Mask Up Marquette

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**SPEAKERS**

Paula Papanek, Laurieann Klockow, Benjamin Linzy, Paul Gasser, Mike Haischer

**Benjamin Linzy** 00:00

You are listening to Marquette University's COVID Convos podcast. In each episode, representatives from Marquette's STEM and Humanities communities will bring you insights into the pandemic that you may be missing. Marquette University is located in Milwaukee, Wisconsin, the traditional lands of Potawatomi, Ho-Chunk, and Menominee peoples along the southwest shores of Michigami, North America's largest system of freshwater lakes, where the Milwaukee, Menominee and Kinnickinnic rivers meet and the people of Wisconsin sovereign Anishinaabe, Ho-Chunk, Menominee, Oneida, and Mohican nations remain present.

**Paula Papanek** 00:37

Hello, everyone, and welcome to this episode of COVID Conversations. I'm Paula Papanek, a professor of Exercise Science and Physical Therapy, and today I'm joined by my colleagues, Drs. Paul Gasser and Laurieann Klockow, as well as Mike Haischer, a doctoral student in Exercise and Rehabilitation Sciences here at Marquette. Our topic today is masks. Before we get started, I'll let each of you introduce yourselves? Let's start with you, Laurieann.

**Laurieann Klockow** 01:03

Hi, my name is Laurieann Klockow and I'm a Clinical Associate Professor in the Department of Biomedical Sciences. And my training is in virology, and I teach microbiology as well as a new course about COVID this summer.

**Paula Papanek** 01:19

Paul?

**Paul Gasser** 01:20

Hi, my name is Paul Gasser. I'm an associate professor in Biomedical Sciences. I'm trained as a biologist, a cell biologist primarily, and I teach biochemistry. I do a lot of microscopy so I talk about small scale particles. And I taught a little bit of stuff on particulate spread in the COVID course.

**Paula Papanek** 01:41

And Michael, you want to share some information about yourself?

**Mike Haischer** 01:44

Yeah, hi, everyone. My name is Mike Haischer. I'm a graduate doctoral student in Exercise and Rehab Science, working in Dr. Kristof Kipp’s Biomechanics Lab. I'm also the research lab manager at the Athletic and Human Performance Research Center and I'm the grad student representative on the COVID-19 Research Initiative steering committee.

**Paula Papanek** 02:04

Great. Thank you, Michael. Thank you all for joining us today. I'm a physiologist and exercise physiologist. And so we have a great panel. Our thoughts and actions regarding masks have changed since the days when we first started down this COVID path. We're pretty sure that faculty and staff and students have questions about masks as we prepare for students to return. And all of us, in fact, to return to campus. And there's a lot of misinformation and confusion out there that we hope we can help clear up. So let's get rolling. Laurieann, let's start with you. We seem to know a lot more about this virus now than we did even two months ago. But can you explain: why is COVID-19 so dangerous and is it really different than the flu or even pneumonia?

**Laurieann Klockow** 02:47

Sure, so both the flu virus and SARS-CoV-2, which is the virus that causes COVID-19, can both be spread by respiratory droplets and can both be spread by people before they begin showing symptoms, or who never show symptoms. But COVID-19 seems to be more contagious, more deadly. There are no FDA approved antiviral drugs to treat it and there's no vaccine. So, unlike, say influenza, where people can get vaccinated to acquire at least some level of immunity, and that's always dependent on how close a match the flu vaccine is with the circulating strain, no one has prior immunity to this novel coronavirus. Meaning everyone is susceptible. And we know that it's more contagious because for seasonal influenza an infected person on average spreads the virus to about 1.3 other people. This is called a basic reproduction number. And for SARS-CoV-2 an infected person, on average, can spread it to about two to three other people.

**Paula Papanek** 03:52

Well, so Paul, we're hearing that it's transmitted, as she [Laurieann], was talking about in droplets or, no, then we're hearing it's aerosols, or, no, it's both. Would you explain the difference between droplets and aerosols?

**Paul Gasser** 04:06

Sure, a lot of the confusion, I think is a terminology issue as it often is. Basically, aerosols and droplets are the names of two categories of liquid particles that come out of people who are infected—or, they come out of people, whether they're infected or not. So, you can say they're all little droplets of fluid. And the names basically separate them into size categories. So the particles that come out when we breathe or talk or cough, they have a pretty wide range of sizes. And when we talk about the size of particles, we talk about units of measure that we call microns, or micrometers. And so just to give you reference, something that probably everybody has kind of an idea of what it is like a poppy seed. A poppy seed is very small, it's about one millimeter in diameter. That's 1000 micrometers or 1000 microns. The droplets that come out of us range from about the size of a poppy seed that's about the biggest—so 1000 microns in diameter—down to about a half of a micron in diameter. So, let's get back to droplets versus aerosols. The size categorization is generally agreed that droplets are particles that are greater than about 20 microns. So anything from 20 up to 1000 microns, that's classified as a droplet. Aerosols, which are often called droplet nuclei, or micro droplets, they're usually thought of as anything less than 10 microns. So very, very small. And as far as what comes out of us, we call them respiratory particles, droplets or aerosols. The range, as I said, is anything from 1000 down to half a micron, but the majority of what comes out are in the range of about a 10th of a micron to 5 microns. So most of what comes out are in the aerosol category.

**Paula Papanek** 06:06

Okay, so these are different sized particles, is really the difference between these. And where do these come from?

**Paul Gasser** 06:14

Well, they come from our respiratory tract. So every time we do anything like talking, breathing, sneezing, our respiratory tract is coated with a thin film of fluid that keeps everything kind of lubricated and keeps gas exchange happening all the way from our mouth down through the trachea into the bronchial tubes and into the deep surfaces of the lungs are coated with fluid. And that respiratory surface is constantly expanding and contracting. And as that happens, that fluid film can burst into particles. So a lot of the particles come from that process as that film of fluid bursts and reforms. And when you breathe out then those particles that are generated in that hundred percent humid environment can be expired. They also can be formed by that kind of rapid flow of air during a cough or a sneeze of the, the air going across that fluid surface. And then another one that's really important is the vibration of your vocal cords; that's causing a lot of aerosolization and particle formation as well. So they come from us.

**Paula Papanek** 07:22

So we have a lot of particles and liquid coming out of our lungs. All right, is there any evidence that that's where the COVID virus is? Are they on these? I mean, could it really be carried on these drops?

**Paul Gasser** 07:35

Yes. I mean, I think the short answer is yes. So if you think theoretically, we said the size range of most of our respiratory particles from about a micron to about five microns, the size of the virus itself is a 10th of a micron. So the virus is much smaller than even the smallest particles that come out of us. So most of our particles, again, are between one and five microns. The virus is about a 10th of a micron. So you can fit lots of viruses on those things. So that's kind of theoretical. But there's actually also a very strong evidence that when you collect these aerosols from patients using scientific equipment, you can then measure viable virus that has the capacity to infect cells in those aerosol particles and those droplets.

**Paula Papanek** 08:22

So if I have the virus, I'm going to put all the virus, lots of virus then can go on both my droplets in my aerosol every time I breathe. What does that come out of me during a relaxed chat or if I'm laughing or singing? Or what about if I'm cheering on Marquette athletics?

**Paul Gasser** 08:40

Yes. So anything we do generates particles. So the obvious things that people always think about and probably are the things that most people think about when you talk about flu, or any viral disease, are coughing and sneezing. Those generate particles as well and they generate a lot of the larger particles but also many of the invisible particles that we talked about. But we know that in a lot of cases people infected with SARS-CoV-2 are not coughing or sneezing, they're asymptomatic or pre-symptomatic. So the other activities that just happen all the time, like breathing, whether it's through your mouth or your nose, whispering, singing, speaking, those all generate droplets, and they generate a pretty good amount of droplets.

**Paula Papanek** 09:24

Wow. So it seems like it's really easy to transmit this virus. I think you guys sort of convinced me of that. What about exercise? Wouldn't people expel that, a lot of viruses are exercising and breathing heavily, you know, but I've heard and seen that a lot of people don't wear a mask if you're exercising. What's up with that? Michael, you want to address the issue of wearing a mask during exercise?

**Mike Haischer** 09:48

So that's a really interesting topic, and an important question, I think because we obviously know that mask wearing is going to decrease person to person transmission of COVID-19. Mask wearing, then, is important and during high intensity exercise, obviously, you're going to need to take in more oxygen. And so wearing a mask may potentially increase the work of breathing a little bit. So there's some research that suggests that you may see a little bit of an increase in the heart rate. But I think that we need to weigh those changes with the potential benefits of wearing a mask. Especially if you are going to be inside exercising, you really, you really should be wearing a mask because the six foot physical distance rule may not even apply in that in that situation. There's been some research that's also shown that if you are around somebody that's exercising, you really need to be much further away than six feet. And so I guess when it comes to mask wearing and exercise, I would say that if you're going to be around other people, you should be wearing one. And even if there's a chance that you're going to come into contact with one and you can tolerate wearing the mask, you should put it on. One last important point that I think that you might be able to comment on as well, Paula is that if you wear your mask while you're exercising over the course of a few weeks, and you do it on a regular basis, you're gonna adapt. And I think over time, you may be able to tolerate wearing your mask during exercise a little bit better than when you had initially wore it.

**Paula Papanek** 11:20

That's really a good point, Michael, that we know that people will adapt physiologically. And that in fact, some people train their respiratory systems by voluntarily wearing a mask to in fact, increase the work of breathing, particularly athletes do that. So Paul, Michael said something really interesting. He mentioned this six foot, you know, distance. You know, where does that magical six foot number come from? it? What is it? What's up with that?

**Paul Gasser** 11:44

That's a great question, because it's being talked about a lot. It's a lot of people now think if I'm six feet away from somebody, I'm safe. So where does that number come from? That number is really based on that early view that SARS-CoV-2 spread primarily through the large droplets. And so basically that six foot distance is basically a rough estimate, based upon the average distance that these larger particles travel horizontally before they settle on a surface or before they land on the ground. So those larger particles in the in the droplet category can travel only about three to four feet, essentially, in the air column before they land on the ground. So if you're six feet apart, you should be okay from that. So I'm not gonna say spit on you, when I'm talking to you, if you're six feet away from me. Now, that suggested distance is to prevent droplet spread. And so that's not breathing in a droplet, that's getting a droplet on your mouth or your face or your nose or your eye. And so that's what that physical distance kind of guideline is. It doesn't have anything to do with breathing in a droplet or an aerosol. So, it is a good guideline because generally the closer you are, the more likely you're going to get exposed to somebody’s droplets or aerosols. But it has nothing to do with what the smaller particles do. Because the smaller the particle is, the less gravity is going to have an influence on it. And so a small particle in that aerosol range, which we know can have a virus on it, is going to last and float around in the air column for a much longer time. And because gravity is not the dominant force, and it's going to move around with the air currents in the area where it is. So that's why groups of people in enclosed spaces where the air is not as freely circulating, have the potential--you could build up significant numbers of particles.

**Paula Papanek** 13:50

Okay, so it's clear from what we've heard that the virus is in both droplets and an aerosol form. It's hanging out in the air after basically anyone breathe, all right, exhales which we kind of do a lot.

**Paul Gasser** 14:04

And Paula, I would say too, uh, you know, I think the research shows that talking is really one of the biggest generators of these aerosols. So we think a lot about coughing and sneezing as being big events. But those happen a couple of times, and they stop. We sit or stand and talk with each other for minutes on minutes on minutes. And so if you think about a classroom situation, or even just a casual conversation indoors, all that talking is generating a lot of particles. And if those particles are aerosols, they're forming clouds in the environment around us.

**Paula Papanek** 14:43

Wow. And they're clouds that we can't see or feel. All right. And they're clearly dangerous because you're telling me they can transmit that virus, right. And so it's clearly really bad if this invisible cloud of aerosol virus--if we're even in for short periods of time. So Laurieann as someone who studies viruses, this virus is really, really dangerous is it?

**Laurieann Klockow** 15:07

It does cause a pretty broad spectrum of disease. I mean, on the one hand, on the low end of the spectrum, you have people who are infected who actually don't experience disease at all. These are the asymptomatic people. And as Paul had mentioned, even somebody who's infected but asymptomatic can still transmit this. Then you've got people who may have mild disease, so they may have fever and cough; other people develop a pneumonia. And then in more serious cases, this can progress to acute respiratory syndrome, which can be fatal. So in terms of—so this can be quite dangerous. And going back to the original comparison you had asked me about like how dangerous is this perhaps compared to influenza. Both viruses, both influenza and SARS-CoV-2, can cause serious complications and be fatal. But the infection fatality rate, which is the percent of people infected who actually die of the disease, the infection fatality rate for seasonal flu is about 0.1%. And for SARS-CoV-2, well, it's a bit premature to get a definitive number. The CDC currently estimates it to be around 0.65%. So that's six and a half times more deadly than seasonal flu.

**Paula Papanek** 16:23

So really deadly. Easy to transmit. Right. And Paul just said that standing having a conversation with somebody generates this aerosolized cloud of virus particles. How long of an exposure, I mean, how long does it take? I mean, you know, if I just walked through someone's cloud?

**Laurieann Klockow** 16:42

Yeah. It's a great question. I don't--I've never come across any published studies to determine like the minimal amount of time of exposure needed for an infection, but it seems like general consensus is that contact with someone positive for the virus for about 10 minutes or more can result in infection. So that could be a pretty brief exposure, like you could be standing in line at the grocery store with for 10 minutes behind somebody.

**Paula Papanek** 17:11

But I think the key point is, is that I can't I don't know what cloud’s around me, right. So because I don't know who was just in that space is this way wearing a mask is so effective?

**Laurieann Klockow** 17:21

Yeah. And I, I guess I would also point out, I think physical distancing—based on what Paul has been talking about--physical distancing should come first. But there's going to be cases where physical distancing is just not possible, like if you ever have to go to class or go to work or go to the grocery store. So in those cases, wearing a mask provides this physical barrier when worn correctly, a physical barrier to those droplets that we're expelling.

**Paula Papanek** 17:48

Yeah. Go ahead, Paul. I would just say I was going to ask, what will what those particles that you were talking about, you know, what kind of a mask will filter those or stop those from coming in?

**Paul Gasser** 18:00

Well, so, just before I get to that I was gonna say related to what Laurieann was saying about how long you have to be in contact, you know, we're really talking about probability things, right? So the longer you're in contact with somebody in that kind of environment, whether it's indoors or outdoors, the greater your likelihood is that you'll pick up a virus and Laurieann probably is much more familiar with this than I am. But what I've, in my reading, you know, virologists permit for some diseases, you only have to have one virus to really get infected. So, if you picture the particles that are being emitted by people who are speaking, your average rate of emission is about four particles per second. But that can range up to five-six times that in somebody who's called a super emitter, to 10, and that gets larger with volume. So the louder to your question about cheering on the Marquette team, the louder you are the more you're going to emit. So, for reference, a 10 minute conversation with somebody who's on the high end of emitting at a normal volume generates a cloud of about 6000 droplets or aerosols. So that's 6000 droplets that can have virus on them. And the smaller they are, the deeper they can be inhaled. And if one of those has a virus, you could be getting it. Now masks, as you said, if you have a mask on, that barrier, it's pretty intuitive. If you have something in front of your mouth, you're going to be blocking at least some of those particles.

**Paula Papanek** 19:41

What type of mask is the best? I mean, should, you know, we hear that healthcare providers are fighting for N95s, should we all be fighting for N95s or what kind of masks should we be wearing?

**Laurieann Klockow** 19:50

Yeah, three types of masks that we've probably been hearing about. So there's the N95. And these N95s are really tight fitting, that actually feel to the wearer's face. And so that's going to force anywhere--any air, sorry--that the wearer breathes in to pass through the mask. And so an N95 protects the wearer from exposure to particles. And then obviously it also protects the people around the wearer from their particles. But those masks are in short supply and those really need to be prioritized for healthcare workers. So that is not what I would recommend for people to rush out and try to get a hold of. These really need to be reserved for those on the frontlines. So the next two types of masks are the surgical masks, which are more loose fitting than an N95. So there is some leakage that occurs around the edge of the mask when the user inhales. So these mainly serve to protect other people from the person who's wearing the surgical mask from their expelled droplets. These are also even in short supply. So the third type of math which is what most people are going to wear, these are the cloth masks and these would be in compliance with Milwaukee's mask mandate these would be in compliance with Marquette’s policy for mask wearing. These, like those surgical masks are also somewhat loose fitting. So their main purpose is to protect others from the wearer's expelled droplets. But in terms of those cloth masks, there are several characteristics that you can take into consideration to choose your mask. Although I will say the best mask is the mask that you will actually wear. So considering a mask, you know, you can think about things like the shape so it needs to cover your mouth and nose; the fit, you want it to fit as securely as possible to your face to minimize any gaps. So try to pick a mask that's snug, as snug as you can sort of stand while still being able to breathe. The number of layers are important, so two to three layers of fabric are better than one in terms of preventing droplet spread, and also the breathability of the material. So you want a fine enough mesh that that doesn't allow droplets to pass through, but allows you still to breathe. So you can check for how tightly woven your fabric of your mask is by holding it up to the light. And if the fewer tiny holes you can see, then the better that mask is going to work to filter those droplets.

**Paula Papanek** 22:19

Okay, so I can make my own mask. And certainly there's some really good MU masks out there, some good Marquette masks out there, everyone. Most of those have two layers. And so, Paul, what does, you know, how much of a filtration or how much gets out of that mask? Or how much does it protect me?

**Paul Gasser** 22:37

Well, I think again, it depends on what kind of mask but there have been some small number of studies of, you know, what happens or how effective just the cloth mask is. And again, it's gonna depend on what it's constructed out of and all that. But the studies show that that there is a decrease in the number of particles that are emitted, a pretty substantial decrease. And so that means they're effective. And I think everybody can picture that, right? It makes sense. It's not that the virus, or the droplets have a mind of their own and can navigate through all of the little holes in the in the fabric, they're going to get stuck. And if more of them get stuck, then again on that probability of infection, you're going to be dropping it down. So what we are effectively doing when we wear a mask, is we're decreasing that reproduction number that that Laurieann was talking about earlier, we're doing our part to change that kind of technical term, the reproduction number of the virus, and make it smaller.

**Paula Papanek** 23:37

So the cloud that I would normally emit if I'm wearing a mask is smaller. < Yes. > Okay. Great. Seems like the conclusion here is that I need to wear a mask and so does everyone else. Right?

**Paul Gasser** 23:50

< Absolutely. > And again, the probability thing is the more people wearing the mask, the lower and lower and lower the probability gets. So we're making the whole environment safer if we wear a mask.

**Paula Papanek** 24:03

Fantastic. So he also said that when I breathe through a mask, I get viral particles on the mask. So how many masks should I have? Do I wear a new one each time I go outside? Do I change it five times or ten times through the day? Or are they reusable? Who can help me with that?

**Laurieann Klockow** 24:22

I would say at a minimum, you need at least two cloth masks so that you have a fresh mask if one is in the wash. But I think you really need to consider like, how many times are you going to be leaving your house or apartment to go someplace where physical distancing might be a challenge, because you're going to need a clean mask, essentially, whenever you go someplace. So if you are going to campus five days a week, you need at least five, five masks so that you always have a fresh mask, because whenever that mask gets damp, you need to, you need to wash it because it's gonna have virus on it.

**Paula Papanek** 24:58

So are all masks reusable or washable.

**Laurieann Klockow** 25:02

No. So the surgical mask that I mentioned, those are designed as disposable. So when those do get wet or moist, those you do need to throw away.

**Paula Papanek** 25:12

So Paul, what are your thoughts?

**Paul Gasser** 25:14

I was gonna interject a couple of things that--so you asked about decreasing the virus. The particles that are, are expired when you wear a mask. The other thing that's important for everybody to know is that we now have anecdotal and experimental evidence that the masks decrease transmission and prevent transmission. So we have anecdotal reports like a passenger on a transatlantic flight who wasn't, who had COVID-19 but was asymptomatic, but was wearing a mask on the plane. Nobody on that plane, even those closest to that person ever tested positive for the virus. There was a, in the popular press, there was a story about in Missouri, there were two hairdressers who both had COVID-19 but asymptomatic, they were cutting people's hair--120 or 140 people had their hair cut by those two people combined. The hairdressers were wearing masks, and most often, but the clients were wearing masks. Nobody got COVID-19. So, they work.

**Paula Papanek** 26:24

Well, that's fantastic. But here's my favorite question. All right, cuz I see this all the time. Do I have to cover my nose or just my mouth because, you know, if I stick my nose out, it's a whole lot easier to breathe. What do you say, Paul?

**Paul Gasser** 26:40

You gotta cover your nose. Yeah, there come--you know that's part of your upper respiratory tract, this virus replicates in the upper respiratory tract, that's where your particles are being generated. And the exits are your mouth and your nose. So you gotta close the exit.

**Paula Papanek** 26:56

So I'm not even really cutting it down halfway if I cover that and it really, you know, if I cover my mouth, I breathe more out of my nose. And because it's easier that, you know, that's what Michael and I were talking about, you know, you're gonna exhale through the easiest way. And if your mouth is covered, you'll breathe more through your nose, and I still create a pretty good cloud, don't I?

**Paul Gasser** 27:15

Yeah, it's like carrying your bike helmet instead of putting it on your head.

**Paula Papanek** 27:20

Oh, ouch. Okay. All right. So I get that that wearing a mask is going to protect, going to decrease my particles. And I get that my cloud around me that I generate that other people could go into is going to be less. Right. So that really says that my wearing a mask protects other people. Does wearing a mask do anything for me?

**Paul Gasser** 27:45

Yeah. There's actually initially a lot of people said yeah, these are not effective at protecting you. But any barrier between you and the outside world could again probabilistically prevent a particle from being breathed in just as well as breathe out. And the fact that you can get virus detected on the outside of masks after their use means that they blocked that virus from coming in.

**Laurieann Klockow** 28:11

And I think that also goes with if you can wear a mask that fits snugly around your face that's going to really even confer more protection to you as the wearer and I did see there was a study published where they showed that actually taking the cutoff end of pantyhose and placing that over a cloth mask actually greatly increased the filtration of those particles to the wearer, just because it made that mask then fit super snugly to the person's face.

**Paula Papanek** 28:39

Wow. And I've seen people get you know, you can put a coffee filter in between your two layers of cloth, or even paper, two layers of paper towel, anything that increases the filtration really can help decrease our viral clouds and the load that we're that we're sitting in. So as students and faculty when you come into a room, you know, you really want to know that people have worn a mask before you get into that space? All right, well, so Michael, you know, we've heard that wearing a mask protects both you and yourself. Even if you're asymptomatic or pre-symptomatic, you know that you can be a carrier and not know it. So tell us what you've learned so far about whether people are actually wearing masks in Wisconsin, are people getting this message?

**Mike Haischer** 29:22

Well, it did not seem that people were getting the message in early June, Paula. So we did an observational study through the HPRC that was led by Dr. Sandra Hunter. And we found that most people that we observed entering retail stores around the Milwaukee area were not wearing masks. So only 41% of the over 5000 people that we observed were wearing masks when they entered their stores. And so, you know, obviously that's significantly lower than we want to see. And as you know, Paul and Laurieann kind of talked about earlier, the more that we can bump that percentage of mask wearing up, the more we can bump the reproduction number of the virus down.

**Paula Papanek** 30:05

The 41% wearers, who were they?

**Mike Haischer** 30:07

So in general, we looked at location, age, and then gender as well. And so we found that we found that females wear masks more than males. And in general you know, if you see some of the survey data that's come out across the country, that's pretty consistent. For whatever reason, it just seems like men don't feel as though they need to be wearing masks. I don't know if it's a masculinity thing or a perception that it's, you know, making them look weak. But I think it's really just important to, to note that the virus doesn't care if you're a male or a female or if you're younger or older and that we all need to work together on this.

**Paula Papanek** 30:48

What about young people? What about age, do you find or see anything?

**Mike Haischer** 30:52

The age findings that we had were really interesting, younger individuals wear masks less than middle and older adults. And so, to me that's particularly concerning because there's some evidence that younger individuals are more likely to be asymptomatic as we kind of talked about earlier. You know, if younger individuals are not wearing masks, but they're asymptomatic, and they're walking around creating all these virus clouds that really creates a problem for containment of the virus. And so making sure that younger people are wearing masks, in addition to those more vulnerable older populations is really important.

**Paula Papanek** 31:30

That's the thing. It's not just one age. It's not just about protecting the old people, us old faculty on campus, it's about protecting all of us. So I see that both of our speakers, both of the guys have facial hair. And so do you think that's--do you think that's a problem when you wear masks?

**Paul Gasser** 31:46

Could be I don't know. I mean, it's, it's gonna change fit. If you're wearing a tight-fitting mask, it's gonna work better, but most cloth mask aren't really that tight. So I don't know that they make a difference. They definitely, if you're wearing a medical kind of mask, you have to be shaved pretty much for it to fit properly.

**Paula Papanek** 32:06

But if you're wearing a cloth mask, is it is it more uncomfortable for you guys? < No. > < No. > Okay, so that’s--you can't use that as an excuse, fellas. < No. > < No. > Mike, what's up? What's next up for this research? This was before the Milwaukee mandate. Right? What's that? Are you gonna look at this again to see what if behaviors change now that we have a mandate?

**Mike Haischer** 32:29

Yeah, really interesting. So we collected this data at the beginning of June. And so that was obviously, as you mentioned, before some of the mandates had been in place and now some of the stores that we have visited have put in mandates nationwide. And also, you know, we have the Milwaukee mandate. And the news actually just came out today that we have a state mandate now. So we are going to collect some data just to see how things have changed since the mandates have been put in place. And then we are also thinking of looking and going back after the mandates have been removed to see if the period that the mandate has been in place has kind of encouraged people to change their behavior.

**Paula Papanek** 33:09

All right, then.

**Paul Gasser** 33:10

Related to that, I know that Texas, the governor of Texas, you know, in the past had finally issued a mask mandate for something like 20 counties because Texas was having such a hard time and not magically but as expected, that curve has started to level off and come down. And the only thing that changed, it wasn't a shutdown. It was a mask mandate in part of the state.

**Paula Papanek** 33:37

That's great news. So it works. So it's pretty convincing. It's pretty convincing that masks work. Also, it's pretty convincing that the virus is plentiful and easy trend to transmit, and that you can transmit it even if you're asymptomatic and you don't know it, okay. And that it could be very dangerous and deadly. We still do not know why some seemingly perfectly healthy people get terribly sick and some die. We know that you can carry it and transmit it to family, friends, and professors without having any symptoms and that you have no idea how people will react when they get it. So this raises an important question, what will Marquette’s policy be regarding masks when we returned to campus in a few weeks? Laurieann or Paul, you want to speak to that?

**Laurieann Klockow** 34:19

They will be required, you need to wear a cloth face covering when you are on campus.

**Paula Papanek** 34:25

I think that sounds like a good policy right now after what we've been talking about. So I think we're pretty much out of time. This was all really informative. I think we could summarize by saying masks need to be looked on as a mild inconvenience, to ensure that we're really able to get control of this virus and pandemic. Sort of like a no shirt, no shoes, no mask, no service policy. If we really want to return to school, to our jobs, go out to movies, concerts, basketball games, and to life as we knew it before 2020 then the one thing that we can all do--it's pretty cheap if you think about it: take a t-shirt and cut it up, all right--the one thing we can do to help is to wear a face mask to cover your nose, and your mouth wherever you are within 10 feet, you think that's a good number 10 feet? Alright 10 feet, regardless of how you actually feel. And of course, don't forget to wash your hands. Thanks to all of our moms for that piece of advice. Wearing a mask protects your friends, your families and their families, your professors. It protects the people you may never see or know. It is really living the care for the person that we live as a model here on campus. It protects Marquette, Milwaukee, Wisconsin, and beyond. It's a simple act of kindness that may let us all stay together. I want to thank our panelists today for their time and their expertise.

**Benjamin Linzy** 35:55

Thank you for listening to this episode of COVID Convos. You can learn more about this podcast and research being done at Marquette University by visiting the Research and Innovation website at marquette.edu. You can reach the podcast via email at covidconvos@marquette.edu. Music for this episode is "Phase 2" by Xylo Ziko