So, I'd like to call to order the health care required, or health care associated, uh, infections advisory committee. It's September 8th, and we're going to begin with a roll call. Uh, Roza can you take –

Next Speaker: Yeah.

Next Speaker: – the roll call?

Next Speaker: Yes, absolutely, so this is Roza Tammer from the Oregon Health Authority's Health Care Associated Infections Program. I convene this meeting, and I am going to do all us a favor of, maybe a "favor," reading people's names out loud to save us a little time. Um, so Caroline Tony, Carolyn Lines, Tonya Louder, Deborah Catora, Heather Herzl, Jesse Kennedy, Karen Kaniki, Keenan Williamson, Kendra Goal, McKenzie Kessler, Mason Greenfield, Rafael Rezetke, Roberta Bench, Andrea Sosnick, Shea Drummond, Sidney Edlund, **** Anthony, Krista Berry, Vicki Nordby, Andy Edwards, and Zen ****, and I'm just goin' to ask is anyone, um, on the line that did not have their name read? Just please go ahead and unmute yourself and, um, introduce yourself, please. Okay. I think we're good.

Next Speaker: Logistics update?

Next Speaker: Yes, so thank you, Dennis. Um, so Dennis is actually part of our logistics update today, so, um, if, Laura, can you navigate us to the vacancies flyer in our meeting materials? Um, so just so everyone is aware, we have an updated vacancies announcement. We do have some exciting opportunities for people who have been hoping for a way to get formally involved in our committee, so we ha, um, we actually have a couple of changes, so, um, Kelli Coelho, um, of River Bend Ambulatory Surgery Center was on our advisory committee for, uh, many years and representing ambulatory surgery settings, and, um, I just wanted to say a huge thank you to her for her service, and she's ready to move on to other opportunities, so one of our vacancies is, um, Laura, are we able to get over to that vacancy announcement or am I just not seeing that? Okay. One of –

Next Speaker: ****.

Next Speaker: Okay. Perfect. Thank you. So, one of our vacancies is the, um, position, um, with, I think, interest and involvement. I'm just coming up with these off the top of my head. Sorry. Uh, bear with me here, folks. Um, it's a physician with interest and involvement in infection prevention and an ambulatory surgery center, and we also have, um, one of our longstanding members, Dr. Genevieve Buser, is continuing on in her role but has stepped down from the chair position, so in her place, we have our interim chairperson, Dennis Trapeza, so I just wanted to say a huge welcome to Dennis and thank you for taking on this interim chair role. I also want to say a massive thank you to Kelli and Jen for all of the work that you've done with us and will continue to do with us. Thank you so much, Laura. So, if you'll scroll down just so that we can look at all of the vacancies here. Little bit down a little further. Um, we can see what the vacancies are, and primarily, I just want to direct your attention to our, all of our roles that our chairperson is kind of a, um, more urgent need, and this is someone who is a current member of the ****, so, um, if you're currently in a role, and you are also, or you're interested in filling one of other vacancies, you can serve as our chair. Um, just basically, essentially facilitating meetings, I think, and then our other vacancies are, um, are hospital administrator with expertise in infection control at a facility with fewer than 100 beds, and then our two perennial favorites are health insurer representative and our consumer **** advocate, so these are all incredibly important, but I wanna give a special shout out to our chairperson role, so if anyone has been looking for a way to get involved or you can help fill one of these vacancies, I would absolutely love to hear from you. The other piece of this is this is our first remote meeting with video options for our presenters and panelists, so, um, we haven't offered that option for our attendees, 'cause typically we have between 30 and 40 attendees that were actually right on track for that this time, and I think it's a little bit tough for us all to have video, um, but if there, anything has any feedback for us on whether you like this, don't like this, this is working for you or not, or any technical issues or audio, visual issues, hopefully, you'll just let us know. Back to you, Dennis.

Next Speaker: Okay. Thank you. Um, so you mentioned we got the June minutes sent out to you, so, um, I, I don't believe we pulled up those right, because we send those out to the, to the folks prior to the meeting, so I'm wondering do we have a motion to approve the minutes?

Next Speaker: This is Jesse Kennedy. Um –

Next Speaker: Jesse Kennedy, do we have a second?

Next Speaker: This is Deborah Catora. I'll second.

Next Speaker: Great. So, the motion has been made to approve the minutes, um, and so now, it's, we can move on from that, right?

Next Speaker: Yes, we can. Thank you.

Next Speaker: I don't remember my rules.

Next Speaker: So, I'll be, I will be giving some OHA updates, so let's get those slides up on the screen here, and just while we're getting those, that's a reminder, so my name is Roza Tammer. I

work in Health Care Associated Infections at the Oregon Health Authority, um, and I'll be talking about a couple of updates today. Um, both that, that are all fairly relevant, I think, to our Health Care Associated Infections group. Perfect. Let's go ahead and go the next slide. Okay. So, the very first thing we wanna focus on is, um, clusters of Candida auris, which I'll be calling C auris for the remainder of this presentation, so some of you may be aware that, um, we have now seen the first evidence of transmission of **** resistant C auris in the US. Um, there were two independent clusters identified this spring, one in Texas and one in the District of Columbia, although other cases have been reported in other states, and there is a recent MMWR from CDC for folks who'd like additional information. Um, the importance of C auris really can't be overstated. The treatment options are limited, um, and they are especially limited for the use, um, resistant, or the **** resistant forms. Um, it's very difficult to identify, and, or it, it can be difficult to misi, difficult to identify and easy to misidentify as a different, um, as a different, um, species of Candida using our standard lab methods, and early detection and rigorous infection control are really critical to prevent outbreaks and clusters and transmission from happening in health care settings. In Oregon, we've had zero reported cases of Candida auris, but we are remaining ready and vigilant. Um, we do provide identification susceptibility and screening for Candida auris and other Candida species that might be misidentified, um, via the Antibiotic Resistance Lab Network or ARLN. Next slide please. So, in terms of our action items, for health care providers, just please be aware of the Candida species that might be misidentified as Candida auris, um, and there is a link here on this slide with more information, lots of links in these slides actually. Um, I think we are sharing these by PDF, so maybe, I'm not sure if the links will work, um, within that, so, um, we can work out, work that out afterward, um, but it is really important to promptly screen anyone with an exposure to Candida auris and report that exposure to public health. Meanwhile, labs should be sending isolates and misidentified Candida species to our state health, public health lab, so that we can get them to the ARLN for submission, and then, um, my colleague, Heather Herzl, is available for labs that need support with testing. There's also an upcoming webinar in a couple of days from the Institution of Public Health Laboratories, and that registration info is here, and we'll be covering methods, challenges, and strategies for testing and identification of C auris. Next slide please. Okay. So, again, some of you also may be aware of this, but there's a new study from the CDC, um, showing impact of COVID-19 on HAI incidents in the United States in our hospitals, and, um, you know, substantial increases nationally regarding certain HAI measures and select antibiotic resistant infections were seen in 2020 as compared to 2019, and here on this slide, I'm pulling, uh, or we have arrows here identifying the infections that, you know, it's actually pretty nicely and visually represented here, um, where we can really see **** VAE **** lab identified MRSA bacteremia as kind of our trouble spots. Next slide. Let's go ahead and go to the next slide please. Oh, we'll have to go back one more. Okay. There we go. So, um, for most of these infections, these increases shown in MHSN really contrast with the successful reductions that happened prior to the pandemic, and, you know, this was language lifted straight from CDC, but the, the COVID-19 pandemic has created the perfect storm for some of these types of infections, and it's so crucial, I think, that, you know, to get the message out that, you know, reinforcing just standard infection control practices and regularly reviewing **** surveillance data to just make sure that we're kind of staying abreast of non-COVID infection control concerns, and CDC's, you know, statement regarding here, continuing to invest in prevention, training, education, and making sure that data are available so that we can take public health action. Next slide please. M'kay. So, Project Firstline, a quick update, this is a CDC project assessing prior infection control education

and related gaps for frontline health care workers. Um, Oregon is also doing this work, so it's happening at the national level and at state levels. Um, our learning needs assessment is coming very soon. We're expecting to be able to distribute this in mid-September. It is a web-based Survey Monkey survey. A couple of logistical points here is that there is more than one survey allowed to take per computer, so, for example, you know, if there's one computer at a nursing station, everyone can use that same computer to fill out the survey. It takes fewer than 10 minutes to complete, and it really is for anyone who works in a health care setting regardless of patient care ****. Um, we all play a role in infection control, whether we've been trained or not, so we all have an opportunity to kind of mitigate transmission and also contribute to transmission, so the intention here is to really cast that live net. Um, some of you may have heard from me or Judy Guzman. We are partnering with other state agencies, professional societies, health care systems, and many others to try to get the word out. If I have touched you to help us distribute or pilot our survey, a huge thank you to you. Um, if you have agreed to distribute it, we're still in the process of getting everything cleared. Um, if you have declined to distribute it, you'll probably get an email from us anyway encouraging you to take the survey. Um, if your organization is interested in helping us get the word out about our learning needs assessment, please do get in touch. I would love to talk to you. Next slide please. Okay. So, I'm going to do a couple more, um, slides that are really just kind of on where we are now in terms of COVID, so this is situational awareness. Um, in terms of our weekly report, the most of these data are as of August 29th. Um, there were 16,252 new cases. That's a 10 percent increase from the previous week and the eighth consecutive week of increases. 78 percent of these cases over the past 8 weeks have been sporadic, meaning we don't know what the, um, transmission or exposure event was. Um, from 8/22 to 28, that's where the dates kind of don't align quite. Um, we use CDC testing ****, um, there were 160,605 tests performed with a 12.4 percent positivity. Testing increased by more than 10,000 from week to week, and, uh, the percent positive was, it did increase, um, from the previous week as well. 1,000 Oregonians were hospitalized, up from 601. That's also the eighth consecutive week of increases of hospitalizations. 119 Oregonians, unfortunately, passed from COVID, up from 87 the previous week, and that does represent the highest weekly death toll since January 2021, and notably COVID deaths among persons under 60 years did rise from 11 percent to 21 percent, and I think we're really just seein' that these cases are largely driven by unvaccinated individuals, um, and we will see that on subsequent slides. In Oregon to date, we have seen a 1.2 percent case fatality rate and a 5.4 percent hospitalization rate. Next slide. So, looking at our weekly outbreak report, again, these data are up to date as of the 29th. It includes data on cases and deaths in care facilities, senior living communities, and congregant living settings with three or more cases or one or more deaths. We have 144 active outbreaks of this type in our state at this time. In, in addition, there were 292 congregant settings with five or fewer beds with more than three confirmed cases or more than one death not named in the report for privacy reasons, and to date, we've had three deaths of staff who worked in a congregant setting where COVID-19 was present in Oregon. Next slide please. Okay. So, our breakthrough report is fairly new. Some of you may not have seen it. Um, breakthrough cases occur when a person tests positive for COVID-19 at least 14 days following the completion of any vaccine series. From August 22nd to 28th, we had 16,255 cases of COVID-19. I apologize for my typo here. Um, 84.1 percent were unvaccinated, and 15.9 percent were breakthrough cases. The medium age of breakthrough cases was 49 years, so that is, you know, interesting information. 25 percent of breakthrough cases were 65 or older, um, so that means 75 percent of breakthrough cases were less than 65 years. Um, 51 of these cases were residents of

congregant living settings, and of course, delta continues to be the dominant variant circulating in Oregon. Next slide please. This is just a very simple visual representation from our report that I thought just illustrated well, you know, what we're talking about here, and next slide. Um, this is the hard work of at least two people in our program, uh, probably more Lisa Aguchi, um, I think primarily worked on this, so just wanted to say congratulations and thank you to her, but many other people have been working on all of these data reports, including names that are familiar and probably beloved to so many of us on this call. Um, the, uh, Oregon Health Care Worker COVID-19 Vaccine Updated Dashboard, that doesn't roll off the tongue very easily, it compares our licensed health care worker vaccination initiation to the general population, so here, we're not looking at fully vaccinated but rather one or more dose. Um, overall rates are provided on this dashboard, so just kind of running through this. This is really just for you to know what information is available for you to look up. 69 percent of the general population had one or more dose versus 73 percent of health care workers, so we do see higher rates of vaccination in health care personnel, and then the dashboard also allows us to stratify rates by age, licensing board, and license type, race and ethnicity, and county, so for rate, for age, we're seeing that rates of vaccination increase with age. Licensing and board, and licen, licensing type is just important for you guys to know as possible end users, um, so these are licensed health care personnel, right? Um, and so, we're able to see, you know, what are the patterns by boards and license type within boards, 'cause some boards offer multiple license types, so for example, 95 percent of our dentists have one or more dose of vaccine versus 48 percent of our chiropractic assistants, so that's a pretty, um, big divide there, so this just kind of illustrates that, um, really nicely. We also have race and ethnicity data, kind of breaking down like highest and lowest and everything along the way. Of course, this is very nuanced stuff that can be interpreted in many different ways and used in many different ways, and I think primarily for race and ethnicity, you really wanna be improving accessibility, um, and then for counties, we can see that 86 percent of our health care workers in Washington County were vaccinated or had their vaccination initiated versus only 46 percent in Grant County, so again, hopefully, this will be useful to the group. Um, next slide, and there, I will wrap up, and I may have a minute or 2 for some questions.

Next Speaker: You know, Roza, thank you for that report. Like I always feel that this data really tells a story, so I really encourage those of you who don't use this data often to really take advantage of it, because just that slide that we saw with the hospitalizations and deaths for breakthrough cases, I think that slide really points out, um, that although we're getting cases, vaccination is really helping reduce hospitalization and reduce deaths –

Next Speaker: Right.

Next Speaker: – so it really tells the story about promoting vaccination.

Next Speaker: And, I think that is the language that we're hearing consistently, consistently, which is that these vaccines are working as expected, which are to reduce hospitalizations and deaths dramatically. I see a question from Jen, Jen Buser. Is the lab identifying MRSA bacteremia during the hospital onset only or could it include community onset? These are hospital onset MRSA bacteremia, um, so for those of you who are ****, and it, it's been awhile for me now, um, but we have different classifications, so community onset, hospital onset, and hospital onset community something. It's like ****, um, and I'll remember what that means in a

little while, but this would be hospital onset MRSA bacteremia. Thank you for the question. Um, any other questions or thoughts on my presentation here today? Is the COVID situational awareness piece helpful? This is kind of familiar to those of you who attend ****, but a few people will like it. Is this nice to hear during this meeting or am I recapping info that we all know?

Next Speaker: I, I like hearing it.

Next Speaker: Perfect. Thanks, Deb.

Next Speaker: Yeah, I think it's great to hear, and I think we should, you know, it, it's really hard to dive into data right now, but it, it really tells such a good story, so I'm so glad that you're reporting it in multiple, uh, venues.

Next Speaker: Okay. And then, Laura, um, can you, I'm thinking that, I think we need to send these slides out just in a PowerPoint format, um, just for the links, um, so is that something that you can help folks with after the meeting is over?

Next Speaker: Yes. Um –

Next Speaker: Perfect.

Next Speaker: – I also need to send an updated meeting materials anyway.

Next Speaker: Okay. Great.

Next Speaker: **** last minute edit.

Next Speaker: Okay. Thanks everyone so much. Of course, feel free to get in touch if you wanna chat about what I want to show today. Dennis, you're muted.

Next Speaker: **** we, we're 10 minutes ahead of schedule actually, but I believe we're ready to move onto influenza season update with Ama.

Next Speaker: Yeah. Thank you so much, Dennis. Uh, Laura, if you don't mind pulling up the slides for me, and while Laura is preparing those slides for me, I just want to take a second to introduce myself to the group. Good afternoon, everyone. My name is Ama Owusu-Dommey. I am a viral laboratory pathogens epidemiologist with the Oregon Public Health Division within ACDP. I am very excited to chat with you all today about, uh, influenza season, so, uh, past and upcoming, so hopefully, we can take a lot at some of our **** data from this past season and, um, and to what to expect for the 2021-2022 influenza season. Uh, Laura, we can move to the next slide. Right. All righty. So, I'm just goin' to begin looking at some of our influenza data for the 2020-2021 influenza season. As many of you know, we saw historically low influenza circulation across Oregon as well as globally, um, throughout the season. So, our typical season runs from October through April, um, and there are a couple few, uh, a couple different ways we like to evaluate influenza circulation within the state, so influenza is not a mandatorily reported

illness in the State of Oregon, but we do have several surveillance systems that help us get a good luck at what influenza circulation may look like for the state. Um, one of our primary ways of looking at influenza like illness is through our **** system. Uh, this system looks at some **** surveillance based on chief complaint for hospital and emergency department visits across the state. Uh, we have 74 **** facilities in the State of Oregon, and for influenza like illness ****. Um, the chief complaints we look for are either influenza or fever with the addition of cough or sore throat, and that's what categorizes influenza like illness visit. Um, the graph that you're looking at dis, displays our percentage of influenza like illness visits across our **** providers for the past five seasons, and as you're looking at that orange bar, you'll see that the 2020-2021 season had much lower rates of influenza like illness visits to the emergency department than any other season. Um, especially looking at that October through April timeframe, **** circulation, um, to the point where we usually use a mark of 2.6 percent to denote the beginning of our influenza season, but we never really crossed that threshold, so we couldn't actually call, um, a start of influenza season at any point during the year. We have continued to monitor our influenza like active, and this activity, uh, throughout the summer, and you will see towards the end of that graph we are starting to see a slight uptick in the amount of influenza like illness that is being, um, captured **** system. Um, we believe that this increase that we're seeing is due to the **** activity we've seen across the state, so, uh, we're keeping an eye on that, and there are a couple of factors we believe play into this, uh, that I will discuss, uh, later in my presentation. Uh, we can move to the next slide. Taking a look at that, uh, **** data ****. Uh, this is, uh, the same data broken down into regions with the addition of some of our outpatient clinics that re involved in our ILI network of clinics. Um, as we can see, like I mentioned before, we saw pretty low circulation overall. Usually in a normal circulating influenza season, we'll see peaks at about 10 percent per region, um, and this year, we didn't see anything past 5 percent. The regions where we did see the most activity were the Central and Gorge regions, but again, overall, we saw very little, uh, ILI activity across the state. Uh, next slide please. Okay. Moving towards our, uh, laboratory testing data, so as we mentioned before, uh, influenza is not a reportable illness in the State of Oregon, but we do have a group of voluntary reporters that re, report their, um, influenza test positivity rates to us each week. We have about 22 laboratories that are enrolled in our NREVSS surveillance system, which stands for the National Respiratory and Enteric Virus Surveillance System, um, and through them, we, uh, we obtain the amount of influenza and **** tests they do each week as well as the amount that tested positive, so, um, from this data, we know that all of our laboratories were testing at various similar rates as they have done in past seasons, but **** circulation wasn't an issue of people just weren't testing ****. Actually, we were testing pretty on par for our previous seasons. We just weren't seeing any influenza, so, uh, looking at this graph, you can see what it looks like by week, but overall, for the whole season, we only had a percent positivity for all influenza specimen, um, from our 22 laboratories of 0.1 percent. Um, in comparison to our '19-'20 season, our overall season long percent positivity was 16.5 percent. It was a pretty dramatic decrease in influenza, um, that we were, um, seeing, and **** also very similar about **** for today, um, and then, uh, one thing to note is that the influenza that we were seeing was primarily Influenza B. Uh, this is on par for the last two seasons of normal flu activity where they have also been dominated by Flu B, and Laura, if you can go to the next slide. Do I still have you there, Laura? Uh, I might have you skip forward one more slide, Laura, and then we'll pop back. Oh, yeah, I think my slides got a little outta order. That's totally fine. Um, yeah, so that's the one I'm looking for. Thank you. Um, yeah, so Flu B was also the dominant strain globally, um, so

as we're looking at this graph, we see, even though we saw very little influenza circulation globally, um, the dominant strain, um, was Influenza B. All righty. And now, we can move on. Okay. So, one of our major concerns entering the 2020-2021 influenza season was the ongoing COVID-19 crisis and the potential of having a severe influenza season on top of the ongoing pandemic, so we were very concerned, um, what the potential strain on our hospital systems would be with two actively circulating respiratory pathogens, um, and **** if you include ****, but, uh, what we ended up seeing through our hospitalized surveillance systems, uh, was that we actually did not have this occur at all. Um, the hospital surveillance system that we use here in Oregon is our **** net and COVID net projects, which capture hospitalizations within 14 days of a positive test for residents within the Portland, Portland Metro area, um, and of this group of people, between October and April of 2021, we only had three influenza hos, related hospitalizations reported, and none of those resulted in severe illness or death, which was amazing compared to previous seasons where we saw, uh, 100s, if not 1,000s, of influenza related hospitalization. Um, we believe that the productive measures that were put in place in order to mitigate the spread of COVID, such as social distancing, masking, staying at home when you're sick, uh, they were all highly effective in reducing the transmission of non-COVID-19 respiratory pathogens like flu and ****, um, which was fantastic in the time where those were highly implement, implemented, um, but as I mentioned earlier, while we were looking at our alignment data, um, is that we have began to see an increase in our influenza like illness, um, circulation that is not related to COVID, um, and I believe that this recent increase is due to the lifting of many of these restrictions that were in place for the majority of last year, um, and on our ILI graph, if you really look, that increase begins right in July when we lifted that statewide mask mandate and the social distancing requirement, so it will be really interesting to see, even though some mandates are coming back, how, um, influenza progresses, um, in flu season where things are not as highly as, enforced as they were last year. Uh, the figure that we're looking at currently, take our COVID net data that we collected from October 2020 to April of this year and looking at our hospitalization rates, and then, um, on top of that data, there is that orange line that says the 2019-2020 influenza season, just to give us an estimate, estimation of what, um, hospitalizations might look like with active COVID and a more active influenza season. Again, this was very difficult to estimate, because we don't know how various factors will enter play, such as vaccination rates and, um, mitigation strategies, but it gives us a little bit of a clue as to what we might be looking at in terms of hospitalization. Laura, we can move on. Okay. Um, so the question is what can we do to protect ourselves, uh, from influenza in the midst of our current COVID-19 crisis, and just like with COVID, our best defense against **** is vaccination. I know Roza mentioned in her presentation how amazing the COVID vaccines have been in preventing severe illness and hospitalization as well as death, and that is also our goal is to see influenza vaccines, so the **** that we're seeing currently, what's the vaccine effectiveness over the past several seasons, um, up to 10 years ago, um, and although our vaccination effective not, our effectiveness rates are not as high as the COVID-19 ones, they are still very effective in preventing severe illness, hospitalization, and death. The one season we do not have data for is that 2020-2021 season, only because there was such little influenza circulation during that time that it was very difficult to measure **** effectiveness when no one has the flu to begin with, so, uh, we can move along to the next slide. **** for us here in Oregon. We, yeah, have had a stable dynamic, uh, for flu immunization across the last five seasons. Uh, our immunization data showed that, uh, immunization levels for flu increased, uh, each year compared to the prior year, so our hope for this upcoming 2021-2022 season is to really continue to encourage, um,

influenza vaccinations and **** our current push for COVID-19 vaccination as well, um, just so we're not protecting against ones that, one respiratory pathogen and not, uh, paying attention to our others that are, also may be in circulation at the same time. Um, next slide. Okay. Uh, right now, we are looking at the update to the influenza vaccine strains for this, uh, upcoming year. Uh, the two changes that have been made to vaccine varieties are updates to the Flu A H1N1 strain and the Flu A H3N2 component. Um, these data are, are these, sorry, these components are updated using, um, that flu strain data that I showed you earlier, so, um, they tried to match our vaccine components more closely to what is circulating each pri, prior year. Um, as in other recent seasons, all regular **** will be ****, and there will be **** influenza vaccine available. Uh, currently, as in past seasons, vaccination is recommended for all individuals 6 months of age and older, and we really hope to get those individuals vaccinated before the end of October. Uh, there are not any expected delays from manufacturers in regards to production or distribution. Next slide. Okay. So, looking at our last year of data and looking towards our upcoming season, there are a couple things that we know to be true. Uh, we know that the productive measures put in place to mitigate the spread of COVID-19 have been highly effective at reducing transmission of many other respiratory viral pathogens, and we know that comparing seasonal influenza with, uh, COVID-19, um, that the residual immunity in the population does go a long way, but it's less clear as we enter this new season as how influenza transmission, um, might change now that we have fewer COVID-19 miti, mitigation measures in place, so what we're asking for as we approach this new season is that we really encourage, uh, influenza va, vaccination for, um, all individuals over the age of 6 months old who do not have any other, um, contraindication, um, that may make vaccination dangerous for them. We are also heavily in, um, we are heavily encouraging multi-pathogen PCR testing this season. Um, as I mentioned before, we are already seeing an increase in RSV circulation and to put that, um, our season may not be as mild for influenza as it was last year, so using a multi-path test that has, uh, testing capabilities for COVID, RSV, and influenza for, uh, patients that are, um, exhibiting ILI symptoms. It can be really helpful in determining, um, **** infections and just determining what strain is circulating, or what pathogen is circulating in general. We are also really encouraging that this year we can get as many, uh, **** positive specimens from inpatient, uh, patients to our state public health labs for, uh, further **** and lineage testing. Um, as I mentioned before, those tests, um, really do inform a lot of our public health practice and can really, uh, help decide things like if components are updated in future influenza vaccines, um, and really just go a long way and see **** up **** course of action for our, um, future season. Um, are there any questions? Well, we can move onto the next slide, and I just have a few questions for you all. Uh, the first is regarding influenza vaccination campaign. Are there any facilities that are cur, currently encouraging the vaccinations and how you continue to encourage the vaccination efforts and during the current, uh, COVID vaccine, um, vaccination effort campaign?

Next Speaker: Do we have anybody on the call that would like to answer this? I can, I can start us off with, um, like ****, we actually just got our flu shots out, and we're actually starting to give them. Today, I just released, or we just released, I didn't release, uh, I had just released, um, for nurses like how to document the flu shots, that they're available for patients' health care. We're implementing our **** nurses. Um, we also have this equivalent device where you can give the flu shot and then document right there in the moment, um, so we're really starting to, those campaigns, so we will be promoting flu sh, uh, flu vaccination in addition to that COVID-19 vaccination.

Next Speaker: Okay. Any other input? All righty. We have a quiet group there. That's totally fine. Uh, my next portion is what current, uh, flu testing platforms are you using, um, and yeah, what are you, what do you use most of your facilities, um, and do you need any recommendations for multi-path testing if they're not currently being used?

Next Speaker: I would have to get back to you on that. I can't, I can't remember ****. Anybody else though?

Next Speaker: I just –

Next Speaker: ****.

Next Speaker: – well, I just had a comment.

Next Speaker: Hello, Dennis.

Next Speaker: I just had a –

Next Speaker: Hello, Dennis, can you hear me?

Next Speaker: I can. I can ****.

Next Speaker: Yes, I just wanted to, um, comment about the questions you have here. I know Legacy has inpatient vaccines, and they, and then to switch to employees, they will be starting their flu campaign, campaign, sorry, on October 11th.

Next Speaker: Excellent. And, I think I heard one other voice.

Next Speaker: Yeah, it was me. So, this is Roza, and Jen Buser's chatting into the, um, platform, testing platform. It's flu plus COVID, whole respiratory panel with flu. We'll be saying you can get COVID and flu vaccine at the same time.

Next Speaker: That is excellent. Thank you so much, Jen. Um, and then, my last question was is the facility planning on making any changes to practices this upcoming season, um, in addi, in addition to the current COVID-19 mitigation strategies that are being used.

Next Speaker: **** for a minute ****.

Next Speaker: ****, or, um, we usually, I'll go back to a couple of questions. We start our flu vaccination process October 1, so that's gearing up to get ready to go. Uh, we do have several multi ****, um, testing platforms. I can't tell you the name specifically, but I know we have, um, a couple of different options for that. We **** with universal masking and all of the pieces in place. We're, we're not putting, um, anything exceptional. Prior to going back to universal masking, we were thinking about masking for flu season this year just 'cause of how successful the last time was, but, um, and we're trying to, um, with all of the focus on the COVID vaccines,

we're trying to figure out how to highlight the flu vaccines, um, you know, and particularly with all the masking in place, getting that highly encouraged still this year.

Next Speaker: Excellent. Well, thank you so much for ****, and so Laura, you can go to that last slide. And, this is, Laura, I'm going to a new everyone one more time, 'cause we have had some people not being able to mute, or unmute themselves.

Next Speaker: Oh.

Next Speaker: So, this will unmute on our end, and you can, should be able to unmute on your end. Okay. So, you should be able to unmute on your end now.

Next Speaker: This is Jesse, and **** –

Next Speaker: Well, uh –

Next Speaker: – that **** in the chat that we're **** to see if, if we can get a cohesive message out that would be able to be shared by both the facilities and, and public health, the county public health departments and su, and such to be able to ensure that everybody's, you know, on, on the same message and, and sharing the same basic information. I think that would be really helpful.

Next Speaker: All right. Is that in regards to, uh, flu immunizations?

Next Speaker: Yeah, in regards to the influenza.

Next Speaker: Right. Yeah, definitely. I can, uh, chat with our immunizations team and see if we can get some messaging out for you guys, uh, to be able to share as well.

Next Speaker: Yeah, I, I think, it's ****.

Next Speaker: Thanks, Jesse, on that.

Next Speaker: Oh.

Next Speaker: Oh.

Next Speaker: Go ahead.

Next Speaker: Sorry. Go ahead.

Next Speaker: Oh, oh.

Next Speaker: Oh, no, ****.

Next Speaker: Oh no, **** to the fact that, um, especially with that, you know, that knowledge that everybody is masked and maybe some rationale to help us promote flu, influenza

vaccination, um, even though we're all still masked. That might be really helpful. The power just went out here, so I'm going to go on mute.

Next Speaker: I'm just goin' to say, sorry, this is Roza, that we probably also have an ****. Maybe you can help identify the best resources, but I'm sure we have, you know, influenza vaccination, um, materials, but also the CDC, Jesse, has a ton of flyers, palm cards, posters, printable and orderable, um, from CDC info, um, so have you taken a look at that or is that something that you're aware of? 'Cause it may be a really helpful resource.

Next Speaker: Yeah. I, I don't represent any facility in particular, so I was just thinking that might be a good idea that we ensure that there is some kind of a **** and cohesive message going on.

Next Speaker: That's ****. I appreciate that, and Laura, if you can pop over to that last slide, I do have one of those little flyers, uh, displayed, but yeah, so Roza mentioned, uh, CDC.gov does have, um, a bunch of really helpful information, um, in regards to preparing for the upcoming CDC event, and if you have any additional questions, you can reach out to us as a **** team at any time, and we're always happy to strat, strat, strategize the best ways to mitigate **** for this upcoming season, and Dennis, I think you're on mute.

Next Speaker: Hey, sorry, yeah, there, if there's no additional comments, um, I believe our next item is to, um, take a break, so, um, do I have a motion to, to take a break or recess until 2? Maybe everybody's still on mute.

Next Speaker: ****, Jesse here, a need for a break.

Next Speaker: Yeah, if there's no objection, then, um, let's move to take a break, um, so everybody just remember to get back at 2:00. We have speakers from OHSU and Marquis, um, and they're going to be giving some great presentations, so I'll see you guys again at 2.

Next Speaker: Hey, this is, uh, um, do we have Dennis or Roza back?

Next Speaker: Dennis, I think ****. Yeah.

Next Speaker: I am. I'm muted now. I will, I will practice –

Next Speaker: Okay.

Next Speaker: – with the mute button.

Next Speaker: Okay. I have unmated everyone once again. Um, it looks like we have Zz, Zach for our panel, and I saw Mike. Mike will probably be rejoining in a moment.

Next Speaker: It's 2? Okay. Now, it's 2:00, so, um, I'd like to call to order, again, meeting, um, after our recess. I hope ****didn't **** associated in the section, advisory committee, and we're going to start our panel discussions on supply and purchasing, um, in the context of COVID-19.

I believe Zach Fogg has joined us. He's the vice president of operations at Marquis Companies, and we're also going to have Mike McCaffrey, uh, who's the associate vice president of logistics and supply chain at OHSU.

Next Speaker: Mike, are you able to put on your video?

Next Speaker: I, I saw Mike for a moment, um, so he is around. Um –

Next Speaker: Okay. Let's give him a moment to, to join us, and then we'll get ****. Great. Thank you so much for clearing that up. You know what? I'm goin' to turn myself off.

Next Speaker: And, me too. All you, Zach.

Next Speaker: Uh, thank you for having me. ****, uh, this application sent me to my other camera, so I was quickly shifting, uh, ****. Um, is someone going to be playing my PowerPoint for me?

Next Speaker: Uh, yes. Um, let me pull up the presentation.

Next Speaker: Perfect. Thank you. While that's going on, I'll just say obviously this is, uh, been a hot topic with the whole pandemic, um, sourcing, and, uh, ensuring that your facilities or whatever health care facility has the appropriate, uh, PPE to keep your residents and staff, uh, safe. Um, now that this whole pandemic, um, was **** where it's **** is **** it felt **** and anything that might cause large, um, changes in, in how we're using PPE, um, has caused, you know, dramatic **** or, um, ****, uh, you know, going really, really high, so, um, I'll be going through, um, kind of big picture, what we've been doing from sourcing strategies, um, some things that we've done to unsure, uh, adequate stock and kinda best practices, and, um, some of the challenges that we face, so, uh, go to the next slide. Thank you, so, uh, go ahead and click one more. Um, so the beginning, I'm just going to start at the beginning of, of the pandemic. You know, we were like, uh, we were trying to source from anywhere and everywhere. Um, I'll tell you we were, we were calling, um, manufacturers in Mexico, in China, um, and we actually were very close to pulling the trigger on a million dollar, uh, PPE shipment from China, and until we got, uh, the person that was working and sourcing that, uh, decided to back out, which I was very happy about, 'cause it ended up being a scam, and earlier in the pandemic, you know, everyone's going to be so desperate, it was, uh, it was, unfortunately, an environment where there was people scamming and trying to, trying to do whatever they can, um, you know, to make a little bit of money. Um, go to the next, uh, hit next please. The other, uh, the thing that we really did though is we leveraged our vendor relationships, um, to get us PPE, so, you know, some of these people really came through in the short-term. Um, we have **** by results. Um, they do, uh, all of our, uh, they did our uniforms. They did all of our kind of Marquis, um, apparel, and if somehow, they also were able to provide PPE, um, at this time, and so we were able to, uh, leverage this relationship to, uh, source PPE. We also used our medical **** TwinMed, um, and then, uh, direct supply as well, um, but I'll tell you that it, it was a time where, I know, the hospitals and other health care settings, um, you know, they might be contracted with either the manufacturer themselves or huge companies that they were their source of PPE. Um, luckily for us, some of these, you know, inspire results in TwinMed, and,

um, multiple different sourcing options, so while one PPE manufacturer maybe was cut off or we couldn't get it from China ****, uh, they were able to get it from another source, and so leveraging those relationships was, was key in the beginning of the pandemic, um, more than anything. Uh, hit the next button. Um, but we also were, uh, you know, having to do the same thing everyone else was and, um, make, making PPE, um, making face shields, making masks, doing everything we can, so, you know, in the beginning of this, uh, pandemic, it, it was a, it was crisis mode trying to get anything we can to again ensure our staff and residents have what they need. Again, you were very fortunate that we could manage our, uh, vending relationships and get it very quickly, and we were, um, I felt that in the beginning of the pandemic **** a few companies that actually had, um, adequate PPE for masks, gowns, and, uh, eye protection. **** next. Um, through this process, we actually created this in-house, uh, application, um, through a, uh, Microsoft platform that enable us to track, and so I **** and understand where is each of my facilities at, um, uh, either skilled nursing facilities, assisted living facilities, um, memory care. Where were they at from each PPE at? You know, do they have the adequate amount, and, um, I wanted to be able to give, um, **** so ensure that we can get them what they need. Um, go ahead and hit next. So, this, uh, this application, this is just an example of this kind of **** we created. This enabled us to see a dashboard level, high big picture, what inventory in our emergency stock do we have, um, at company level. Um, what does each facility have in stock? We also have isolation tracking that we were able to do as well as, um, have the facilities and the ability to submit emergency suppliers, um, through this system as well. Um, we came up with a system. Um, we kind of felt **** level of what we expect each facility to have on hand of each PPE item. Um, yeah, we came up with a metric say 10 percent of your residents have COVID, um, you need to ensure that, um, you know, ****, you need to ensure that **** the PPE necessary we can, we can provide for the next 14, 21, potentially 30 days. Uh, I think originally we set the bar a little bit lower to just be, uh, to be safe with the amount of PPE available, uh, but it's something that I think really helped us navigate, uh, through maybe the early times and on. Um, I'm telling you this **** level. I saw so many different **** reports on so many different, uh, methods to kind of be like how much PPE you're going to need. I'll tell you that every building needs a little bit different. Every building burned a little bit faster, a little bit slower, and, um, and so we, we kinda had to come up with an average, what we felt was appropriate, and adjust, uh, based on that. I will tell you today we actually don't utilize this platform anymore, uh, because we have adequate access to the PPE as well as a, a stock of emergent, emergency stock that we feel is, is appropriate, um, but this was very nice and convenient to have at a time that was, uh, very, very challenging. Um, go ahead and hit, hit next. Um, emergency search. You have to have emergency staff if you ****. Um, I'm going to go through a, a few different kinda things that causes us to either have huge waves of certain PPE items. You have to have this emergency PPE on hand. Um, I know that there was, uh, some potential for proposed rules to have to have a certain amount of PPE, uh, **** maybe an Oregon level well, whether it's 30 days or 90 days of, you know, what, what you normally use on average. Um, I'll tell you right now that we, we got so much early on in the pandemic that, um, our emergency stock is, is a point where I feel confident we, easily it'll be past 30 days, if not more, if, if no other PPE, um, coming in from our vendors, so get, getting that stock and having that appropriate amount and that backup gives me a lot of peace of mind and, and, and gives me a confidence that we're going to be fine if anything happens. Now, um, you know, there, there's, there's, there's other challenges, obviously, to doing that, storing it. Um, we used a couple of the public storage units, and then our **** medical supplier also stores a majority of our stock, uh, as well. Um, go ahead to the

next slide. The, um, a few different, you know, reasons or ways that we kind of burn through PPE is regulatory changes, uh, and so go ahead and hit next. Um, eye protection, um, the, this just went in maybe about a month ago. I can't remember how long ago. Um, that put, uh, facilities back in eye protection. It was a big one. Um, you know, it's something where we, uh, you know, where they get 2 months' of not a single positive case and in our facilities, and now, um, you know, now, things with, with the delta are rising again, and, uh, Brown puts, uh, you know, the rule in place that we, uh, **** eye protection again based on county, uh, cases, and this was a huge wave. You know, we went from really using none unless we were in outbreak status, which we weren't, to almost every facility was in, um, this moderate level, and so it, it caused a huge wave of people needing to order from our medical supplier, but at the time, you know, every single facility was prob'ly doing the same thing, and so while the medical suppliers, um, you know, it was a lot harder to get huge quantities at that point, um, we were able to lean on our emergency stock in, in those situations. Go ahead and hit the next slide. Um, another thing that causes those is the delta. You know, you have huge, um, waves and outbreaks, uh, while not huge spreads. Um, the, the burden or the things that it puts on the facilities when you do have outbreaks, you know, one or two cases even, um, you know, we **** obviously, you put everyone in ****, and, um, that **** case ****, you burn through those things like crazy. Do you wanna hit next? Um, **** would be probably, in my opinion, the single greatest, uh, PPE, one of the biggest challenges that we have, um, for a lot of the reasons, but, um, they're one of the more expensive items as well, and so, uh, both kind of regulatory changes as well as delta outbreaks and, and, uh, COVID outbreaks and waves can really **** put a lot of pressure on your ability **** PPE at. Again, just, uh, having that, um, emergency storage is critical. Go ahead and hit, hit next. Uh, best practice, so consistently, you know, we look at our PPE emergency storage. I'll do that, and identify, I'll tell you right now. You know, we have over 200,000 standard masks. We have 75,000 face shields. We have a crazy amount of gowns, over 200,000 gowns. Um, N95s con, I guess, they continue to be the more challenging thing, um, and it, it, uh, is something that every time that we'll use in mass quantity, you need the building needs, uh, 200. You know, I might only have 10,000, and so if every building also needs 200, 300, we go through that quickly, and so, um, best practice is, obviously, every time you use it is to reorder, and so recently with, uh, some of the delta, uh, surges, we used quite a bit, and we ****, uh, that, that item, we went to our **** suppliers and, um, you know, we were getting kind of a large like 5 to 7 dollars for **** amount, and, um, and so we have to look elsewhere, to another, to another source and say hey, you, you mind providing it for 80 cents or a dollar **** 12,000 N95s right now, and we kinda take that approach is that, you know, if we can find high quality, uh, PPE products and, and get it at a larger volume, um, that's what I would recommend and then keep replenishing your emergency stock, makin' sure you have that. Um, I will tell you that I know, um, you know, we had 17 skilled facilities, uh, five to six, uh, we're about to open another assisted living facility **** and independent living. Um, we have a scale, a volume where buying 10,000 masks is an easy decision or, or 20 to 30,000. It might be harder for some of these smaller companies, um, uh, and, and so that if you have, you know, some of its customers had really reached out to us, and, and we try to help. Um, I'd say that there was an ability to go on with a bigger provider, just say hey, I know you're going to need PPE as well. Can you help maybe get me 1,000? I don't, you know, I don't need 10,000, um, but try to help, help other providers in that way, um, 'cause I know it, it can be easier for these larger, uh, companies and not, not some of the smaller amount of pop, uh, facilities. Uh, do you wanna go ahead and hit next? And then, just, uh, some strategies. Obviously, you know, right now, um, is

really not the time that we can be, um, you know, doing anything significant to, to try to reduce some of those PPE usage **** using more right now, but, um, but go ahead and hit next. Um, I think that there, you know, I had mentioned the N95 usage is probably the, the biggest one, and, um, there has been times we have to go to conversation methods instead of using a, a single use, uh, potentially having to use it more, uh, more than that single use time, um, but, but for the most part, uh, you know, trying to be consistent, uh, do things best practice is, is, is ideal. Um, go ahead and hit next. Um, some of the challenges, um, and I'm sorry **** this slide **** about animations. Uh, go ahead and hit next a couple times. Um, cost, uh, the regulatory environment is a big deal. Uh, sorry go back one. Go back to the last slide. Thank you. Um, obviously, the regulatory environment, anytime these huge waves happen, they can cause these suppliers to, to run **** very quickly, and they don't want to give everything away, 'cause they need to keep their own in case, uh, they can't, uh, continue to get their source. Um, N95s, uh, from a sizing standpoint is a continued challenge. Um, you know, I talk about getting a bulk order of N95s. Well, that's one company. That's one brand of N95 I'm getting, and now I've got, uh, facilities with staff that, tiny little faces. They might need an extra small, extra, extra small N95 and finding those very specific, uh, N95 options are, are limited, and I, I've seen facilities having to go on Amazon or on any other source and finding, you know, may not, not buying in bulk but buying a smaller, um, so finding the, the specific, uh, sizing has, has been a little bit of a challenge and then the cops. You know, Oregon, we're lucky. Uh, you know, we have, um, a great Medicaid system. We've had enhanced Medicaid, uh, rates for a lot of different things. Um, not every state has that. Not every, uh, state has this ability to get, uh, reimbursement for testing, so we ****, we're, we're bleeding right now for our, you know, staffing, our, our census is low. Um, financially, no providers right now, I imagine, are doing well, and the cost of, uh, you know, to be honest, I'm sure there's some suppliers that are prob'ly price gouging a little bit. They can. There's a lot of people who are wanting to get that same piece of PPE, and the cost has been exorbitant, and it continues to be a challenge, um, but it's something that, uh, you as a provider, us as Marquis, uh, we will continue to do to keep our residents, uh, and staff safe. Uh, go ahead and hit next. Can you hit next three times? Um, and just moving forward, uh, again, I, I think best practice and what you, you as, uh, uh, tellin' the providers **** health systems, ensure that you have, uh, an adequate emergency stock. You **** there's goin' to be short-term moments where, uh, sourcing options might be limited. Um, the, the handshake is for, uh, **** vendor relationships or partnerships that you can rely on. You, uh, have the benefit of having long-term vendor partners. That long-term relationship really helped us in, in crisis ****. Um, I don't think we would've been able to get PPE in the beginning if we didn't have that, and so I'd say that we're **** trying to strengthen your vendor partners and do what you can to, um, you know, be a priority, um, uh, from your, from your source, and then just facility stock, ensure that your facilities have, uh, the **** levels that they need to make it through the next 14, 21, 30 days, and if you need to supplement 'em through big waves where there's an, an outbreak or whatever it might be, um, ensure that you can, um, that you do have that in the facility. Um, I, I realize I didn't say this in the beginning, 'cause I know we were getting the PowerPoint up. Um, I, I am the vice president of Marquis for, uh, 25 to 26 facilities, and, um, you know, I've been, I'm, I'm continuing to be involved in the PPE, uh, sourcing process, and, um, you know, I imagine that, uh, it'll, it'll continue to go in waves, and just ensuring that you have that emergency stock is, is prob'ly my biggest, uh, piece of advice. Thank you very much again for having me. I don't know if there's questions. I think we're goin' to another panel before we move on.

Next Speaker: Yes. I think we have our second panelist on the line. I think we'll try to do that first.

Next Speaker: Great.

Next Speaker: Mike, are you on the line from OHSU?

Next Speaker: Dennis, I'll tell you what. Um, if you wanna facilitate some conversation and discussion, I'll reach out to Mike and see if I can't, uh, get him on the line.

Next Speaker: Sure.

Next Speaker: Are you unable to unmute – this is Laura. Mike, are you able to unmute yourself?

Next Speaker: Are you talking to Mike? I think you're talking to Mike. Oh, Mike's on. Yeah, I see Mike on there already actually.

Next Speaker: Oh, he's on. Oh, perfect.

Next Speaker: Yeah. Yeah.

Next Speaker: Yeah, Mike, if you're able to turn on your audio and video, that would be amazing.

Next Speaker: Can you hear me?

Next Speaker: There you go. Yeah.

Next Speaker: **** my webcam. There we go.

Next Speaker: Hey, Mike.

Next Speaker: Hey. All right. Just you tell me when I'm ready to go, and I'll, I'll go ahead and start. Did I lose ya?

Next Speaker: Okay.

Next Speaker: Go ahead.

Next Speaker: We should be ready to go right now. We, uh, yeah, we can hear you.

Next Speaker: Okay. Okay. All right. Uh, good afternoon, everybody. Thanks for, uh, uh, providing this opportunity to, to speak with you all. I'm, I'm Mike McCaffrey. I'm the associate vice president for logistics and supply chain, uh, here at OHSU. Just in terms of perspective, um, OHSU is, uh, I'd say a 555-bed hospital. We spend about 100 and, 175 million dollars a year on,

um, medical surgical supplies and about the same on pharmaceutical supplies, um, and I've been with OHSU about 17 years, so I think we're going to pull up my slides there. So, yeah, I, I thought I'd share some of the things that we came across in this, um, during the COVID, um, uh, I guess the past 8, 18 months. Um, you can go to the next slide. All right. So, the, I think the three things that I really wanted to talk about, um, were, uh, the importance of our supply status transparency from, from the start. Then, I wanted to talk a little bit about our cross-functional committee structure that we used, um, and then, uh, end with some, uh, quick discussion around our, uh, category management structure that was needed. You can go to the next slide.

Next Speaker: I am so sorry. I'm just going to cut in. It looks like these slides are a little bit cut off, um, in terms of who is sharing them. I'm wondering if we can try that again. Sorry, Mike, to, to interrupt there.

Next Speaker: That's okay.

Next Speaker: You might want to enter the slideshow view and then share.

Next Speaker: Huh.

Next Speaker: Oh well. We will definitely get these out via email, so no –

Next Speaker: Okay.

Next Speaker: – fretting.

Next Speaker: Okay. All right. Great, um, so next slide, it's goin' to be a little bit hard to see, um, and it, uh, on this, but it's the intention on the next slide is that we, at the beginning of this, uh, of the pandemic, of course, things were, things were very difficult, tensions were very high and, um, you know, staff, we're hearing about, uh, dire situations across the, across the US and, and globally, right? With, um, using trash bags for gowns and, and having to create their own face shields and, and that type of thing, and well, we were in actually pretty good shape to start. Um, we had, we had a good amount of inventory, uh, in place, um, and at that point, we really didn't fully kind of grasp the importance of sharing our PPE status with our, uh, you know, with our customers, if you will, and so, so instead of us telling the story, the story was being told for us initially, and so we needed to quickly pivot and figure out how to, um, how to communicate how we were doing, 'cause frankly, we were doing pretty well to, to start, so what you're seeing here is, um, early on in the pandemic, we put together a, uh, a dashboard that had different conditions on the left-hand side, had all of our categories, um, on the right side, and, and some kind of, uh, and the next slide, it shows some verbiage that goes along with the status of, uh, of each section, so it, it was really, uh, helpful at that point for staff across the university, uh, to see how much we had on hand, um, and whether we were in a critical place or not and frankly what we were asking them to do, right? Are, are we asking them to conserve or not? Are we, you know, are we okay or, or are we in a difficult situation where different protocols had to be, had to be put in place, um, so, so that was a very quick learning exercise for us, and a template that I'm happy to share, uh, with you all. I think in order though to do this, uh, there were things, and, and I think Zach talked a bit about this, but in order to do this, you really need to know how

much you have on hand first, and, uh, we had the benefit of having a, um, weighted bin system across many of our, uh, clinical areas that tells us exactly how much is in each store room at a given point in time throughout the day, so we had very good insights into how much inventory we had, both, um, yeah, on the nursing units and, uh, in our warehouse and at our distributor, uh, across town, so obviously, No. 1, it was critical, uh, for us to understand what we had on hand, and then No. 2, what's your daily usage? So, how much are you consuming? And, if you know that, of course, you can put together your days on hand. In other words, how long is your inventory going to last? And, this I chart here, uh, is just really an example of one piece of a large spreadsheet that we were using, um, outside of our, um, resource planning tool to, to really manage PPE specifically, so on the left, you see all the different items. On the far right, you see, are on-hands, and then towards the middle, you can see our 1-week and 4-week usage, uh, levels, so from that, we, we could, uh, uh, in the second column from the left, we could say okay, how much do we have? And, and I'll come back to the goal, but our goal, uh, was eventually set to have 120 days on hand, uh, at a minimum to get through a surge, um, but the next thing is that, uh, as you know, demand can change based on a lot of factors. Um, it could be a protocol change. It could be a spike in patients. Uh, it could be lots of different things, so we also connected this information to, uh, our forecast, uh, for patients, for COVID patients, and some of you might be familiar with Peter Graven's work, um, that gets shared with the state, uh, on the forecast for, um, both OHSU and the state in terms of COVID, COVID patients and cases and whatnot, so we were actually able to tie that into, into this information and be able to tell, um, if we were goin' to be able to weather the next surge, uh ,so there's quite a bit of data, but if you had the data, uh, we were able to predict, um, you know, how we would do, and then, um, the last thing I would say here is that we put together some scenario planning where we could plug in, um, an increase in usage. Let's just say, um, maybe as Zach mentioned before, the protocol for N95 use, uh, changed, and, uh, maybe we were looking to move away from a high level conservation, which means that we, we'd use a lot more N95s. Well, we could, we could plug in some numbers, uh, in the highlighted yellow area that would say, okay, how much more are you gonna consume over current, and then, then it would impact, it would impact the on-hand levels and, and tell us, um, you know, how, how long, uh, we would be okay and, and if that scenario would work, so we were able to do, um, a good amount of scenario planning. I guess another example is early on. Uh, you know, procedure masks became absolutely important, and everybody needed to wear them, and, uh, you know, how, how long would our stock of, of procedure masks last, and we, last, and we, uh, went through a number of scenarios to, to ensure, uh, leadership and staff that we had, uh, adequate stock on hand, and we were, um, of course, behind the scenes, um, you know, tracking down additional supplies while, so, um, I think just the other comments I would make around this is like Zach. Having an emergency stock is, is absolutely, absolutely essential. Uh, we have a, a small warehouse at OHSU, about 15,000 square feet, but we had, uh, more than double that with an outside, uh, facility. Uh, our goal was to get to 120 days of, of stock on hand, and for a hospital the size of OHSU, you think of 120 days of gowns, and that's, uh, for example, that's a lotta, that's a lotta space, um, but when things change, it's, it's, uh, your, our lives are a lot easier across the board if we, if we have the stock in hand, and we're not scrambling to, to pull it in. The other thing I think that Zach mentioned that I would echo is those long-term relationships that you build with your vendors. Um, so many times, uh, our key vendors, uh, you know, came to bat for us and, and got us what we needed in very difficult moments, um, so that's critical, and we did go into, um, a couple, uh, commitment, um, agreements for say a 3-year deal on N95s and gowns. Now, we have the volume for that,

but I think, um, Zach's point, uh, earlier is good in terms of partnering to create these type of arrangements so that you're assured that you'll have appropriate, um, appropriate, uh, stock on hand as we go through these, these surges. Can you go to the next slide, please? Oh, actually, um, if you go back, just go back to the, um, the agenda, the top one. There you go, so I, I just wanna talk for a minute about, um, the cross-functional committee structure, so in the situation with, uh, with COVID, we immediately turned on an EOC, um, emergency operations center, and inside of that, there's the logistics chief, which is my role, and of course, PPE fits in with that, and we quickly figured out that within the logistics chief we needed a PPE chief, and, uh, spent quite a bit of, that, that position, spending quite a bit of time, um, uh, communicating and planning, um, but, but as part of that, we created a, a PPE oversight committee, and, uh, what I wanted to share was just the importance of a couple things, but one being the, the, the cross-functional, um, make-up of the group, so we had supply chain representation, um, me and parts of my team. We had an infection prevention. We had environmental health and safety. We had occupational health. Uh, we had a nursing area, uh, leader representations, uh, representatives, sorry, and, uh, provider representatives, um, across the, across the committee, so that could be in our central, uh, um, capacity management, um, uh, group. It could be infection prevention, that type of thing, and then we had a clinical coach there, which was a partner to me, and I'll talk a little bit more about that as well, but, you know, the, to me, the bottom line is, um, in, in times of scarce PPE and in the situations that we were in, you don't really want me, the supply chain person, uh, making, um, making the PPE protocol decisions. We, you know, we want clinical representation helping to, um, make those determinations on what's appropriate based on the inventory that we have at the time and what we think we're going to have, uh, headed forward, so, um, you know, this committee really spent a lot of time going through appropriate protocol, um, uh, for PPE and whether we needed to conserve more and, and match that up with what we have on hand. Uh, who could go into a room? If we're conserving, if, um, PPE, then some of the learners that we have at OHSU weren't able to go in the room. Um, cases, uh, OR cases were rolled back. Um, we had situations where the, you know, the favorite, uh, purple, purple gloves were, uh, were not available anymore, and we had to pull groups together to figure out what, uh, basic exam gloves would meet the needs, and because the purple had some chemo ratings that, uh, were needed in spots but not needed throughout, so this, this, these cross-functional teams were able to work through those challenges and then create a very clear and concise, um, messaging back to, um, each of the areas, uh, the clinical areas and beyond to let them know what was happening and what they needed to do, so, um, that cross-functional perspective, um, was just critical in, in terms of understanding the workflows, the impacts, and getting the, getting the, the word out, but, um, you know, back to the clinical co-chair that, uh, was with me. That person, um, uh, in, in our case, it was the director of the, the ED for us, um, and she, you know, was tremendous in terms of helping us with the, with some of the tough decisions on, on what type of protocol we would have, um, you know, reuse a mask, uh, uh, N95's extended use, where to do that, where it's safe, um, where, where purple gloves are absolutely requi, are required and where they're not, um, but really, uh, helping to make those, those, um, decisions and make that change stick, so I, I, I felt like that was an absolutely critical part of, of what we did. Um, uh, so yeah, I mean, I think sometimes, uh, PPE, when we hear PPE, it's synonymous with people like me and, and Zach and, and, um, and I think at times, we, we need to think about it as a dyad, uh, between the supply chain leadership team and, uh, a clinical leadership, uh, element, uh, to really create that dyad, um, to, to help, um, to help implement change, and then, uh, the last item I, I wanted to briefly talk about is just the changes we needed to make from a purchasing standpoint.

This is pretty operational, but, uh, you know, when, in, in normal times, PPE, the purchasing of PPE would be a fraction of, of an individual's job, but as, sa we got into this pandemic, uh, we, it quickly became apparent, uh, that we needed more focus on it, and we actually put three folks, uh, in, in what we call a category management structure, uh, different types of PPE, assign them those roles to go find source, and, uh, and bring in, uh, the necessary PPE, so the message there is really, um, is really, uh, the importance of being flexible in the workforce to be able to, to, uh, ramp up for these type of things and, and times of difficulty, and the last thing I was going to say is that, um, the way I describe it, uh, the current situation is we were in chaos before, right? When we were all scrambling for the same PPE coming from Asia, uh, at high prices and, you know, everything that went with it, and now what I would call is, uh, it's more of a destructed situation, and, uh, we have driver shortages across the US. There are significant global port issues that I'm sure you read about, um, uh, in the headlines, uh, whether that's COVID staffing, uh, COVID issues with staff at, at these ports, whether it's container shortage on one side of the, uh, Pacific, um, production issues, um, but really what this, what this means now is that we're going to be in this situation for a while where, um, we don't know what shortage is going to hit us. The latest one was, uh, sterile sur, surgical gloves, because, uh, the freight carriers didn't have the manpower to get, um, product moved from, from, uh, dock to dock, so, uh, we're, we're in this situation where we're going to be experiencing these shortages, uh, delayed deliveries, and we won't be able to anticipate what product that really will be, but, um, but I think the key is is that you have teams that are ready and, uh, able to quickly determine what alternatives are appropriate, working, again, working with the clinical teams to, to say okay, well, this product is late or isn't coming in. We quickly need a sub. How do we get that sub approved? How do we get that communicated to staff? How do we get education out if it's needed? Um, but that takes a significant amount of, uh, effort, um, but as we, as we enter into this more disrupted, uh, supply chain, um, I think we're going to continue to see these types of, um, issues, and we need to have the, the team ready to, ready to go and ready to, uh, you know, work through these particular items. So, uh, that, that was all that I wanted to share, and I hope, I hope that was rel, relevant for you.

Next Speaker: Okay. Yeah, I think that was, that was a great presentation, you guys, both of you. I think what we'll do now is we'll have, um, uh, you both turned on your cameras, um, now, right? And, we'll open this up to panel discussion, and we still have some time for that, I believe, on the agenda. Okay. Are there any questions from the audience? Um, remember to use the little circular button with the telephone to unmute. Um, feel free to put on your camera, too, when you ask a question. Um, maybe I can get us started off. I mean, you guys mentioned, uh, the PPC, PPE oversight committee, and that's definitely, um, something that we did at Kaiser, um, 'cause, or I've done **** from Kaiser Permanente, and then section prevention, uh, director there, and so we had what we called were tiger teams. So, it would have definitely somebody from material, somebody from operations, somebody from, um, infection prevention so that we'd all go through and approve it as well, and I thought that was so useful, because prior to that, um, we were leaving it to material folks, like we need these masks, and, um, they'd come in, but were they the ones that actually fit the face? And, we needed something that was more **** resistant, you know? Um, and, and, those things, so I was just wondering if the audience, can you guys speak to how maybe you developed those kind of teams or maybe that's something you're going to do in the future now, uh, going forward. And, I know everybody has lots to talk about on this

'cause it is pretty much almost 50 percent of my day most of the time at, at the beginning, especially encountering an organism to which there were no protocols written, you know?

Next Speaker: Me and my team were meeting daily in the beginning of the pandemic, just constantly, uh, we didn't have a team name but, uh, it, it, it could've been a funny name but it was, uh, my **** critical services infection preventionist, my director of operations and we just met consistently and tried to, you know, brainstorm these very specific pain points **** were having, a specific, you know, could be the alcohol, uh, swab. Could be something as simple as that or as a, all of a sudden, that is a really big pain point for facilities and we just, we have one person that goes out and sources it and the rest figure out where, where do we need to help, uh, that specific facility. Right now, um, unfortunately, we're all, I think we're all living in the, um, if anyone has read, like, this, uh, **** highly effective people. You talk about all the four quadrants. I think we've all been living in this urgent, important quadrant. We're just constantly having to focus on that thing, you know, the things that are important and urgent right now and, uh, I think just getting the group together whenever necessary was, is kinda how we handled it.

Next Speaker: Yeah, at one point, we thought we could turn off the, some of the committee structure, uh, you know?

Next Speaker: Yeah.

Next Speaker: Couple months ago and we quickly figured out that, uh, that wasn't gonna, that wasn't gonna last.

Next Speaker: Yeah, we had a, uh, we had, I, we call him like an ancillary director or someone that was managing out, uh, testing and some of our PPE, uh, the relationship with our PPE vendor and, uh, you know, end of March, April, we, we eliminated the role and I kinda, we had a couple **** that just kinda took on some of the tasks that needed to be ongoing, um, and, uh, now, today, it, it, that role is, uh, necessary again, it feels like, um, but now that we have more steady supply on PPE, it's not as critical on a source, from a sourcing standpoint.

Next Speaker: Mike, hi, Keenan here from Infection Control at OHSU. Um, the, I, I know early on, we tried to turn to state or federal PPE supply and, uh, you describe what that experience was like and, I, I know, maybe that's gotten better or if that's gotten worse or if maybe we've just turned away from it all together.

Next Speaker: Yeah, –

Next Speaker: **** the federal. I'd be interested in that too, you know, it's, the both, it's really interesting.

Next Speaker: Uh, that was a bit of a mixed bag, I think. Um, we did get a large, uh, kinda bolus of, uh, procedure masks that, uh, initially that the state had and, uh, apparently nobody else wanted and we, we, we took, uh, a lot of what they had, uh, and it worked out well because we were able to use it for visitors when that time came, where it was like okay, everybody coming into the hospital had to be masked up and so from that perspective, it worked well. There, the

N95s were, uh, uh, limited. There were some Gerson's, I think, that, that they had access to but beyond that, it was, it was very limited. Um, gowns were not ideal. I think we used some of the state gowns but they, they weren't ideal but they, they helped us, um, but really, I, you know, in the end, I feel like, um, I feel like we and, and I think Zach said this, I think we've gotta figure out, we have to have the solution, uh, to make, to, to make sure we have what, what we need.

Next Speaker: Oh. Yeah, we, um, you know, when that, the federal PPE came, it was already so far along in the process, whereas like by the time it actually was available, I already had PPE and so, um, –

Next Speaker: Okay.

Next Speaker: – I think it was, there was even at some points where I was like please go, give this to another provider that really needs it right now, 'cause, like, I already have 300,000 masks or whatever it might be and so, um, I'll tell you, we didn't really take advantage of it as much as we could've just purely 'cause we already had that, we already had it and I didn't wanna take it from someone else that really did need it.

Next Speaker: Yeah, the, the other point I wanted to bring up with the federal PPE or just kinda PPE that's being brought in from outside of the institution is that lot of times, our staff weren't trained to use it or it doesn't meet the OSHA standard, you know, or maybe it meets OSHA but they're not trained to implement it in the appropriate way so that can be dangerous for the healthcare worker in that regard, so it, it's a challenge but it's, I, I see that as a last-ditch effort but sometimes even if it is the last-ditch effort, it's not gonna be effective ****.

Next Speaker: Yeah, you know that we, we utilized our nursing education group to try to get some of that training out on PPE. I mean, some of them were as simple as this gown had a thumb hole –

Next Speaker: Mm hmm.

Next Speaker: – and people were like what do I put in this hole and I was like your thumb, you know, so but we, it was that simple in some cases that, you know, everybody's mind is going, like, what do I do with this COVID and everything and so it was sometimes that simple that we had to explain a thumb hole, you know, ****.

Next Speaker: Yeah, it was, that's challenging, I mean, with the difference, with the shortage of gowns, for example, um, and we were trying to get 'em from wherever we could. Some of 'em would show up and they were so hard to pull off that it became kind of an infection prevention challenge because they're trying to, you know, wrestle with the gown versus just rip it off and go, so, uh, Keenan, I think you bring up a great point. In, in tough situations, you're taking, um, inventory from wherever you can get but oftentimes that's, that presents a new challenge for teams to deal with.

Next Speaker: Found out we had to do a lot of, like, uh, just little physical signs as step by step 'cause I think it's less on, uh, it was more like the, which, which order in the process all the PPE

goes on and off, uh, I found to be more challenging, so it was like literally a step by step, uh, but we also used a communication platform. We could do an Enterprise little text, uh, to our staff **** facility department and position and it was really useful and we'll, it's been, actually been something that we'll continue to use ongoing, um, is our ability to communicate and educate staff, could be just COVID notifications, it could be anything and, uh, it's been really, really useful.

Next Speaker: I love that idea. Um, I, like, actually just wrote that down. I love that idea. Um, you know, I was wondering, what about, did you guys utilize any of those, the, like the CDC and the World Health Organization, um, put together like some supply tools and burn rate tools just, in those roles, did you guys find those tools useful or did, did you use those tools at all or did you have some ready homegrown?

Next Speaker: Um, at that point, we had kinda created our own burn rate calculator, I guess. Um, like I said earlier in my presentation, it was just so varied by what, what was realistic, what people were actually doing. Um, –

Next Speaker: Yeah.

Christian Cano: – that whenever I saw the CDC, the WHO, uh, ones, um, I thought it was a little conservative, I thought it was, it was a little bit, I thought it was a lot more, I mean, with the realistic was more than what it had so, um, I always wanted to overestimate and say, okay, you know, we might only use eight of this PPE item per day per resident on isolation or whoever, let's assume 15, um, and I just, we tried to get as, you know, and just overestimate the usage, um, but we, we created our own that we went off of.

Next Speaker: Yeah, I think, uh, same situation here. The, I think when we saw that, we had already gone, you know, we were already head long into the process and figured that, figured out that much of what they had was imbedded in, in the, what we had but I'll say that the tool that we created, it just saved our bacon, in terms of, uh, just having that understanding of, of where we were gonna land, um, with the current usage and the scenarios that I talk about. That was, that was really helpful to be able to, you know, go into the EOC and they say, okay, protocol's changing, uh, everybody's –

Next Speaker: Yeah.

Next Speaker: – masking, whatever that is. Okay, they look at me and say well, can we do it? And, uh, I, I'm able to, you know, use the tool and say okay, here, here would be the impact, uh, of that and so I think that was, that and, you know, other situations, where that was really helpful.

Next Speaker: I think we still have a few more minutes. Does anybody have any questions online? Or –

Next Speaker: Hi. This is Brittany from OHA and we actually have a question from the chat and that is what was a, what was effective for tracking down additional stock and what was not?

Next Speaker: Mm. I'll tell you what wasn't effective is all the phone calls I got that say my uncle Joe and my friend's has PPE and, you know, various places. That was, that, that was really, and I think very well intended, right, but it was hard because it was taking away from, from the work at hand. Um, but I think ultimately, finding the trusted sources, uh, was, was the, was the big part, so going through your GPOs, you're, you know, your distributors that had vetted some of this and that, it took time to get there, um, because of the, uh, you know, you had price gouging, you had counterfeit, you had lots of stuff going on.

Next Speaker: Yep, I completely agree. It was the, the trusted, trusted vendors, um, and like I said earlier, it's a lot easier when you have 25 facilities and we have our own rehab and pharmacy as well and so all of our rehab and pharmacy customers we'd also collaborate with and they might have a, a someone that they trust or utilize that was, uh, good, um, and like I said earlier in, early in the pandemic, we were, we were reaching out to unknown sources. Again, a China source, a Mexico source and they didn't pan out and so the ones that were not trusted, um, they, they didn't work out, so I say utilize the people you do know or the ones that can give a good reference.

Next Speaker: Anyone else have another question? You know, one thing that I wanted to ask but I, I think I know the answer, but when it came to, like, obtaining disinfectant, 'cause a lot of people were trying to push disinfectants around this time and then I'd look at the kill time and it'd be like 10 to 15 minutes, you know? So how did you guys go through that process, like obtaining, um, your just, were you current contracts able to meet that supply need or did you have to reach outside of that and how did you get those approved?

Next Speaker: Uh, Keenan probably could tell better than I could.

Next Speaker: Mm hmm.

Next Speaker: We struggled, um, we struggled there, uh, with some, I forget which one we were shorted on that we, we could no longer get the disinfectant, so we were actually using the tubs, mixing our own stuff and, and filling, filling the tub and so, uh, while I think that was fine in a difficult spot, it, it, it tended to be, um, it didn't have the kind of the process control measures that it really needed, so that, that was, I don't know, Keenan, if you wanna add anything to that but that was a, a challenge for us.

Next Speaker: Yeah, the, uh, so that was the **** TV disinfectant that, apparently, the manufacturer had the chemical disinfectant but they didn't have the actual wipes, uh, to, that are used to, you know, to distribute the disinfectant, so we ended up securing, Mike's team secured, um, a dry wipe that was used for a disinfectant, had that shipped over. We filled the bags in our, as sterile as we could, in the, in our pharmacy, um, did that process there and then distributed out to the units and, well, actually all of OHSU, and we were using those for about 3 weeks or so. Uh, once we got enough supply for the regular disinfectant, we just pitched 'em all and trashed 'em.

Next Speaker: Okay.

Next Speaker: Um, this is Rosa. I'm curious, I know we're coming up on the end, but I'm curious to know, um, as I found disinfectant products in their kinda physical form, obviously, wipes are more, you know, um, convenient to use, um, are there – and that's an important thing, right, when we're talking about this volume of disinfection and cleaning – um, has anyone run into problems or challenges obtaining products that have contact times that are short enough to support your workflows?

Next Speaker: Yeah, that was definitely a challenge, um, 'cause if you have to wait a lot longer, it made your workflow, uh, it was a lot longer process and, um, now, to kinda go back a little bit but, you know, it's almost like utilizing the nurse's license to **** or what they can actually do, it's kinda like –

Next Speaker: Mm hmm.

Next Speaker: – what do we actually need to use the disinfectant for? Um, you know, I think that there was times where we were using, uh, the color purple top wipes for things that we probably didn't need to, that we coulda used something else and it was like all right, let's just use these purple top wipes for the things we really need to use them for and try to be very intentional about where we're using these, uh, dis, they were the disinfectants. There was a period of time, though, with, uh, the cleaning, uh, with Bru Tab or whatever you might be using, um, where it would be very hard, uh, from a workflow standpoint, uh, for housekeepers, uh, to maintain that and, um, I think it's gotten easier with supply but it was, it was a big challenge for a period of time.

Next Speaker: Yeah, I will say that at Kaiser, we, we ran into a situation, where we had the kill plan but we didn't have the kill time and so I remember writing about a 4-page document, just in case we were surveyed around that time, to justify, um, the fact that the disinfectant probably could kill the organism, depending on the viral structure of the organism and the concentration of the chemicals in the, just in case **** commission came up, I did have a backup, just in case. Um, so I'd be glad to share with ****. I think, I think we are coming up on time. It is really interesting discussion. I love how, uh, you know, I think throughout this meeting too we've been talking about the partnerships that we made, you know, uh, through COVID. I think COVID had broken us up so much but, um, I feel like certain parts of work, we've developed even stronger partnerships now.

Next Speaker: Mm hmm.

Next Speaker: You know, I am very close to my materials people now. You know, we have each other's cell phone numbers and we're talking about, you know, snowboarding and skiing this winter, so I really think COVID had some good, um, good things to help us out with those partnerships. Is there anybody else who has any questions or, um, Rosa, do you think it –

Next Speaker: Dennis, there's one question from Jen, um, that, you know, –

Next Speaker: Mm hmm.

Next Speaker: – do you think in retrospect you were able to maintain staff confidence, which I think is a great question and, yeah, we just have a couple more minutes left but I think it's, I, I think maybe just a super quick question and then the end of our meeting – you know, we do need to wrap up and, and solicit future discussion items. Sorry, Jen, I just saw your, your chat.

Next Speaker: Yeah, Mike and Zach, what do you think?

Next Speaker: I'm assuming this is from a PPE and disinfectant standpoint. Um, I think that we communicated pretty consistently. Our, our president would do video communications and just let them know that we had the PPE and disinfectants you need and we never got to a point in our facilities where we didn't have it or we were, ****, we didn't have any issues, so, um, I never felt like they were, they never lost confidence and so, um, just kinda continued in that way.

Next Speaker: Yeah, similar for us, I think in, in that, going back to my comment about transparency. I mean, we were, we were saying, we were sharing in regular, um, we call 'em the Connie emails, 'cause that was, that's our chief of staff that would send out the email, um, but we would communicate a lot about PPE and the current state and what's happening and what they need to be aware of and I, I do think that created trust, uh, because we were as open as humanly possible about the, the situation, um, as opposed to, you know, kinda sharing half the information and, and people wondering what the real story was, so I think that, I think that part went well.

Next Speaker: Yeah, yeah, so I, I think we're at 3 minutes, so I think we're gonna close up, so thank you to our speakers. Thank you so, so much, uh, for talking about this. I think it was a great discussion. Um, you know, I think with any pandemic, um, it's communicate, communicate, communicate, like, tell me and then tell me what you told me kind of thing and just keep that open.

Next Speaker: And I'll just add to that but, you know, the OHA does have, um, our circ tool kits, our, you know, communication and emergency, um, times of emergencies to look at, so we do have some, um, materials online. I think they're probably mostly geared towards the whole public health departments but those could also be helpful too and I just wanted to say a huge thank you. I know, Dennis, you're gonna wrap us up, bring us home for the landing here but Mike and Zach, thank you so much for making time, especially within the context of what's currently going on. We lost 50 percent of our panelists to urgent COVID response and I think that basically, everyone who attends this meeting is, uh, probably putting it on a priority, right? In terms of other COVID work that is waiting for you. Um, so, you know, I just really, not to say, uh, uh, no judgement on people who need to respond to other things but just really, really appreciate you taking the time out of your day to do this and, honestly, it's kind of amazing that we have so many people still continuing to join this meeting. Every quarter, we continue to have strong attendance and, you know, it really warms my heart, so thanks for continue –

Next Speaker: Mm hmm.

Next Speaker: – participate in this group and I'll turn it back over to you, Dennis.

Next Speaker: Thanks. So that should conclude our meeting for today. So do I have a motion to adjourn?

Next Speaker: That's ****.

Next Speaker: **** mute, oh, I see it. Okay, so I have a second?

Next Speaker: I'll second.

Next Speaker: ****, okay, so if there's no objections, we will, uh, –

Next Speaker: All right, who seconded that? Uh, we just need it for our minutes ****.

Next Speaker: Justin.

Next Speaker: Justin, thank you.

Next Speaker: So with that, if there's no objections, um, we'll adjourn this meeting. Thanks. Do I need to stay on or anything?

Next Speaker: You're muted, Rosa.

Next Speaker: Oh, I didn't realize how many people were still on the line. Hi everyone. Dennis, I think you and I can, um, chat, um, –

Next Speaker: Okay.

Next Speaker: – offline afterward, unless I just see people are totally, is there anyone on the line who had a question or concern?

Next Speaker: ****. Okay.

Next Speaker: I don't ****.

Next Speaker: Okay, I will talk to you ****.

Next Speaker: Thanks, everyone.

Next Speaker: ****. This is what, **** staff is still here but attendees are slowly leaving, but I can close.

Next Speaker: I'm just, I just think we need to review these questions is the only thing. I just wasn't able to, there's questions and there's questions in the chat. Actually, Laura or Brittany, is one –

Next Speaker: All right.

Next Speaker: – of you able to pull out those questions in the chat and the questions in the question pane that went unanswered and send them to myself, please?

Next Speaker: Okay. I actually just took a quick look. They are all answered and, yes, they all come out ****.

Next Speaker: I don't think they, um, look, okay, well, we can talk offline, um, but –

Next Speaker: Yeah, I couldn't really see them all.

Next Speaker: Here, I'll, um, they do come out in one outcome, in one thing, but –

Next Speaker: Great.

Next Speaker: – I will copy 'em ****.

Next Speaker: Let's just export the chat and the questions too, please, Laura. Thank you so much. I think we can go ahead and end.

Next Speaker: Okay.

Next Speaker: Yeah.

Next Speaker: ****.

Next Speaker: Yeah, I'll, I'll copy ****.

Next Speaker: Okay, thanks guys.