Eric Schiff:

Good morning, and welcome to today's panel discussion from Syracuse University about reopening of restaurants. I'm Eric Schiff, the Director of the New York State's Center of Excellence in Environmental and Energy Systems at the university. Indoor air quality is one of our core concerns, and today we've brought together three panelists to discuss a closely related topic. With coronavirus in the air, both physically and conversationally, we're asking, how safe is it to go out to eat or drink? After a year of pandemic, I think we're all yearning for a return to normal life and restaurants and bars are part of that. They're also important as a livelihood for many of us. However, just last month, the Center for Disease Control and Prevention, the CDC issued a study saying that complete reopening of bars and restaurants after a shutdown, significantly increased COVID cases for an average County in the following weeks.

Eric Schiff:

Well, anyway, none of us wants to be average and the details matter. So that's what our panelists are here to discuss. What are the concerns of the County health officials about bars, restaurants and COVID, are restaurants all equally safe or are there differences? How tough has it been for restaurant and bar employees when they're furloughed during the shutdown? And how hard is it for the owners to stay in business? And finally, what can an owner or a manager do to make dining in or a drink in the bars safer. So I'm going to ask each of our three panelists a few questions and then open the online floor for questions from our listeners. So you can submit those questions using the chat function of the GoTo webinar screen you should have opened before you. And our discussion is being recorded and the audio will be available online in a few days.

Eric Schiff:

Our first panelist today is Lisa Letteney. She's a professional engineer and director of the Division of Environmental Health for Onondaga County Health Department. She's been at Onondaga County Health for some years, more than 10 let's put it that way. She actually has an Ms degree in chemical engineering and is a New York State licensed professional engineer, as I mentioned, and among her responsibilities over the years has been direct engineering functions at the Department of Health. But she's now the director of this Division of Environmental Health. It's a huge charter, actually. She oversees all sorts of programs. Today we've asked her primarily because of her involvement with restaurants and food inspections, and some other aspects of her job, but she also does temporary residences recreational facilities, led in the environment, public water supplies, septic systems, mosquito control, rabies standing, she's really frequently interviewed by people like myself.

Eric Schiff:

Anyway, Lisa, there's a few questions I'd like to put to you. But first of all, why don't you just describe for our listeners a bit about the involvement of your office in restaurant or your division in restaurant related activities and any relationships with the COVID pandemic?

Lisa Letteney:

Sure. Well, basically we're responsible for inspecting every restaurant on Onondaga County, at least once a year. We certainly do try to do our higher risk restaurants twice a year. It just depends on our capacity at the time. But in a usual restaurant inspection, we're looking for food related health issues, obviously, but with COVID we have expanded what we're looking for at these restaurants. So we're looking at they're compliant with all the COVID regulations, such as wearing masks, the social distance, making sure that the capacity of the restaurant is correct. In other words, the capacity changes. There's been a lot of changes with the capacity over the last year, they were closed and then they were open for takeout and 25%, 50%, and now up to 75%. So those changes have happened and sometimes quickly. So we're out there to also educate people in the restaurants to let them know what the current regulations are.

Lisa Letteney:

Another issue we do make sure that the restaurant owners are paying attention to their employees, making sure that they're doing health checks of their employees every day and making sure that they're not allowing employees to work while they're sick. So that's very important also.

Eric Schiff:

Yeah, it's good to know. I noticed that your office also manages indoor air complaints. I don't know if that involves restaurants at all. But of course, inadequate indoor ventilation does increase airborne transmission. Is this something your office might address or the county health department might address?

Lisa Letteney:

Yeah, we do help out with indoor air complaints. A lot of those have to do with residential type complaints, but we have done some in restaurants, especially with some exhaust fan with the exhaust being blown back into the restaurants, et cetera, or different odors or people that live above restaurants, that type of thing.

Eric Schiff:

Right. And I know you're concerned about vaccination. What do you know so far about, first of all, whether vaccinated people are thought to be able to spread COVID. And also whether restaurant workers have been included in vaccination from the county and other government agencies.

Lisa Letteney:

Sure. The vaccinations even early on restaurant workers were included as those that could be vaccinated. And we did encourage that and we even had a couple clinics specifically for restaurant workers. But as of today, really it's open game for everybody above 16 and everybody can get vaccinated and we encourage everyone to get vaccinated. And certainly, restaurant workers specifically because they were hit hard early on. There was a lot of restaurant workers that were positive early on. And there was definitely some transmission between the workers at the restaurants. There's no doubt about that. So we really encourage

that because then the restaurants can keep working. They don't need to close down because half their people have COVID, and that did happen in quite a few restaurants. So we really encourage those workers to get vaccinated and restaurant managers should encourage their workers to get vaccinated also.

Eric Schiff:

I gathered from what you were just explaining to us that the county really doesn't have the authority to insist that any individual get vaccinated at least to work in a restaurant. Is that correct?

Lisa Letteney:

Correct. Yes. We can't insist really that anybody gets a vaccination, but we can tell people what the benefits of getting vaccinated are. Nobody wants to be quarantined, nobody wants to have to be isolated for those 10 days. So it's important people get that done.

Eric Schiff:

Right. And then I know the governor is to some extent preempted some of the work that county health departments might have been doing in particular with executive orders that have been setting the percentage limits for restaurant occupancy that you were mentioning. Do we know anything much about the effectiveness of these various levels of occupancy that the governor has been setting?

Lisa Letteney:

I haven't really seen anything specific numbers on that. I'm assuming that at some point somebody is going to do some type of study in terms of trying to determine if it has been effective. It's really hard to determine in terms of clients that come to restaurants, how much transmission there has been because of a restaurant. But I can tell you that there has certainly been transmission between the employee of restaurants that we have seen, because it's an easier thing to get a grasp on when you do the content investigations.

Eric Schiff:

Right. And just so that those of us who don't fully understand how the government is doing this under normal times, let's say a future flu outbreak or something like that, does the county actually have the authority to set these occupancy limits or that was a special power given or taken by the governor?

Lisa Letteney:

Yeah, that was a special thing for the pandemic. We've never done anything with changing occupancy limits based on any kind of flu outbreak or anything like that. But the only time we really done anything close to that is certainly closing a restaurant that has a food outbreak, that we have done, but other than that, nothing to do with any kind of flu or anything.

Eric Schiff:

Right. Well, these variable occupancy limits are something new to most of us. I do recall hepatitis outbreaks where restaurants were closed and things like that in the bath. Anyway, thanks very much. I'd like to move to our second panelists, but will be taking questions for any of the panelists once we're done with the preliminary section, just some questions and answers that we've cooked up for you today.

Eric Schiff:

Our second panelists that I'd like to introduce is Caitlin Gambee, who's co-owner of the Brewster Inn, that's not in our county, it's out in Cazenovia in Madison County. Caitlin has a BA in journalism. And before she became co-owner of the Brewster Inn, she did a number of things working in consumer-facing communications websites, social media, email blasts, marketing, and she ran public relations and community relations campaigns for the Boston Celtics, Dunkin Donuts and Converse, which is a pretty varied crowd. You look at your LinkedIn profile, you can find a lot more for clients from that era for career. Anyway, so today, could you just describe for our listeners how the Brewster Inn has responded to Governor Cuomo's various directives setting the occupancy limits in outdoors versus indoors and so on. And I'll follow up with some other questions.

Caitlin Gambee:

Sure. Really, whatever comes out, we just kind of have to jump in and comply for the most part. I wish there was a little bit more wiggle room. But of course we just took whatever was presented, interpreted to the most extreme degree to make sure we were in compliance and went ahead and removed tables and put together, you'll probably see the barriers behind me up at the bar and just made sure to space everything out. And of course, redo basically our protocol for sanitizing tables, and honestly everything top to bottom has pretty much changed with how we do this business.

Eric Schiff:

Just out of curiosity, since you're out in Madison County, is the Madison County officials and public health come around and check up on you and some of these things?

Caitlin Gambee:

They do. We have a really great relationship with the health department. They've been given a huge challenge of course, and honestly, they've been great with us. We have them basically on speed dial at this point, and I'm sure they're over there dreading the phone calls, but there's a lot of questions. And so we have a really good relationship with them. They come out to check the property and answer any questions. And they've been really great at responding to all of our inbound requests to them, with everything that's going on.

Eric Schiff:

So I think probably one of the hardest parts of this as one of the managers at the Brewster Inn is that, I presume you've had to furlough employees when the shutdowns have occurred and so on. Could you just describe a little bit about how difficult that's been both for you and especially for the employees?

Caitlin Gambee:

Yeah. I was thinking about a few days ago, everything that happened right when we got the directive that first night to shut down at 8:00 PM. And then when we started going into the takeout only, and the boys and I, so I'm one of four owners, it's myself, and then I have three business partners. We had a meeting the next day and everything was uncertain. We didn't know what was going to happen next. And we just kind of set our intention for this whole thing that we really wanted to protect our people, we wanted it to be good to our customers, and we want it to ensure the survival of this business.

Caitlin Gambee:

So at the height of everything, we have about 103, 104 employees. So there's a lot of people, a lot of communication to go out and just to kind of get a feel for everyone what they're thinking. We had a lot of people that wanted to continue working. We had a lot of people that wanted to wait and see, take some time off. We had a lot of people that wanted to take time off and probably not come back to this industry. So we just had to be very flexible with everything. And the opinions changed as we went, and we just had to be really cognizant of that as far as scheduling goes and then everything.

Eric Schiff:

I gathered from that that you weren't always able to get the staff. You'd either furloughed who were voluntarily stepped out to avoid disease. You weren't able to get them all back and presumably replace them at some point?

Caitlin Gambee:

Yeah. Anyone who wanted to work, honestly, we made work. Even though the hotel side of things was never shut down, we started doing all sorts of projects around here just to keep people busy. A lot of the guys in the kitchen, if things weren't busy with the takeout, they came out and helped us strip wallpaper and paint hotel rooms and do things like that. I was very proud of us, anyone who wanted work, we were able to get work to them, and anyone who didn't want work, we were able to set them up, continue to pay them while they were gone in hopes that they would return. And we've been really lucky that the majority of everyone has come back.

Eric Schiff:

It sounds like you were able to do quite a bit for your employees during this period. Just out of curiosity, is your restaurant even close to breaking even when you're at 50% of occupancy or something like that?

Caitlin Gambee:

I was thinking about that the other night and we are very lucky. I just felt like every situation that was thrown at us sort of hit us at the right time. When we were takeout only, we're really fortunate that we have a huge property in a huge parking lot, and we could coordinate all the cars coming in for takeout. And then when it was outdoor dining only, we have a huge outdoor space. We were really lucky. We have a huge outdoor space. I have plenty of room to separate all the tables. And when we finally hit dine in at 50% and now 75%, it's during our slow season. And so really those typically would be the numbers we'd be doing anyway at this time. We've kind of skated through in a way where we've been able to make it profitable. And of course, the takeout has helped because that was a-whole-nother revenue stream that we didn't have. Really, we would do maybe one to two take out dinners a night, and now we're doing, people calling and I'm like, well, you're order number 106, remember that for when you come to the parking lot

Caitlin Gambee:

So we have actually been able to carve out some success during all of this. But I feel like we're kind of not the typical result for a lot of other restaurants.

Eric Schiff:

I'm sure that the experience there must be very varied. It sounds like you were relatively able to manage this. Just moving on back to vaccination that we just discussed with Lisa in a minute ago. What's been your experience? Do you even know when your employees are getting vaccinated, especially the ones working in the direct service areas and the cooks?

Caitlin Gambee:

Yeah. We do encourage vaccinations for our whole staff. I don't ever want to be an owner that let our staff know that it's required, but I have to have conversations with everyone to say, so we're either looking at testing or vaccinations. We do a lot of events and I cannot schedule 100 people around all of this. So I really need you're either in or you're out, you have to be okay with the testing or you have to be okay with the vaccinations. And everyone's been really good. They've had some time to really think about it before we get into our true season, which starts mid May. But everyone is on board to do whatever they need to do, even if it's not doing a vaccination.

Caitlin Gambee:

I was thinking about the other day though, it is a scary prospect, because if there is any cases within the kitchen or within front of house, the idea of shutting down just makes my blood run cold. I was thinking about Thanksgiving, we're going into Thanksgiving weekend, we feed 2,500 people on Thanksgiving, and that's a combination with in the restaurant and takeout and everything. But I kept thinking if we were to get a case within the restaurant, what am I going to do with all the turkeys? And we had a whole tractor trailer of food outside that we'd been prepping for weeks. And so it is a really scary prospect to know that at any moment you can shut down and that everything in your fridge will have to be tossed and it's a nightmare.

Eric Schiff:

I can imagine. I know that one of the measures your in restaurant was able to take was to install upper room ultraviolet, which may even be behind you in the screen image there. That was actually pretty pioneering, I think. How did you come to decide to take on the additional expense for installing that?

Caitlin Gambee:

We have always as a company been really good about building up a nest egg that if anything was to ever happen, we have a reserve of money that we could put into play to kind of get us through. And my partners and I all sat down and we knew that the takeout wasn't going to last forever and then once indoor dining came back we really needed to be prepared. And to take this time that we were kind of shut down, so to speak, to just prepare the indoor space. So we did a lot of research on our end. We talked with a lot of people, but we've found that this would be the best option and I think the most cost effective option for us. We looked at redoing the entire air systems and that was just crazy expensive. And this seemed to be, we brought in the team and they told us how it works. 94% of the airborne pathogens just using safe technology, the movement of people through the space. And then there were certain other areas in the building where air scrubbers and things of that nature worked a little bit better. So we did a combination.

Eric Schiff:

You mentioned the 94% efficiency of the ultraviolet killing Coronavirus. Did the firm give you any other description of how effective it would be compared to not installing it, for example?

Caitlin Gambee:

They told us. And I think people, we found that other restaurants were using these same devices in a different manner. So I know that some of them were being connected to, like in the basement and the furnace area to be used in that way to purify the air. They told us that based on the space we have, we have to have two in just this room alone. That in order to reach that 94%, we would need to kind of space it out that way. And based on our typical occupancy at that time and the amount of movement each room gets that that would be the best combination. But I was thinking about, that I go, well, who's going to come into the building and measure the air quality when we're up and running? So I guess at a certain point, you just have to hope you're doing the right thing.

Eric Schiff:

And just to finish up on the ultraviolet aspect, how have your customers responded to the expense and effort you all put in for the ultraviolet?

Caitlin Gambee:

We had mixed reviews. And personally, it upset me a little bit because we were one of the first restaurants to do this, the first restaurant of this size. And here we were investing money in the

property in the middle of a pandemic. And I remember the day the syracuse.com article posted about it, that I started reading through the comments and it was awful to be honest, it was just people didn't care. They didn't think it was effective. They were all instant experts after reading one article. And the comments were, never go back, never go back. Thankfully, I … settle for a day. And since then, I've gotten a lot of really good responses. People appreciate what we're doing. They appreciate us putting in the effort, investing money at this time and to do anything necessary to make them feel safe. And it's in combination with a lot of other things we're doing. We're not setting the tables until the customers get there. We are sanitizing all the surfaces three times before the customer even reaches out, we're doing all of the social distancing.

Caitlin Gambee:

So we've gotten a lot of positive feedback since then about how, that people feel like this is one of the only places they can go to, which is great.

Eric Schiff:

All right. Well, thanks very much, Caitlin. I'd like to move on to ask Charles a few questions on the more technical side of things. But let me first introduce Charles … who's a principal at Bergmann Architects in Syracuse and other cities actually. He's got several decades of experience as a consultant and engineer. Currently a principal in the energy solutions section of a Bourbon Associates. And … has a master's degree in mechanical engineering from Syracuse University. Anyway, so Charlie, I'd like to start just by asking you to comment more generally on your view on the relative importance of airborne transmission of COVID-19 indoors versus contact and so on.

Charles Bertuch:

Well, I am a proud member of ASHRAE, the American Society of Heating Refrigeration and Air-Conditioning Engineers, which has been looking into this worldwide, experts in ventilation looking into this since the last March, when the pandemic first became obvious. ASHRAE literally just yesterday updated their guidance. And it's pretty straightforward. It says, airborne transmission of SARS is significant. It should be controlled. Changes in building operation, including operation of the HVAC systems can reduce airborne transmission exposure. Now that's a slight up date from what it was literally a year ago when it said that airborne transmission was sufficiently likely. And basically what this does is this reflects the science at this point, which is that the major means of transmission of COVID is through airborne and it can be controlled.

Charles Bertuch:

Unfortunately, one thing that's been pretty obvious with the New York state reopening guidelines. And I think the Brewsters, one of the exceptions is that the New York state hasn't really been requiring anything for restaurants in terms of air cleaning. They've kind of ignored that they're very involved in operations, the food service aspect of it, but in terms of the airborne treatment, they're totally silent. So it's good that ASHRAE has basically taken the lead on this.

Eric Schiff:

Right. Of course, keeping the surfaces clean is a good idea, even without a pandemic. But speaking about some of the other options, for example, is it your experience with business owners in generally or restaurants if you know, that they typically even know much about the air changes per hour or other criteria for reducing airborne transmission?

Charles Bertuch:

Honestly, I can't speak specifically to restaurants, but I can tell you that business owners in all sorts of facilities in New York state they go to the New York state reopening guidelines. And there's guidelines. There's probably 40 of them that cover every conceivable type of business. In many cases as in food service, there are neither mandatory or best practices noted for HVAC, but in some cases there are, kind of an oddball example of something involved with is as for ski areas. And in terms of ski areas, the one best practice that they note is just to provide, the one mandatory requirement is to upgrade the filters to a a higher efficiency MERV 13 filter. And they'll do what essentially they need to do.

Charles Bertuch:

They basically have to sign an acknowledgement that they're going to follow the rules and they do that. And they do, as far as I know, all meet the minimum standards. Where it becomes a lot less prevalent is where there's either the reopening guidelines are silent or even there's a best practice, or in other words, a non mandatory requirement in the reopening guidelines. And then you, there's not a lot of interest in general, only because I think everybody is saying, okay, what I need to do I'm going to do it and hopefully I'm going to move on.

Charles Bertuch:

So some of the very basic things that can be done, for instance, providing three air changes of fresh air within a space either after everybody evacuate the space at the end of the day or earlier in the day before people come in, it's very simple, very straightforward, but without the guidance of telling people what does it mean? How do you do it? It probably won't be done. There's just not that much information out there around this.

Eric Schiff:

Do you have much experience with portable air purifiers? I know they've been used around especially educational places to improve air quality during the pandemic.

Charles Bertuch:

Oh yeah. Portable air purifiers can be very effective. There's the basic technology uses a HEPA filter, which is 99.97% efficient. They're moving particles that come into it. There's also others that use treated filters or even in some cases, a UV light as part of it. The important factor in all these is to understand how do you properly apply it? There is no silver bullet. It's not just put one in per room. It's really based on the particular unit that you're looking at, the air flow rate, and then making sure that that unit is properly positioned in the room. So you actually are

getting circulation of air through that, and sometimes it could require two units. It all depends on the particular unit you're looking at and the configuration of the room. You don't necessarily want to tuck it over in a corner behind a curtain. That's not going to do much.

Charles Bertuch:

A lot of times there'll be noise associated with these at higher fan speeds, which is generally how they're rated. So people might want to turn the fan speed down. If you turn the fan speed down, now it's no longer safer, 500 square feet. It might be good for 250 square feet. So it's really a matter of understanding your particular situation and making sure you're properly applying a portable air filter or any technology.

Eric Schiff:

You sort of included ultraviolet in there. But do you commonly recommend or see a lot of ultraviolet installations like the one that at Brewster?

Charles Bertuch:

As far as upper room units go, they are similar to portable air filters. It can be very effective if properly applied. So proper application means one, you've got the right unit for this space that it's serving, but also it's properly located within the space. So it will pick up those air currents and circulate them through the unit so that it can destroy the UV. Other means of using UV along with upper room units is putting UV lamps into air handling units. The large pieces of HVAC equipment that provide air conditioning or heating to a lot of spaces or in some cases, duct work, but just like portable air filters and upper room units, they do need to be properly selected based on the air flow that you have, the speed of the air through a particular duct and the configuration of the unit. Again, if you put in the wrong thing, you can spend a lot of money and get really no benefit for results.

Eric Schiff:

Right. I know that Caitlin had mentioned that a real revamp of the entire HVA system is basically prohibitively expensive for most buildings and restaurants. But I know that you're involved with recommissioning of the current HVAC systems both for energy conversation and now for reducing an airborne illness, do you want to describe a little bit more what recommissioning involves?

Charles Bertuch:

A recommissioning or it's also referred to as retrocommissioning is assessing an HVAC system and making sure that one, is designed to meet the needs of the space. It turns out a lot of HVAC systems may have been installed years ago. And since that time, the space use may have changed. The codes may have changed. First step is to understand how should that unit operate now, what are you trying to accomplish? And then once you do, you understand that then you go back back in and you start adjusting the unit and make sure that it's working to

provide that. So it could be a matter of making sure that the outdoor air dampers are bringing in the proper amount.

Charles Bertuch:

In the case of COVID, that would be the maximum amount of outdoor air you can bring in without jeopardizing equipment or conditions. It could be a matter of making sure that the sensors are all operating correctly, that they've been properly calibrated. These are all things that allow the systems to work as they should. And if it works the way it should, and you use the right control technologies, it should have a significant impact on the reduction of the transmission of the virus.

Eric Schiff:

Is it your experience when you do get involved with retro or recommissioning projects that you find a typical building system is pretty much out of whack when you start?

Charles Bertuch:

That's on every project. One of the thing that people will talk about in terms of the global issues, if everything was a net zero building or if all new buildings met the maximum, let's say lead rating of a lead platinum, the impact it would have, but really the greatest impact can be had by retrocommissioning the existing building stock. The vast majority of buildings that're existing, those systems even if they're properly commissioned when the buildings first open, will start going out of calibration, things will change, occupancy will change, set points will get adjusted, schedules get changed based on some, once somebody just say, we need to occupy this space at night, they reset the schedule and then they never go back and recheck it. And those are all things that we found generally on every building you go into. And that's the kind of thing that really doesn't cost a lot to implement, and those costs are usually recouped in less in two years.

Eric Schiff:

I understand that there's a big advantage for energy and money conservation in the retrocommissioning. Does it also have much impact, do you think on the building's function about reducing airborne virus transmission?

Charles Bertuch:

Absolutely. You can have a system that's capable of bringing in a lot of outdoor air and thinking that maybe you are bringing in that amount of outdoor air, but unless you really know what those damper positions are, your chances are you're not. Along with that, you have systems, ASHREA recommends bringing as much as out outdoor air as your system can tolerate. The more fresh air, the more dilution of the virus in a space you're going to accomplish. By making sure your systems work correctly, you're going to be able to bring in really the maximum amount of air and without say, freezing a coil or the space temperatures go, the humidity go too high in the summer. So by making the systems work right, you can really optimize the way that they operate.

Eric Schiff:

Okay. well, I think new information for many of us about the recommissioning option for existing buildings. Now we've gotten some few questions from the audience or the listeners. And so the behind the scenes, Kerrie and the other Arik are feeding this to me. So let me start with a question for Charlie, which is, how does one know if a contractor has the qualifications to provide good outcome on virus reduction? Are there any licensing or certificates a commercial customers should be looking for?

Charles Bertuch:

I would suggest that commercial customers start with the service provider that you most likely already have. Assuming you've got somebody that's already maintaining your equipment, hopefully you've established a trustful relationship with them and you can just ask them, is this something you can really help us with? Certainly, there are a lot of charlatans out there, there are no certifications specifically for this. There is the BPI, Building Performance Institute, which is really more about a certification of HVAC contractors for work in general. Certainly if you could you had a service contractor that was BPI certified, they would at least be able to, they may not be experts in COVID, but it would show that they are a fully capable of HVAC maintenance.

Eric Schiff:

Thanks, Charlie. Let's see. I have a question for Lisa. How do you see COVID permanently changing regulations, if any? How do you think COVID will impact regulations going forward? Will this be a permanent or temporary change? So that's for Lisa, that's our County health representative.

Lisa Letteney:

Right. I think certainly there's going to be the regulations and guidance in place for quite a long time, I would envision you know. At this point, I'm not sure when they're going to let the restaurants go to 100% or that they're going to reduce the social distancing. And maybe going forward that, they're going to allow only so many people in a restaurant, maybe the capacity limits won't be 100%. It's hard to say at this point, but as more and more people get vaccinated, I think the chances of us going back to normal are certainly going to be a lot better. But it's going to take a while and we're going to have to have proof that it's not going to go back up again.

Eric Schiff:

Let me follow up Lisa with an additional question gleaned from the audience. So as you've all been describing, restaurants vary a lot from as far as their ventilation quality, which is especially important in this. And the question is how do I, as a restaurant goer, tell how well commissioned a restaurant is for reducing airborne transmission, or if it's safe or not?

Lisa Letteney:

Unfortunately, there's not any real good way to tell that unless you're going to have some kind of discussion with the restaurant manager about, what exactly have you done in the restaurant to try to improve the air quality? So it's difficult because the health department really doesn't keep track of that piece of information either. So I think if you're regular at a certain restaurant and you're really interested in this, you want to have that discussion with the restaurant to see if what they have done or if they have done anything.

Eric Schiff:

It's not easy is the short answer probably. Here's one for Caitlin. What would you wish that local state national governments would have done to help restaurants since the beginning of the pandemic?

Caitlin Gambee:

That's a tough one. I really can see it from both sides. I do understand as much as I want to stay open, I want to be at 100% capacity, I really do get it. Someone asked me that what's the best case scenario for you. Is it masks off? Is it 100% capacity? And it's not. But we're lucky to have the different advocates fighting for sort of that happy medium. I like to say, it was a huge win for us to be able to do outdoor liquor sales, that was really helpful during this time because we're sitting on probably about a quarter of $1 million of wine downstairs. So if things get really tough, we can kind of sell through some of that. So that is a really hard question. We understand everyone's kind of doing the best they can.

Eric Schiff:

Yeah. And I guess we haven't had a pandemic, anything like this for basically a century. It's not something we started out knowing how to handle.

Caitlin Gambee:

And we were kind of talking to the previous owner, what words of advice do you have for us to get through this pandemic? And then his 34 years with the restaurant, he was like, I don't know. The whole ball game has changed. It really has.

Eric Schiff:

Speaking as the moderator, I think one important thing is just to collect what you all have learned in trying to deal with this and make sure that we're better prepared the next time. Here's a purely technical question. Anybody can take it, but what's the wave length of upper room ultraviolet. I suspect Charles will know that.

Charles Bertuch:

Oh geez. At the top of my head that's a 250 to 270. It's a wide spectrum. However, the effective range is around 250 to 270 nanometers.

Eric Schiff:

Well, since I'm not sure everybody in the audience knows what that's about, we'll pass on that after that. But I thought I would throw it, a pure technical question here. Let's see a couple more, Oh, okay. This any of you could pick up. This won't be the last novel virus result in a pandemic or epidemic. So what capital improvements should we be thinking of to make to our existing buildings, to make them safer to operate during outbreaks? That's probably mostly for Charlie, but maybe Lisa or Caitlin could chime in on that too.

Charles Bertuch:

I can start. Honestly, existing buildings is tougher. What we're trying to do is as engineers and architects is start building flexibility into systems as are designed for new buildings, or if you're renovating a building. So the idea is try to, for years, codes have gotten tighter and tighter trying to maximize energy efficiency. What that means in general is not oversizing things, don't put in large factors of safety, try to keep things as tight as you can. Generally, a piece of equipment that size close to the peak load is going to be more efficient than something the size much greater than peak efficiency it has to operate a part efficiency.

Charles Bertuch:

But building efficiency and by putting in a little bit of extra capacity on a fan so that it can handle a filter, even though you may not know what that filters may need to be, and you may not need it right now. But by making sure that the filter racks have the capacity to be flexible and add different types of filters to add additional control points, generally low cost control points. Those are things that is kind of planning ahead for the next issue, and nobody could have predicted this, and there's no way we're going to be able to predict the next one. So you have to build as much flexibility and those assistance as you can. And hopefully the codes will be, again, reflecting that. Unfortunately code process is long and drawn out, but to start allowing that additional capacity to be built into the designs as we move forward.

Lisa Letteney:

I think-

Eric Schiff:

Okay. Yes, Lisa please.

Lisa Letteney:

I was just thinking with new restaurants or if somebody is going to make some changes, certainly having your surfaces easily cleanable. I think some of these restaurants has a lot of stuff in them sometimes on the walls or in terms of decorative things and everything, and overdoing it. And a lot of them ended up taking things down and making things more easily cleanable. So I think that is important to think about if you're going to make some changes, is how easy are you going to be able to clean all those items in any case.

Eric Schiff:

Speaking generally as a county health person, do you feel there's a need for adding to your already heavy workload to prepare for the next pandemic by characterizing different buildings, restaurants or today's topic or just different buildings for their pandemic resilience, for example, making more public what the HVAC system is doing or something?

Lisa Letteney:

It might be an idea going forward certainly. I know that once this is done, there's going to be a lot of talk about having plans and preparation, if something like this was ever to happen again, so that we're not scrambling with everything. So that certainly may be an issue. Certainly there was some regulations that mandated certain types of ventilation for not necessarily a restaurant, for instance, the gyms that opened up, they had to have the MERV filters going for them. So there was some facilities that the state made them increase their ventilation.

Eric Schiff:

All right. So I think we're going to wrap up now. I will say that Dave Funt from the audience informs us that the peak wavelength is 200 and, I think that just disappeared here. 253.7 nanometers ultraviolet. And others. One last question. Do you advocate indoor PM monitors in response to occupancy rather than arbitrary? That would be for... Do you know what a PM monitor is, Charlie?

Charles Bertuch:

It's a particular matter. And right now the science is not clear on whether a particulate is a accurate surrogate for virus. Again, there is no one virus particle size that floats around the air. Generally, they would adhere together or they'll adhere to vapor droplets. It's been looked into and we look forward to finding a way to do it, but unfortunately there is no test for a virus alive or for virus in air sampling. And similarly, people have looked at, well, maybe PM. For the sake of discussion, I might suggest that you consider a CO2 monitor. CO2 monitors is a good indication of the amount of ventilation air that's being provided. And obviously the the closer you can get to outdoor levels, it's an indicator of how much outdoor air is actually being provided to the space. Again, the solution is really the answer to removal of a virus within the air. So that may be something you want to consider.

Eric Schiff:

Okay. I'm going to draw our session for today close. Our time is up, but an audio recording of today's program will be available within a couple of days at the Center of Excellence website and registrants for today's program will receive an email about it along with the other mailing lists we used. I'd like to thank Caitlin Lisa and Charles for being our panels and contributing to a lively discussion. And then behind the scenes, Kerrie Marshall and Arik Palileo have been working on this for some days. So finally thanks to the Empire State Development Corporation and Syracuse University for their support and have a good day and healthy one.