

A MEETING
OF THE UNIVERSITY FACULTY SENATE
TUESDAY, AUGUST 5, 2020

CHARLIE VAN LOAN: It's recorded up until 5:00 or so, but then Neema and I often hang around. We call it hallway chat. The recording gets turned off, and we can just talk more informally about things that maybe are going through your head.

Okay, Jill, let's do the next slide.

Just a couple of announcements. First of all, the pandemic is of course raging. During this year, we will have regular business to conduct. Some meetings will be dedicated to pandemic-related stuff. Sometimes we'll have meetings where only part of the floor time is for that, so let me step through a couple of things that will be coming down the pike this year.

In June, we looked at the Vet School's RTE cap proposal. That will come up pretty early in the day. The tenure track, actually been going on for two years. The Academic Freedom Professional Status of the Faculty Committee has gone through virtually every little protocol and procedure that hangs off the tenure track, from when you are hired to when you are promoted, and we want to renovate a lot of things there, so that's going to come up.

There's also ongoing work with RTE faculty. This work got kind of mixed early in the year because of the pandemic, but we want to continue that, looking at the various procedures associated with RTE faculty and make some improvements. And something Neema and I really wanted to work on has to do with committee structure, committee

size; do we have the right alignment of committees, how do they interact with the senate and so on.

That's sort of it. Let me just pause right here and, if you have any other topics, not regular business topics, so to speak, that you think we should cover, feel free to raise your hand now or to send us email in the near future, or as ideas come to your desk of things that deserve senate attention. Are there any -- okay, I see emeritus status and perks get discussed by the senate.

Just a review of that, we passed a resolution in late fall, giving certain RTE title-holders the option of getting emeritus status upon retirement. That was Step 1 in the approval process. It has to go to the provost and then the trustees. At the provost, slash, dean level, we have to work out a few more details about the perks associated with becoming emeritus, so I would say under Number 3 there, we will certainly be tracking that progress, but that sort of left the senate and now is working its way through the other layers of approval.

But again, the senate is for handling any kind of problems you think the faculty should consider, and we do like hearing from you. The UFC, the University Faculty Committee, sets the agenda. And if you have an idea, it will be discussed in the UFC. If you have resolutions, they will find their way to the UFC and onto the senate floor.

Before we get to the pandemic things, we want to pick up on the antiracism initiative, what is it, and Neema and I have some general comments we'd like to make about this. Here are the key reference points, the things that are prompting this. Recall sort of middle of June, we passed a resolution on combating racism, prompted by

national events. When we talked about that, there was an undercurrent in the senate that yeah, resolutions are fine, words are fine, but we really want to do something.

Well, now we have a chance to actually do something.

Over the summer, an organization called Do Better Cornell -- actually, that's the wrong URL. It's dot com. Student-led, it's sort of the clearinghouse for student ideas. Petitions are reported there and so on. I met with the individual who sort of runs Do Better Cornell, and we will be hearing from them at the next senate meeting, most likely. And that activity, the urging to actually make concrete changes here to campus life, this group has really sent forward excellent ideas for full consideration.

The president picked up on that and sent everybody a message on July 15th that's called Additional Actions to Create a More Just and Equitable Cornell. So we just want to give you a very brief preview here and have some discussion, but more much later. But we feel it is very important to begin thinking about this now.

There are five points in the president's message. You could think of them in different ways; to-do items, things for us to think about and then act on, and we thought we'd step through these five things. Neema and I have worked on some of these things. We're trying to set the stage for a productive senate meeting on this, which will probably be our next meeting.

And one of the items on the list is the creation of some kind of center that would focus on antiracism scholarship and how it can be amplified on campus. Neema has spent time talking to directors of nearby institutes and centers and programs, trying to

get a feel for the lay of the land, so that we can propose something effective to the president.

Neema, how about a little bit of background.

NEEMA KUDVA: Thanks, Charlie. As I think everybody knows, there's a significant group of faculty on campus, as well as centers, that have been sort of at the forefront of scholarship around questions of race and equity, and we've been talking to them, a series of conversations to understand how the politics of all this worked and works on campus.

And we've also been collecting information on various task forces and initiatives that the university has run over the years, to make change happen. Then, as part of that, of course, is what keeps falling through the cracks and what doesn't begin to happen. It includes amplifying all existing sort of scholarship resources, all of these that exist on campus.

And we've reached out to a number of people, and the hope is that we will build a process that keeps what's happening on campus now at the core to begin to explore what should come next. The question of resources is, of course, key, and Charlie is having that conversation right now with university leadership.

That's the first piece and, I think, the biggest piece. And it's on us, as the faculty, to really begin to imagine what this new center will be. It's wide open, and just to reiterate what Charlie said, we just want to prime the -- start the conversation and then devote an entire session of the senate meeting to really beginning to think about this.

We also will have another form of a shorter-lived sort of committee that will actually work through the nuts and bolts of the whole piece. So that's Point Number 1.

The second piece is about thinking through -- President Pollack's message talked about thinking through a core required educational requirement for students and where that would be, so lots of questions come up. We have one module, which is the freshman writing seminars. Do we offer a variety of courses? There are many, many questions around this issue that we'll have to explore, as in the senate, and make a recommendation to university leadership. That's the second piece.

The third piece is to actually start. So just going back to Point 2, certain colleges have put into place already what they call diversity requirements, so this is something that various departments, various colleges have started to take into their own hands. President Pollack would like something that's really university-wide, and that was something that various faculty members had also expressed an interest in, so that's Number 2.

The third piece is to start the systematic review of all departments and units of the curriculum of the university to consider these questions of diversity, race, bias, equity, justice, understand where we are falling short and how we can really begin to change what we teach. That's the third part.

The fourth big initiative was really thinking through a mandated program for re-educating ourselves, if you want to use that language. It's a training program, it's learning programs, it is about us having serious conversations about how we change

what we do with our students, with our graduate students, in our research labs and so on. That's the fourth bit.

The fifth, in that email, there's mention of a themed semester. With the pandemic, it's hard for us to think about this right now, so Charlie and I, in pulling together various pieces, previous work that's happened, of work that's ongoing at the university, sort of the big gaps that we see, we've really focused on Points 1 through 4.

Now, the idea today was to have -- I don't know, Charlie how many minutes, five, ten minutes, something like that, to just collect from all of you questions, comments, suggestions, so that we can really have a good discussion at the next senate meeting.

I'll stop there and open up for questions. Shall we just take stuff from the chat, Charlie?

CHARLIE VAN LOAN: People are initially shy. Let me say a couple of things. We have this Decentralized Cornell model, where the colleges do their own thing. And looking at the chat, lots of colleges have already moved in this direction. And that's extremely important, and we want to understand what other colleges are doing as part of our learning curve here. Also, we'll have some students come at the next meeting to present things, and it would be nice to give them a synopsis of the kinds of things that are going through senators' minds when we deal with this sort of thing.

Are there any raised hands, Jill?

NEEMA KUDVA: I see one here about environmental justice. So yes, the question of environmental justice has come up. In thinking about who is at the table to have these conversations, we are, of course, going to make sure that units that are quite

central to funding work in environmental justice, education, et cetera, are included. So yes, that will happen.

JILL: The senator from Africana has had their hand up for quite some time. Do you still want to speak?

OLÚFÉMI TÁÍWÒ: Yes, I do.

CHARLIE VAN LOAN: You're on.

OLÚFÉMI TÁÍWÒ: Okay, thank you. Thank you all for your work, Charlie and Neema, but let me just say that because this is very, very important. When you first announced this was the first intimation the faculty at Africana had about this center, and there's something I miss about that. Given Africana's role on campus and 50 years of history, we deal with matters of race, we should not be hearing about this in the media.

And when you say you have been talking to faculty who are involved in centers, no one has talked to me as chair of Africana about this, in any manner, shape or form. And I report the faculty's position that this, the failed plan cited when this announcement came out. I hope going forward, we'll do a better job of talking to us in Africana and not having us hear this on the street.

There are other issues in the students' demands that also touch on Africana. Where I come from, it is said you don't shave a person's head in their absence. So students want to talk about moving Africana Library. I hope the university will do us the courtesy of consulting with Africana faculty before moving on any one of those things. Thank you.

CHARLIE VAN LOAN: Absolutely. There was a list of centers and programs in the president's message, and we're working on expanding that and to really have a very broad engagement of all the individuals who run related programs, including, of course, yours. I can promise you, going forward, we will absolutely engage the Africana Research Center.

NEEMA KUDVA: Yeah, I second that. There was a lot of emails going back and forth; and then, as always, with everything that's happening, that's inadvertent, so my apologies. And yes, Africana is critical and is at the very center of anything, of any move we have to make moving forward.

CHARLIE VAN LOAN: Other hands? Sarah.

JILL: Harold Hodes.

HAROLD HODES: The new distribution requirements for the College of Arts and Sciences involved one of the ten categories, being human difference or social difference -- I can't remember exactly what it was, but I would think that within the College of Arts and Sciences, that would be a natural home for an educational requirement on racism, bias and equity. In fact, you might say, to some extent, it constitutes an educational requirement, at least one that's highly relevant in issues about racism, bias and equity. That's it.

CHARLIE VAN LOAN: Thank you. Sarah?

SARAH: Thank you. I, in no way, wish to denigrate what's happening at all. I think it's really important. I'd just like to draw your attention to the fact that, over the last seven years, we've had absolutely no improvement in the gender inequity in faculty

salaries on this campus. So it still stands at, I believe, 8%, even according to official statistics. So that means, essentially, female faculty are working one year in ten for free.

I really urge you to think about equity in the broadest possible sense and to not accept what I've been today, which is over the coming years, we will certainly think about that. I've only been on this campus for seven years, but I can say over the last seven years, absolutely no progress has been made on this issue. So it means I look forward to working my free year very soon.

NEEMA KUDVA: Charlie, let me just step in for a moment. I'm watching the chat. Just so all of you on the call with us realize, Charlie and I saw the president's letter literally minutes before it went out, just a little bit of time before it went out, so part of our effort -- not minutes. Maybe some hours -- part of our effort was to bring in units and our colleagues and faculty who actually work on these issues.

It isn't as if this work hasn't been happening on campus, as so many of you active on chat recognize. So part of our huge effort has been to make sure we are all taken into consideration, that our work is actually forefronted and that any kind of a center that the university is going to support and would like to support and like to see happen, that it takes this into account.

What I think our wish is that we'd be able to move forwards. It's taken us some time to actually get even an initial list in sort of people's view, and we want to make sure that the list is as inclusive as possible. And we would love your input on making that list inclusive. There is no intention of excluding anybody or of playing any sort of

favorites. So that's the first point I want to make in general response to, I think, a lot of issues on chat.

We are trying to be completely transparent. We want to be, we will be completely transparent in terms of how we want to organize the process by which we, as a faculty, will imagine what this new center will be. That's the second point. I wanted to sort of make that quite clear as well.

There's also complaints that the only invitation that some of you received was at 1 p.m. today. Yes, that's me sending the e-mail at 1 p.m. today, because it wasn't on the agenda. This is an emergency senate meeting that was called. We've been working to put a list of centers together. We called the senate meeting. It's primarily focused on reopening, because that's the challenge we face right now, today. And Charlie and I wanted very much to give everybody an update.

That 1:00 email that everybody received is from a draft list of centers that we are still putting together. It is a draft list. If you didn't receive an email at 1 p.m. about your unit being on some sort of draft list, please send me an email, Charlie and myself, copy Jill -- she keeps us on track -- and we will add it to that list. The idea here is to have a transparent process, and everybody needs to join us in making that happen. If we make a mistake, let us know and we will change it.

CHARLIE VAN LOAN: We have time for one more question. Joanie has her hand up.

JOANIE: Thanks. I'll wait. Thank you.

CHARLIE VAN LOAN: Okay, you're muted. Okay, go on.

JOANIE: No. I don't want to say my question now.

CHARLIE VAN LOAN: Oh, okay.

JOANIE: Thank you.

CHARLIE VAN LOAN: This is just a heads-up to get us all thinking about this very important topic, very challenging to-do list, and the senate will be picking this up at the next meeting.

Okay, let's go on to the next slide. Now we want to turn to questions that concern the reopening of the campus for the fall. Reminder that there's a town hall tomorrow, I believe 4 to 5, run by the provost and others who lead the various implementation teams. One way of thinking about the upcoming conversation that we'll have here is simply to set the stage for that. They collect questions in advance, and I told them that, after this meeting, we'll try to crystallize some of the important ones from the group, to make sure they get considered tomorrow.

We all are very busy, we live in our departments. You maybe know about what's going on in your college, but what about that other college. So there's a great value in having these free-form discussions, where we can see what the other person sees. Maybe the high-level question here is what does F20 preparation look like in your unit? What are some of the issues, the conversations, the things that are making you concerned and so on?

A little bit of setting the stage for that, one concern has to do with the actual course lineup, and here are some stats that I got hold of earlier today that I wanted to

share with you. We have a web page that identifies the eight implementation committees, who's on them. You can post comments on these things.

I sit in on a weekly meeting where the implementation heads swap notes, concerns and so on. There's a lot going on, tremendous numbers of interconnections, but I thought this would be a good way to begin, because we are all now thinking real hard about that first day of class. What is it going to look like? What does the courses of study book look like to students?

As far as I can make out, there is the following timeline; that this Friday will be published the complete lineup of all courses that are offered, together with their modality, online, hybrid, et cetera. Then early next week, possibly on Monday, the time and place of the offerings will be published. Toward the end of next week, students will be able to then enter into the preregistration process.

All that's down the road, but I wanted to share with you these statistics, because there have been various surveys done over the summer about faculty inclinations and so on. On the top table, you see four different types of classes. And then one column is the number of courses and the percent of courses that have some in-person component. Then complementing that are the courses that are all online. You can see these four broad classifications of types of classes and the percents.

Down below, same sort of pairing, only now broken out by the level of the course, from freshman on up to Ph.D. level. I highlighted in red the key percents. That gives you an idea of how things are now beginning to fall out. I think early in the

summer, there was a survey of faculty about your inclinations, and it was a third, a third, a third.

A third said I'm online, period. A third said I'm probably going to do in-person. And then the middle third that was fuzzy, saying basically it would depend on the safety of the teaching environment that will pivot my decision. These percents are lower. I think overall, things have gotten worse nationally and there's more nervousness, there's more uncertainty and whatever. Here are these percents, and maybe that will prompt you to think about or share a comment.

I had one more slide. Here are six questions I've heard or lot. Some have been posted on our website. Others, you just sort of hear a lot. Let me sort of step through them. This isn't, by any means, exhaustive. What I tried to do here is just trigger your thinking, so you can share some insights. One is the behavioral compact, which I believe is going to be released this afternoon, if I'm correct. I also believe there's some plan about how it's going to be enforced. People have thought about this a lot, it is a very frequent question. That's forthcoming, and I believe it's this afternoon.

The Number 2 is really the communication thing. And I think this is very widespread, I hear this all the time, which is the communication has not been optimal. A sample thing is like if a mass mailing goes out to students, why can't the faculty simply be CC'ed.

And I know we all have overflowing inboxes, but it seems to me this is a very low-overhead, easy thing to do. When that doesn't happen, here's the consequences: Go back last week about the quarantine announcement that goes to students. A

student immediately gets on the phone to their advisor. The advisor doesn't know anything about it. The advisor feels stupid. The student begins to wonder how come the faculty don't know about this. And on both sides, there's a devaluation of confidence. We have to improve the way things are communicated to the constituencies, and I hope we can make some progress on that.

The latest thing, the modified quarantine policy, there are issues about fairness that only affluent students can find a way to get quarantined and be here. And then there are concerns in the county about what this means for public health, with sort of a more randomized quarantine thing going on in town.

Lots of concern about what happens in the dorms. Usually, you visit a dorm during the middle of the day, it's practically empty. Well, it's not going to be that way when we get into the fall semester. There's a lot of concern about that. We have great talent, faculty talent in the dorms on West Campus. We have the house deans on North Campus via faculty and residents. They are on the front line. An awful lot of concerns we should take into consideration.

A month or so ago, there were the issues about the T.A. accommodations; that faculty could teach online, that a T.A. sort of had to ask for an accommodation. I just called over to Student Disability Services. You might recall that they are involved in the accommodation process, and they said the numbers were quite low. They have only dealt with about 20 T.A.s with this concern. The theory is that many departments on their own took it upon themselves to give their grad T.A.s choice, therefore circumventing the need for formal SDS approval.

Finally, we should be proud of the scientific approach that's been taken, and part of that is data. A question that's come up is what kind of visibility -- when we do all this testing when students come back, how visible will be the data? Is it just going to be folded into the Tompkins County stats or whatever? So how are we going to be informed about how things are progressing? I want to mention that Peter Frazier will be joining -- will be available for questions starting around 4:00. But he's in charge of the modeling team, and we will, I'm sure, have questions for him.

That's it, in terms of setting the stage here. What we really want to hear from is you directly, your insights, what is going on in your unit and so on. That's all I want to say.

Neema, would you like to add anything to that intro?

NEEMA KUDVA: Not really, Charlie. I think we should just take questions.

CHARLIE VAN LOAN: Okay. David Delchamps.

DAVID DELCHAMPS: Okay. I get the impression that you've already asked for Number 2 to be solved, and it hasn't been solved, the CC thing. I'm wondering, has any rationale been given to you for that? That's one question I had.

Another thing I wanted to say was that we are being asked to make a lot of requests and decisions and stuff in the wrong order, in a certain sense. For example, the students read about this 18 credit thing in a Cornell Daily Sun article a good three weeks before it appeared anywhere official online, on the COVID page, and that's just really crazy. Students have told me well, I'm probably not going to come back this fall because of the 18-credit limit, or this completely monkey wrenches my plan, can I

appeal it. I don't know, as a faculty member. I have to know that stuff because I'm an advisor. That's something about the communication thing.

As far as commenting on what's going on in the unit, I said we're trying to make decisions sometimes out of order. For example, we are being offered by our college extra undergraduate T.A. resources, but we don't know our enrollments because there's no schedule yet, and we have to turn around these requests for extra T.A. support before the schedule is even out. To me, that's crazy. I don't know if my enrollment will be 19 or 57. This has got to get better organized, I would say.

Just a throw-in comment on your stats about online versus in-person, I think our department, my department at least is right about in line with those stats, about 30%, 35% in-person, and the rest online. Thank you.

CHARLIE VAN LOAN: Thank you. Joel Molina, who's vice president for public communications and so on, was at the University Assembly meeting that just preceded this, and I asked him that question. They admitted that last week was a SNAFU in terms of the quarantine, but you mentioned it's been a long history here, the 18 credit thing and whatever. I think they're getting the message.

Joel said the following: Like yesterday, they sent out some very specific dorm thing that looked like totally irrelevant to faculty, and so he sort of said there's some comments that really have no faculty ramifications. I think what we have to do is say regardless, we don't care -- there aren't going to be that many. Just as a rule, always CC us. It just seems so simple.

So we might have to pass a resolution to make that clear, but I've been talking about this like for a month, and there just seems to be some kind of hesitation about it. It just seems like just an easy no-brainer. You are not adding to anybody's workload. And then you can either trash it when it comes into your mailbox, or look at it or judge yourself whether it's relevant to how you're thinking. I hope we make some progress on that. I'm somewhat confident, but I don't know.

Let's see. I think Mark has his hand up.

MARK WYSOCKI: We just had a department meeting -- Mark Wysocki from Earth and Atmospheric Sciences -- and one of the issues that we do have here is the IT technical support, not so much in terms of a human, but in terms of the machinery, especially not knowing what classes we're going to be teaching in room-wise.

Does the university have a pool of funds where we can make requests for things such as cameras or tablets and things like this, to help us with the remote teaching and so forth, or is that an expectation that has to come out of the funds from the department or from the funds of the individual? This is going to be very, very important in terms of how we're able to give a lecture and so forth. Equipment is going to be as important as having people, IT people help us get that all set up. Thank you.

CHARLIE VAN LOAN: As I mentioned earlier, it's Decentralized Cornell. The colleges have different policies. Sometimes I think it sort of mirrors the national scene, where you really want a stronger university-wide edict or whatever you want to say, to clarify things.

This came up the other day. The subject was off-hours use of buildings for like study groups and so on, and the discussion got down into like the building is owned by a college, and should they be the ones that decide things or whatever. I think a lot of things should be central and universal, because students don't know enough about the college structure to -- you want to take the complexity out of their decisions and so on.

Maria Nixon. You're muted.

MARIA NIXON: Plant Biology, Maria Nixon. One of the things my faculty's worry is how will we implement the cleaning of the rooms, mostly for the labs, after each one of the sections are done. For example, who would be in charge of cleaning the microscopes, the space the students would be sharing, and who will be providing for those things like wipes, et cetera.

CHARLIE VAN LOAN: Thank you. I see David Shmoys on the call. I'm wondering if you have insight to that particular question, cleaning rooms. And I was at a meeting earlier today, where it looks like we'll have 30 minutes between classes. I wonder if you could sort of talk about some of these things; cleaning, schedules, the space between classes.

DAVID SHMOYS: Okay, wow, that's a complicated question. So let me start with a different question or -- there will be a different meeting pattern. Between the regular 50-minute classes, there will be 20 minutes. Between some of the 75-minute classes, there will be a longer break because, essentially, the way to visualize the schedule is in three-hour-and-ten-minute blocks. If you put a 75-minute one at the front and a 75-

minute one at the end, that leaves 40 minutes in between. And we're going to be using a lot of those 40-minute blocks to clean classrooms.

This has literally been just figured out this afternoon. Prior to that, the working assumption had been that for classrooms, it would simply be cleaned by students being provided with bottles of sanitizing liquid and wipes, and they could wipe down the arms of the chairs they were sitting in and their tablets. And they will still be given that, but in addition to a deep nighttime cleaning, we're going to do once-a-day in the middle of the day cleaning by the cleaning crew. Exactly how this is all going to happen is a new thing on my plate over the last 48 hours, so I can't tell you the details, but that's the spirit.

Of course, labs are another concern. And regular cleaning crews will clean the labs as they normally would in sort of overnight cleaning, but that's very different than cleaning the equipment. My understanding is the unit facility directors were working through with the local facility crew to work out local plans for each space relative to the equipment.

Like CIT is thinking generically about what can be done in terms of cleaning keyboards and the like, to do that and what can be student-done, but this is certainly there. This gives you some sense of the parameters that are in play, and I guess I'm happy to answer further questions, if there are more specific ones, or at least try.

CHARLIE VAN LOAN: Maria, you have your hand up.

MARIA NIXON: I totally understand that, but I think the fundamental question here is very expensive equipment that shouldn't be cleaned by a student or shouldn't be

cleaned by a crew person that don't know how to manage those microscopes or things, that they would be extremely expensive to replace in the long run. So we need to come up with a plan to do that, because putting the eyes in the scopes is a factor, and cleaning them in a way that supports the equipment for a long time is also something we need to consider very careful. Thank you.

CHARLIE VAN LOAN: David, I know you've been very much involved in the room allocation business. Can you maybe just very briefly sort of talk about there will be more uniform use of classrooms from 8:00 in the morning all the way to around sometime at night. Can you give us just a very brief overview?

DAVID SHMOYS: Yeah. What we have done so far -- and the units are getting that data early this week and we are still working out kinks in the system -- is that for the in-person classes, there are times circulating amongst your department representatives for the things that are centrally scheduled, and the departmental representatives are dealing with the scheduling for the labs and the online classes.

The good news is, which is bad news in some ways, that because so few of you were willing to teach in person, the pressure to spread the length of the day is diminished, so that you won't find as many of the early morning classes and the evening classes as I was originally concerned about, but you will observe ultimately that the geographic dispersal of the classrooms will feel very different because still in the middle of the day, we are going to be using classroom stock that was not classroom stock.

We are still literally scouring the campus. Mary-Lynn Cummings is heading the effort of coordinating on rooms and converting various reading spaces and other large

spaces where we can, with social distancing, accommodate even 30 people. We're short on that kind of classroom space. Classes will be dispersed to a greater extent, and especially this now has to be coordinated with this new cleaning constraint, which will push things further. Classroom assignments will only be coming -- the actual room assignments will only be coming in the next couple weeks.

CHARLIE VAN LOAN: One more question. I notice that Peter has joined us, and we'll switch to questions about the model, but Risa has her hand up.

RISA LIEBERWITZ: Thank you. All of these questions are very, very important, and it's a little unclear to me just what we are doing with all of the concerns that we have, like what kind of influence do we have on decisions that would be made, but the particular one I wanted to focus on here is that issue of equity. We just came from a discussion about taking race and racism seriously. And then, when we talk about equity, we have to make those connections.

I was shocked to see a message that came from the administration saying look, if you're in a state you can't find a place to quarantine yourself, just start online and then come later. My thought was, as a student, how am I going to figure out how to do the travel, and it's so expensive if you do it at the last minute. And if you're not a rich person, what are you going to do? I mean, the equity issues are massive, and I'd really like to know where things are on considering the equity issues, whether it's travel, technology, et cetera, and where are these decisions being made and do we have sufficient faculty input through governance.

CHARLIE VAN LOAN: Good point. The announcement last week, I sensed it coming. Everyone who has been watching the news, these 31 states over the last three or four weeks, you have seen this number grow, and you are wondering what does that mean for us. I guess eventually, it triggered this decision because the number of beds, quarantine spaces just couldn't handle the constraint.

But it gets to this question, I would have preferred that a month ago, a fork in the road be portrayed to us. Down one fork is what Ithaca College has decided, which is you just don't come, if you are from one of those 31 states, which is a tough policy, but it is just based on where you're from. Whereas ours, as Risa points out, does have implications for equity implications. I wish that we could have at that point just engaged in a general discussion; how would you make that decision.

Neema, would you like to add a couple of things here?

NEEMA KUDVA: I want to add something. Either it was yesterday morning or this morning, following the op ed that came in The Sun, I believe SCL, Student Campus Life, sent out -- we have about 1,300 or 1,400 students in these states, which are on that travel advisory list, so each of them got an email, asking if they need any assistance.

This is similar to the access fund model that the university was using during the spring. There's an application process. And because I sit in West Campus, I know there's been about 400 applications. So students have put in applications, and then the university is trying to meet need, to figure out what that exception looks like.

I think it's a really difficult kind of situation, and I agree with you. To say to students, if you have the money to come and go quarantine in a different state, it's

deeply problematic. There is some recognition in asking people to file for applications if they need assistance. Is it the best thing? I don't know. I feel like we're all just trying to turn on a dime and make decisions, and it's hard, so I recognize the inequity. I'm also not clear what we could have done differently, except for what Charlie mentioned, which is to have had a continued and very open and transparent conversation. I agree with you Risa, but, you know, I don't know.

CHARLIE VAN LOAN: Thank you. Let's now switch -- Peter Frazier is here. Peter leads the modeling team, and they produced a report back in -- I'm losing track of months. And then a few weeks after that, there was an update, which all this is online, on the agenda page.

Peter, why don't you start. You have some slides, maybe talk about recent developments, what you are working on, what you will be working on. And I'm sure the group will have questions about what does the model say about X or Y and so on, whatever. Peter.

PETER FRAZIER: Thanks, Charlie. Happy to give an update. We have been working on two kinds of things. One is responding to public comments and trying to talk through questions that people have and to do updates and response to those questions. As Charlie said, we posted an addendum to the main report, which is available on the university faculty web page and also through a link on my web page.

That looks at a number of questions that people asked, a lot of them focusing on the number of contacts per day and focusing on different ways to think about the

comparison between residential instruction and virtual instruction, so you can look at that addendum in order to understand just all of those details.

Then the other kind of thing we have been doing is making detailed preparations so that we can really try to achieve just a maximum level of safety that week, as students arrive, understanding that it's a difficult mission.

That involves detailed design of a gateway testing protocol that I'll talk about in a moment and detailed design of asymptomatic screening protocol, things like what sampling method you use, targeted testing to different individuals on campus based on equity, based on vulnerability, based on our beliefs, which are, very unfortunately, quite imperfect about transmission rates among those individuals and also between, for example, students in different housing conditions, between students and staff, students and faculty, different types of faculty, different types of staff.

Those two kinds of things, and those things have been complicated by conditions that are changing on the ground. I have gotten a lot of questions about the fact that prevalence in the United States during the month of June, according to confirmed case counts and presumably also according to once you adjust for underreporting bias, are much larger in July than in June. And then the same thing is true for Tompkins County.

So thinking about that, yes, thinking about President Pollack's recent announcement that we changed the policy about students who would need to self-quarantine from states that are on New York State's list of high-prevalence states, so adjusting our analyses in order to cope with those, and then also responding to

questions from Assemblywoman Lifton. That's kind of an overview of what we are doing. Let's jump into the first slide here.

I wanted to talk about how we are thinking about the recent changes in prevalence. It's important to distinguish between what is happening here in Ithaca and in the area surrounding Ithaca and Tomkins County and the surrounding communities. It's important to distinguish that from what is happening in, for example, Florida or Arizona or Texas because, obviously, we're here, we care about what happens here. And the things that happen afar, those affect us in a very different way. They affect us through travel.

What I'm showing here is a graph of something I'm sure a lot of us now spend a lot of time with, the daily data from Tompkins County Health Department showing the number of new cases. What I'm showing is the daily count of new confirmed cases, starting from July 1, so that goes up until -- the latest data point was last night. You see basically zeros through early July, just like a lot of zeros in June, and then you see a bump, a scary bump up to ten on July 14th. Then you see a gradual decline that I hope continues.

The other piece of data that I'll convey to you that I think is meaningful is that Tompkins County Health Department published a report on July 21, at the request of the legislature, which talked about demographic information about these cases. In particular, I'll call your attention to the fact that 16 out of the 31 cases that were discussed in that report, which included the period from July 1st to July 21st, has known relevant travel and presumably were infected externally to Tompkins County through

that travel. We don't know the percentage of cases with travel after that date. That hasn't been reported.

We're in conversations with the Health Department and trying to get data that can help improve the quality of our decisions, while also respecting privacy. 16 out of 31 is a little more than half, and that suggests to me -- so a high percentage of cases with travel during July 1st through 21st, plus the gradual decline afterward suggests that the local average R0 in July, especially in that period kind of after the data, is less than 1.

So R0 is the epidemiological measure that counts how many new infections are started by each source case. If that number is bigger than 1, then what happens is you get exponential growth in the total number of cases. Then, as long as your reporting bias isn't too bad, which Tompkins County has very good test access compared to at least the rest of the U.S., you would see exponential growth in those confirmed case counts. I think the data's pretty strongly suggestive that's not going on, so that suggests that local R0 is less than 1.

You can use this data to try to get an estimate of what local R0 is by -- you need to make assumptions about how many of the cases that happen after July 21 were exported from the outside; but if you assume that's zero, which is a pessimistic assumption, then you get a local R0 of around three-quarters.

Another thing you might draw from this data is a time-varying transmission rate that may be due to parties around the 4th of July, so that's also something -- I think this data suggests that, Number 1, there's a significant risk of travel to high-prevalence

regions of the U.S. and, Number 2, there's significant risk associated with large-scale social gatherings, but it is suggestive that this local R0 is less than 1.

In terms of what that actually means in terms of outlook and in terms of what we should be doing, it indicates that gateway testing is really, really important because we're going to be having students arrive from these regions and we need to make sure that the cases that they're importing, as much as humanly possible, are caught before they infect other people in the community. It's encouraging, in spite of the fact we don't have regular asymptomatic screening, we do have screening of students that's happening, I believe, twice a week.

And Gary Koretzky sent an email describing results from those tests, I believe on July 31st, where we've done a few thousand tests, and the prevalence among the students is about a tenth of a percent. Those things, I think, are encouraging; but at the same time, it's important that we expect and plan for the local R0 to rise as students return and they engage in activities on campus and there's more contact with each other, so we need to be ready for that. That's why we really are depending on the asymptomatic screening and the behavioral compact to both catch cases when they happen and also to reduce transmission from its organic value.

Gateway testing is critical, and we have a report analyzing gateway testing that one of the members of the modeling team is working on night and day, including last night and is working on now, and we're going to post that by midnight. What this does is it analyzes our gateway testing procedure. And we've had to modify this, in light of changing national prevalence, the fact that students from high-prevalence states who

unfortunately are not able to find housing locally in order to quarantine, in order to understand the impact of that on health outcomes.

And also, I'm not showing you results for quarantine capacity here, but that's also important. Basically, the modeling timeline is that we ask students to be tested at home. We are not expecting all students to be able to be tested at home. We are assuming that students in high-prevalence states, part of the reason -- students from high-prevalence states tend to have less access to testing, both because the reason they're high-prevalence is because public health didn't have as good test access, but also because when cases rise, you have the local population using a larger number of tests, so those two things end up resulting in having less test access in those states.

We assume partial compliance with that, and we also assume false-negative rates associated with PCR-based testing. So we assume 30% of cases from high-prevalence states and 60% from low-prevalence states will be caught before departure by students using that at-home testing. We assume that most students who are arriving from high-prevalence states, but not all, who have an ability to quarantine according to New York State law will arrive in time to comply with that law.

They will be tested when they arrive through test sites that we're operating during that time period. The positives will be isolated. And that way, we'll be able to monitor the behavior of those known positives more closely. Negatives will still be required to self-quarantine by state law, and we assume 60% compliance with that state law.

During move-in weekend, two weeks later, students from low-prevalence states and then also some noncompliant students from high-prevalence states that we think may skirt around the law will arrive. We will test them and, then again, positives will be isolated and also close contacts, of which hopefully will be few, will be quarantined.

Then the semester will start, the regular asymptomatic screening program will begin. Although in our June 15th report that is a one-size-fits-all screening policy, in practice we find substantial value from targeted testing, where individuals in higher risk groups are tested more frequently. The sampling method, we are still determining which method we will use. It will either be only nasopharyngeal or it will be paired nasopharyngeal and anterior nares.

Here, what we do in the modeling -- in the report we break this out, but just kind of combining it together is the most important number, so this is the number of infections during the period that I just discussed, plus 18 days after, which is roughly when you import some cases, then you miss some through testing and because some were exposed during transit and their viral loads are low. So there's this kind of wave that comes in, and then as long as local R₀ is less than 1, the wave dissipates.

So it is important to look at the time chunk not just right at move-in weekend, but also afterward. As students return, we see -- this is not including Greater Ithaca. We have another analysis we are working on on Greater Ithaca that we're hoping to get out as soon as we can, but among the Cornell community, so students who are returning, students who were already here, staff and faculty, approximately 310

infections, understanding that with all modeling, we have a lot of uncertainty due to assumptions and also just significant uncertainty about inputs.

We also look at another scenario, which we don't view as realistic, but we think offers like a meaningful baseline that you can use for comparison. So the baseline we look at here is if we could somehow prevent all students who are not in Ithaca from returning. Again, we don't view that as feasible, based on the indication that many students would return to Ithaca for virtual instruction, even if we ask them not to, but just using that as a baseline.

Those infections, 310 infections, include students that were infected at home. They're coming from Texas and they are asymptomatic, they think that they're not sick, they weren't able to get a test at home because that's not offered in their area or it's reserved for symptomatic individuals. Those people are going to be sick whether or not they come to Cornell, and they Number 195.

Then you also have infections that would have happened in Ithaca, regardless of students returning, just because of other travel that people are doing to other areas. It's important to note that when you look at the TCHD numbers or really any numbers for confirmed case counts, you really need to multiply that by some underreporting bias. CDC has estimates where that number can be as high as 10X in some areas. They don't think it's as high as that in Tompkins County, but when thinking about that 55 number relative to what we saw in July should help to calibrate that.

In this scenario where we're able to prevent all students from returning, we see 250 infections during that time period in the population; whereas if they do return, we see an increase of 60 infections, for 310 total infections.

It's also worth noting this analysis does not include the impact on the families of the students. If you have an individual who is not able to come to Ithaca, in some cases those students would be living alone; but in many cases, those students would be living with family members.

And presumably, if they were sick, then you'd have higher risk of infection for those family members, which can be problematic, especially because while when students are interacting with each other mostly here in Ithaca, the age of the individual that an infected person is interacting with tends to be a young age. When you are interacting with family members, particularly in an intergenerational household, you tend to be interacting with older people, for which the severity of the disease tends to be significantly larger.

Just kind of other things we are doing that I briefly sketched at the top, so we released this addendum. The link is there, and you can have access to these slides. And you can also find it, for example, if you go to the University Faculty web page, you find the link there.

Designing targeted testing policies, so exactly who is going to be tested at what frequency and trying to respect physical constraints about how many people we can test, but also trying to use that test capacity as well as we can. Looking at adaptive testing, so this would be, for example, what do we do if we find a case on a dorm floor

or a cluster of cases on a dorm floor. Are there interventions that we could do that would help to nip that cluster in the bud.

Looking at the impact on the Greater Ithaca area. I'll mention that even -- kind of the net effect of this is actually optimistic. In the June 15th report, we assumed a relatively large rate of outside infections from Greater Ithaca. And upon further analysis, where we actually model infections in Greater Ithaca based on data we see over the summer, we see actually that number was probably too pessimistic, so that ends up helping, improves health outcomes a bit.

In terms of comparisons between the residential instruction scenario and the virtual instruction scenario, we see the same ordering in terms of health outcomes on Greater Ithaca, excluding the Cornell community, as we do for the Cornell community. Essentially, what happens is that if you are unable to ensure significant compliance with testing or you have some fraction of students who are never tested, as we expect would happen in the virtual instruction scenario and, as a result, you have a large cluster of cases that grow in that population, then because they have some interaction with nonstudent population in Ithaca, that ends up creating negative health consequences for individuals in Ithaca.

Also, something that's really important is just thinking through all -- we have a lot of uncertainty and we need to be prepared for that. Designing scenarios, for Derek Goreski to be discussed with President Pollack; from small, single case in a dorm, to big. We see, based on estimates of R₀ in the student population, we think that epidemic is going out of control and what would be the conditions under which we would need to

issue -- we recommend a shelter in place or an evacuation. Hopefully we don't need that, but it's much better to think that through before, when you have time and you can analyze things. Much better to think that through early than to wait until you really need it.

That's kind of what we're doing, and I hope that was helpful.

CHARLIE VAN LOAN: Thank you, Peter. We have time here for multiple questions. The chat line has been very busy. Perhaps somebody who posted something there would verbalize their concern or their question.

JILL: Ken Birman.

KEN BIRMAN: Peter, thank you for all of this work and for the careful report, and everybody tremendously appreciates how hard you're working on this and what you've done. It strikes me that what you've developed is very model-sensitive, and part of the model is this agreement that we have with the students that they're going to behave properly.

My question on the chat line was what do we do if we notice students having large parties in Collegetown. And a number of us live there. My question to you would be how sensitive are these models to that type of assumption and how large a deviation from correct behavior can we tolerate before your predictions stop being accurate? I mean, you don't really know, but --

PETER FRAZIER: Yeah, so the relevant number there -- two things that are really equivalent, which is the rate of contacts per day or the transmission rate. We have two

different kinds of models. We have the models that we've published in the addendum and in the main report, which assume a homogenous population.

What we see there is that as long as you have the ability to increase the frequency of testing, the number of contacts -- the amount of transmission, on average, across the Cornell community can be increased pretty large without seeing a significant negative health outcome, as long as, Number 1, you notice it, and we should be able to notice it because we're going to be looking at all this testing data. But then, like we need to do a good job of -- and we are setting this up, but looking at the data and making sure we are seeing it.

And then we need to be able to intervene. I think there are two kinds of ways we can intervene. One is to increase the test frequency, and this is the work we are doing for these scenarios. We'll probably recommend doing both. So one is to increase the frequency of testing for the population that seems to have elevated transmission.

The other thing you should do is put in extra effort towards behavioral modifications, to try to ensure that kind of transmission doesn't actually happen. I think there are a lot of things that you could do. For example, you could hire extra people to go around and make sure that students aren't having large, loud parties in Collegetown.

KEN BIRMAN: So Collegetown and the sororities and the frats would appear to be obvious candidates for -- are you modeling a situation where you assume that there's a lot of contact occurring there, and right from the start, we're aggressively over-adjusting that?

PETER FRAZIER: Yeah, we do. That's not in the addendum or the June 15th report, but that's in this targeted testing report that we're using in order to design the actual testing frequencies we're using. In that report, we break up the student population into several different groups.

We have undergraduates who are living in high-density housing, and we're modeling those individuals as having the highest rate of transmission, due to their living arrangements. So that includes people living in residence halls and includes people living in sorority and fraternity houses.

Then we have undergraduates who are living in lower-density housing off-campus. We model them as having a larger amount of transmission because, Number 1, yeah, intuition about parties and, Number 2, the literature supports that younger individuals seem to have about 30% more contacts than kind of the general population, so we are planning to target testing more frequently to people in those groups.

Yeah, and that's really important, too, because it's one thing if you see transmission elevated across the whole community. That means you -- if the only response that you have is to ramp up testing, then that's like a lot of testing, so that's not necessarily easy.

But if you're able to see in a more targeted way that, for example, only undergraduate students, even that would be a big win, versus the entire population; or undergraduate students who are living in fraternity and sorority houses. And if you could do targeted interventions just for those individuals, then all of a sudden it's becoming something that's easier to execute on.

CHARLIE VAN LOAN: Wendy Wilcox, and then Martin Kassabov. Wendy.

WENDY WILCOX: Hey, Peter. I want to ask, can you talk about what some of the high-risk environments that students would encounter on campus. So you're talking about living, you're talking about their classrooms, but what other things will they be engaging in that might be high-risk? You know where I'm going with this.

PETER FRAZIER: I would include the library. Yes, so --

WENDY WILCOX: That's my concern. Have you done modeling around -- because we know the students want places to study. I've heard they want to be able to go back to Zeus and go into Goldwin Smith. Have you looked at that modeling? Because that is this sort of unknown, and we know tons of people go into that. There's very little ability to trace who's visiting those spaces.

PETER FRAZIER: Right. There's all kinds of different considerations. This is kind of obvious, right; the library is a place where people are kind of in closed spaces, and this does depend -- we do have some control over this, but any time you have people in close spaces together, and the CDC is saying 15 minutes or more, six feet or less.

But even further than that, it's not like risk is this and then drops to zero. It's kind of like that. So yeah, closed spaces indoors, long periods of time, that would be associated with transmission through the air.

Then you also worry about surfaces, so transmission on surfaces. One individual touches one thing and then someone else comes along and touches that, so both of those are present in the library. There are other considerations too. Like any time people are drinking, that's bad, because then they are more likely to not wear masks

and they're probably more likely to forget that you shouldn't be like touching somebody or being super-close to somebody, so any kind of environment where people are -- where alcohol is consumed, we believe is dangerous. If we can get people to wear masks, that's always better, so that's a thing that can make restaurants more dangerous, because you can't wear a mask while you eat.

Something that's good about the library is that presumably, people are not super-loud in the library. And yelling or singing is dangerous, because that takes droplets from the respiratory tract and expels them into the air. Yeah, in answer to your question, we are modeling interaction of people on campus as a risk factor.

We are not currently looking at the level of detail for this building versus that building and we are instead -- because there's like a limit to what we can do. Any kind of math model that we would build at that level of granularity, I would tell you stuff you already know. Like if you can keep people separate, then things are better. If you can make people wear masks, then things are better, so those are things you already know, so you don't really need me to tell you that.

The numbers that we report for the level of risk associated with this building I think would be so sensitive to the -- we don't really have a good way to calibrate those things. So happy to help with articulating kind of just things we know about the biology, if that can be helped, but I think it's probably too detailed for the modeling team to do models.

WENDY WILCOX: Yeah, okay, thank you.

CHARLIE VAN LOAN: Neema, you had your hand up.

NEEMA KUDVA: Thank you for that. Just a quick question that's been coming up a lot in various meetings that we've been having. What's the exact threshold, if you can explain it to non-statisticians like myself, the exact kind of threshold at which the university will decide it's getting too dangerous, we need to shut down. I, of course, live in one of those targeted areas, and there's particular concern to faculty who have to interact a lot with students. How do we, as the people on the ground, really keep track of it?

PETER FRAZIER: Right, so that's our job to deliver to Gary by Friday and to give a preliminary version, and then to give that preliminary version to President Pollack early next week. Here's how we're currently thinking about it: We have kind of existing early warning signs, just from standard epidemiology, like you basically can fit an exponential curve -- you look at how quickly the confirmed case counts are rising, and if it's rising really quickly, then that tells you kind of what R0 is. One early warning sign will be based on that.

Another one will be based on confirmed cases, even if R0 -- even if we see one individual infect five other individuals, but those are the only cases we see, so we think R0 is five, but we have also only seen six cases, we're probably going to wait and see, because it's still early yet. A way to think about it is you can form a rule, where you come up with some estimates for R0.

There's another one we are hoping to build, based on the more detailed data we are getting from the asymptomatic screening. You put those together. Sometimes you will see R0 be large, but maybe it's something that we can fix; like Ken talked about

parties. Maybe we see in the first week a big party, and it's really bad, but then we decide we have pretty good intervention that we can go and we can really -- we didn't want to do it before, but now we see it's necessary, so we put that in place. That's kind of like Phase 1.

Then you get to a point where both your R0 is above 1, significantly above 1, and you feel like you've done a reasonable set of things in order to try to get it below 1. At that point in time, what you should do is yeah, what you talked about, either shelter in place or send people home. I don't know how President Pollack is going to think about whether she wants to have an exact set of numerical values or she simply wants to have a robust kind of decision-making process with a set of metrics and a way to think about those metrics. I don't know, and that's a difficult decision; but yeah, that's going to be the substance of our advice.

CHARLIE VAN LOAN: Can you stay after 5:00, Peter?

PETER FRAZIER: Let me make sure. Yes, I think so, I set that up so I could do it. Yes.

CHARLIE VAN LOAN: Great. Those of you that have to leave, it's absolutely okay. Audio will be up there by tomorrow morning or so, so let's continue here. Martin Kassabov had a question.

MARTIN KASSABOV: I have a quick question. One of the -- in the model suggests that you believe you can control the spread, even -- number of contacts per person, which corresponds to R0 of like 8, 9 or 10. The only way I can explain this thing is you are assuming there's no delay between testing people and quarantining them. In fact,

there's going to be some delay, because you need to process the tests and so on. So how do you think this is going to affect the model?

PETER FRAZIER: Yeah, that's a great question. It is true that one of the assumptions that we're making is that there's no delay in the testing, that there's no delay between the test result -- between the sample being collected and the person who's positive being isolated.

MARTIN KASSABOV: There's no way to avoid that. Like you cannot do it right in five minutes.

PETER FRAZIER: Right, indeed. So we are very lucky in that we will be doing the testing locally, we will be doing it in the Vet School and at CMC. And exactly which samples get processed where is being aligned on. Yeah, the guarantee that they have given is that you'll get -- we are doing pooled testing, pools in size five.

So you get your sample taken. The results will then go to the Vet School, I think that's going to be most of the tests. And they will do PCR -- they will pool it with four other individuals, they will do a PCR, they will get you the test result for your pool within 24 hours.

If you're in a pool that tests positive, then you will be required to quarantine while they do a second swab and send that out for a diagnostic test. That's an FDA requirement associated with the way that we have set up regulatory around pool testing. Then, if you test negative on that diagnostic swab, you can go. But if you test positive, you need to isolate, and then hopefully you're okay.

MARTIN KASSABOV: Sure, but there will be a spread inside this 24-hour period, like you cannot control it.

PETER FRAZIER: Yeah, so that is an assumption, that is one of the assumptions we are making that is more optimistic than reality. The way that I think about it -- I think about it in two different ways. One is that you can look at the results from a sensitivity analysis -- one way to look at this, you could look at the test results from sensitivity analysis for a smaller fraction of the population that's being tested per day, and that will be somewhat representative of what we would expect if we were able to run the simulation with a test delay. That's one way to think about it.

When you look at that, we show the sensitivity analysis up to a very large number of contacts. If R_0 is 8 or 10 on average across the Cornell community, then yeah, I'm not confident that we will be able to handle an R_0 of 10. We try to do everything we can in order to model uncertainty, but that would be just like a really extreme --

MARTIN KASSABOV: Like nobody can handle R_0 of more than 5. That's completely insane, thinking that you can control it.

PETER FRAZIER: And the way that I think about it, that's one of the assumptions that makes our model too optimistic. There are a number of assumptions that make our model too pessimistic.

One of them is that we assume that contacts are well-mixed with each other; whereas in reality, individuals tend to interact with each other within their social networks and an infection can't jump from one part of the network to a totally distant

part of the network immediately. It takes some time. And that kind of effect tends to reduce the growth of outbreaks, and we're not modeling that.

CHARLIE VAN LOAN: I want to get to other questions. Sorry. Paul Ginsparg.

PAUL GINSPARG: Hi, Peter. I apologize; a lot of this stuff is still in progress, I understand. And even this comment you just made about the pools of size five and the required re-swabbing was news to me. We heard yesterday that the surveillance testing on students will be done via the front of the nostril swabbing. I looked up, I couldn't actually find data on the false-negative rate for that, so I'll just go through all the questions.

The first question I had is where does that fall within your sensitivity analysis. The second question is the same message the provost said students would be tested either once or twice a week, and I recall -- I forget if this was something you told me. It was probably in your report, that the simulations were very sensitive to the assumption that everybody on campus would be tested every five days. I think if you went up to even just seven days, it was a 41% increase in the number of cases or something like that, so I'm wondering how this uncertainty in the once or twice a week will affect those sorts of estimates.

And then the final thing came up from a few people in chat who were confused about how often faculty and staff will be tested, where will we be tested, and what test will we be given. Will it be deep nasal or the anterior nares?

PETER FRAZIER: Yeah, all great questions. So false-negative rate for anterior nares, I'll send you some papers. The number -- in the targeted testing analysis that we

are doing in order to make the decisions about test frequency, we model a sensitivity of 60% for the asymptomatic screening. That's a pessimistic estimate that -- most of the data comes from people who were in hospital, and those individuals tend to have higher viral loads, so those data compare sensitivity of interior nares versus nasopharyngeal. They find that it's better than 60%, but we use the 60% number because we wanted to model lower viral load individuals.

For the asymptomatic stream that we have been doing and also CMC has been doing in the mall, for some fraction of the cases, they take an NP swab and an AN swab, so we have these dual samples, really awesome. CMC, those individuals, a lot of them are symptomatic; but for the gateway testing we are doing, those are asymptomatic individuals. So yeah, it seems from that data, the N is small still, but the number Gary's quoting to me is more like a sensitivity of 70%, something like that, so seems like we're okay there.

In terms of Mike's email about 1X or 2X per week, yeah, the reason he said that is because we're segmenting students into groups. I'm not sure it's been officially decided, the frequencies for different groups, so I don't want to say something that is not my decision to make.

But in our targeted testing, one of the sets of testing frequencies that performs well and fits within our testing budget, like how many tests we can do per day logically is that we would test graduate students who are primarily research-based once a week, and then we would test other students twice a week, and then there's also some thinking about doctor of veterinary medicine, even though those are primarily

doing research, those individuals also need to interact really frequently with -- so there's some details around that. I think the reason he said one or two, it's not because he doesn't know or not that we won't know when we do it; it's that he probably didn't want to get into that level of detail.

How often will faculty and staff be tested? Again, I don't want to set in stone something that I can't set in stone, but we are looking at testing -- this recommended protocol I think is testing faculty and staff who are on campus once a week, and then faculty and staff who are off-campus and promise to never come to campus basically once a month.

Where will those faculty be tested? Yeah, I would defer to someone else on that. Faculty who are off-campus, I'm hoping we can set up something so they don't need to come to campus in order to be tested. That would be counter-productive, in my view. And then for the sampling method, yeah, the asymptomatic will be interior nares, so you don't need to worry about having a thing go up your nose too far.

CHARLIE VAN LOAN: Let's get on to Ailong Ke, please. Your question.

AILONG KE: Actually, Paul just asked my question, almost the same question. I mean, the false-positive rate could affect the model outcome, and the experience of the tester, like the people who take the sample could also affect it. Like if the experience varies, your model could have a large error rate. The robustness of the testing method.

PETER FRAZIER: Definitely. You're asking about false-positives?

AILONG KE: False-negatives.

PAUL GINSPARG: Just a comment. The video from BU, which is also using the interior nares, actually showed the students themselves would be doing that.

PETER FRAZIER: Yes, so this is being nailed down, but my understanding is that the current proposal is that it will be observed self-collected interior nares. So the student would collect it themselves -- and I believe the same thing for faculty and staff, all individuals would collect it themselves, but would be observed by someone who knows what they're doing. And that's part of the reason that we use this pessimistic sensitivity, in order to model lack of experience in doing that kind of sample collection.

CHARLIE VAN LOAN: Okay, thanks. Let's make this the last question, remembering again that there's a chat line and we can always forward things to Peter afterwards. Chris.

CHRIS SCHAFFER: Hi, Peter. Chris Schaffer from Biomedical Engineering. Thank you so much to you and your team for all of this careful modeling work. It really does give some serious confidence in the plans that the university is putting out. I really had one question and one suggestion.

First, a suggestion. In terms of the timing of testing for faculty, it might be useful to provide some nuanced guidance asking faculty to assess the degree that they are being exposed. For example, I know I'm going to be teaching a lab class that's going to be split across four sections, spread throughout the week with a modest number of students in each of them. Even given that, it seems like testing me is epidemiologically very important at a high frequency, so I would encourage some nuance in that guidance and the ability to elect to test more frequently.

The second question -- that was the comment. The question is about the revision to the quarantine policy that Cornell has made. I have deep concerns about inequities that are going to be caused by this. Essentially, if you can buy out an expensive hotel room for two weeks, then you can come back. If you can't afford that, then you're left on your own. I know that there was some discussion about Cornell getting an exception to the two-week quarantine policy, based on the incoming testing, and I assume that there was an effort to negotiate that at the highest levels. The science seems sound. I'm curious to hear your perspective on why that wasn't permitted.

PETER FRAZIER: Yeah, I agree with all that. Yes, there was a request made at the highest level -- to the highest level in order to get an exception made so that we didn't face that really difficult decision that unfortunately, yeah, I think has bad consequences.

CHRIS SCHAFFER: Am I correct in the assumption the isolation testing regime that you've implemented obviates --

PETER FRAZIER: Yeah, it would have been fine, in my view. The answer was no, I don't really -- I don't have details into like why the answer from the State was no.

CHRIS SCHAFFER: Probably they don't want to get in the business of making assumptions.

PETER FRAZIER: Yes, that would be reasonable speculation, but I don't know.

CHARLIE VAN LOAN: First of all, thank you, Peter, for coming and answering these questions. And I'll make sure you get to see the additional questions on the chat line. At high level, I think your group has been a model for transparency and being

receptive to questions and then acting on them. I think you are to be highly commended for that, and we all appreciate that so very much.

This is the end of the meeting, but as you know, after Jill turns off the recording, we all go out into the hall and say what we really think -- no. Anyway, thank you for coming, pay attention to your email. You'll get something from me early tomorrow. And remember, there is a town hall tomorrow with the provost and then the leaders of several of the critical implementation teams. I'm also going to send them the gist of what came up this afternoon with us. Thank you very much, and the meeting is now officially over, but Neema and I sort of hang around and are happy to talk to people.