**September 8, 2020 Meeting - Seattle Community Technology Advisory Board**

Topics covered included: Contact Tracing in Seattle

**This meeting was held:** September 8, 2020; 6:00-8:00 p.m., via WebEx

**Attending:  (All via WebEx and phone)**

**Board Members:** Torgie Madison, Rene Peters, Brandon Lindsey, Mark DeLoura, Camille Malonzo, Jonathan Porat

**Public:** Dorene Cornwell, Harte Daniels, Cara Vallier, Tyrone Grandison, Janice, Nicole Espy, India Ornelas, Steven Pergam, Stefano Tessaro, Tyrone Grandison, Julia Hood, Joseph Lyons, Andy Katz, Call-in User 6, Call-in User 7, Karen Baker, Kristi Korolak, Lassana, Odette, Cynthia, Will Gould, Max Sutters, Scott Grosenick, Harte Daniels, Kelsey F., Patricia, Valerie Craig, Adrienne, Ardi, Phil Mosek, Veysel Kayser

**Staff:** Tracye Cantrell, Alice Lawson, Delia Burke, Vicki Yuki , Brenda Tate, Jonathan Porat, Vinh Tang, Tara Zaremba, Cass Magnuski

**46 In Attendance**

**Torgie Madison:**  All right, Camille, are you ready?

**Camille Malonzo:**   Yes.

**Torgie Madison:** I'll just do a a very quick introduction, and then hand it off to you. So, welcome, everyone. We have over 30 people in the meeting today. Camille and Nicole have put together an amazing panel discussion on contact tracing and privacy. Rather than take up any more of your time myself, I'm going to hand the floor over to Camille. She's going to conduct the rest of the meeting. I have no doubt that in her hands, you'll be just fine. Take it away, Camille.

**CONTACT TRACING IN SEATTLE**

**Camille Malonzo:**   Thank you all for joining us tonight for our panel. I'm going to share my screen real quick. Welcome, everybody, to the Community Technology Advisory Board meeting. Tonight, I'm so excited to host a panel on contact tracing and security and privacy. One of the goals of CTAB is to foster a community discussion on topics of technology and the way those technologies impact the City, particularly in areas of Digital Equity, Smart Cities, Privacy and Cyber Security. Tonight, we're excited to host this panel, as we fight against Covid-19, and how to protect patient privacy through that process. We have organized tonight's program into three parts. First, we will have an overview on contact tracing and how it is being done in Seattle and King County, with a presentation from Dr. Julia Hood and Kristi Korolak from Public Health Seattle. And afterward, we will engage in a conversation on protecting patient privacy through the process of contact tracing, which will then be followed by a discussion on the technologies being researched and developed in service of contact tracing. And to close, we will also open up the panel for a public Q&A, so if you have questions, please use the chat feature that we will be monitoring if you have any questions. We will take them throughout the evening. Throughout the panel you will also hear questions from members of CTAB's Privacy and Security Committee, including myself. I'm Camille Malonzo, a member of CTAB. And Nicole Espy, And Cynthia, who organized tonight's program. So, thank you, everyone, for being here. Without further ado, I will introduce our panelists.

Dr. Julia Hood is a senior epidemiologist with Public Health Seattle King County. She managed the design and implementation of PHSKC's Covid-19 contact tracing pilot. Since its transition from pilot to program, she has led the program's data management and evaluation. Prior to Covid-19, Dr. Hood was an epidemiologist with PHSKC's substance abuse and HIV surveillance programs.

Kristi Korolak is the compliance officer for Public Health Seattle King County. She is responsible for ensuring overall compliance with applicable state and federal laws, and providing compliance and regulatory advice to public health. Kristi has over 25 years of experience, including strategic planning and project management. While at Public health, Kristi managed the overall scope and was involved with new health information technology, along with the development and management of our public health compliance  plan.

Professor India J. Orenelas teaches in the MPH and is the director of the MPH core curriculum at the University of Washington School of Public Health. Her work focuses on understanding  how social and cultural factors influence the health of Latino and Indian communities. She collaborates with communities to develop and test culturally relevant interventions in the areas of mental health, substance use, and prevention.

Professor Stefano Tessaro is an associate professor in the Paul G. Allen School of Computer Science and Engineering at the University of Washington. His research interests span a wide range of topics, including cryptography, computer security, and privacy. He has received several award for his work, including a fellowship, an NSF award, and a (unintelligible). He has recently been involved in work on privacy for digital contact tracing (unintelligible) at UW. And he is a contributor to the ongoing development of contact tracing  apps for the State of Washington.

Dr. Steve Pergam received his MD from the University of Nebraska, his infectious disease training at the University of Washington, and his MPH from the UW School of Public Health. He is currently an associate member in clinical research on vaccine and infectious disease divisions of the Fred Hutchinson (unintelligible). He is also an associate professor in the division of allergy, infectious disease, and adjunct associate professor for the department of Epidemiology at the University of Washington School of Public Health. Dr. Pergam serves as the medical director of infection prevention of the Seattle Cancer (unintelligible), where he and his staff have developed a robust (unintelligible). Dr. Pergam is actively involved in the development of new infection control strategies and educational programs, and has recent projects that aim to better understand the epidemiology of (unintelligible) bacterial infections and respiratory viruses and high risk immuno-compromised (unintelligible).

Thank you all so much for joining our discussion tonight. To ground our discussion for the evening, I'd like to welcome Dr. Julia Hood, who will tell us about Covid-19 contact tracing in Seattle/King County.

**Dr. Julia Hood:**   Thank you very much for having us today. We welcome the opportunity to present the work that we've been doing at Seattle King County these few months, which have been a little bit fast and furious. I'm going to give an overview of the program that we stood up, and then Kristi is going to speak from a privacy lens. Just to look at the terminology that we are going to be using throughout the presentation, when we use the word, 'case,' we are referring to either persons who are considered a confirmed case because they have a positive lab result of Covid-19. Probable case means a person who has symptoms consistent with Covid-19, as well as a known contact with a confirmed case. When we use the term, 'contact,' we are referring to people who might have been exposed to Covid-19, and we define a contact as someone who has been within six feet of a case for 15 minutes or more. And at two days before illness onset, through the case's isolation period.

The aims of contact tracing are to identify people who have been exposed to link them to testing medical and social support services, to provide isolation quarantine guidance and to collect epidemiology data to monitor and direct public health response. The benefits of contact tracing for contacts  is that they are tested sooner, and contacts are aware of their exposure and have greater vigilance for their own symptom monitoring, and they have more information support to adhere to the quarantine guidelines. And then, for contacts who test positive they're more likely to isolate sooner, to have the information they need to support adherence to isolation guidance, and they can also help identify additional exposed contacts. And then, also, this is a way to get an at-risk group of people in for testing.

Before I dig into the nuts and bolts of our program, I just want to take a step back and review how the data flows. When someone gets a Covid-19 test, their specimen goes to a lab that performs the test, and if the result is notifiable, that result is reported to the Washington State Department of Health, as well as the ordering provider. Washington State Department of Health then assigns the case for investigation, and the case investigations are either done at the local health jurisdiction level. So, Public Health Seattle King County is our local health jurisdiction. Or the case investigation is done at the state level by the State Department of Health, or potentially, their contractors.

When our team at Public Health Seattle King County is assigned a case for investigation, we walk through these steps as part of the case investigation process. First, we attempt to reach the case by phone. We call the case and when we get them on the phone, we do about a 30-minute interview, in which we ask questions about their demographic background, their occupation, their illness course. We ask about places where they had been where they might have been exposed to Covid-19, and also where they might have exposed others to Covid-19. During that same conversation, we ask for the names of their family members, household members, colleagues, friends, other people they might have been in close contact to, referring back to the definition of close contact I mentioned earlier.  And we collect basic information about their contacts. Towards the end of the call, we discuss the isolation guidelines, and then we discuss whether they need to be linked to unique medical and support services. Once we conclude the call with the case, we follow up with the named contacts. The purpose of the call is to make sure they are aware of the exposure or informed of the exposure to collect basic data like their symptom status and whether they have been tested, and to educate them on the quarantine guidelines. Then we attempt to facilitate testing referrals if they have not already been tested, and link them to support services. For both cases and contacts we send daily SMS check-in messages throughout the duration of their isolation quarantine. Those brief messages are for checking on any new symptoms, reminding them about the isolation quarantine guidelines, and checking whether they want us to call them to discuss our existing support services, or medical and public health advice. And I highlighted in red, perhaps, the aspects of our program that we spend a lot of our time and effort doing what might not come to mind when you think of case investigations and contact tracing.

Our program is very much built on patient education, dialogue, and connecting people to services. We are closely tied and integrated with the outbreak investigation teams. We rely on automated email alerts to notify the outbreak investigation teams. Any case that we've interviewed does go to hybrid settings, such as homeless shelters, acute care facilities, long-term care facilities. A key component of the case investigated and case investigation work is to inform the larger public health response.

Our team has grown. We were established in late April and we started doing case investigations and contact follow-up at the beginning of May. We now have 61 contact tracers, but we started with a team of 14. Our rapid growth is in response to our original our original announcement, for which we got 1,400 applications. All of the contact tracers at Public Health Seattle King County are employees. We're not using subcontractors. Contact tracers go through a very rapid training process that is five days long. It's a mix of videos, role-plays, case studies, and observations. I am happy to say that as of last week, we're working nearly all of our cases. This graph shows in bars the number of cases worked by the Public Health Seattle King County team over time. So, the period from early July through the end of August, our team was both growing its capacity as case counts overall were growing. And now the case counts have dropped just a little bit recently, and we were able to work virtually all of the King County cases. We're really excited about that. The line graph here illustrates the percent of all of King County cases worked by the Seattle King County team. They are not worked by our team. They are worked by the Washington State Department of Health case investigation and contact tracing team. Because we did not have such a capacity, we had been splitting cases, and splitting the responsibility for following up on cases and contacts with the State Department of Health.

We are pretty successful in reaching patients. So, this graph describes the number of cases assigned to our team and the percent of cases that we successfully interviewed. So, we're successfully interviewing about 85 percent of cases assigned to us each week. The most common reason for not being able to complete a case interview was someone didn't pick up the phone. We exhaust the number of times that we're able to call someone, and we have to declare them lost to follow-up.

We are reaching really diverse communities in King County. Eighty percent of our case interviews are conducted in English. Sixteen percent are done in Spanish. And four percent are done in a variety of different languages. Thirty-one percent of the cases we've interviewed are Hispanic ethnicity. Other cases we've interviewed are listed here. Only 39 percent of the cases we have interviewed are non-Hispanic whites.

This slide summarizes our outreach to contacts. As our program has grown, the number of contacts that we are reaching has grown. This graph shows the split between household and non-household contacts. The majority of contacts who are named are household contacts. That means that they are people who live with cases. We have had a more difficult time getting people to name non-household contacts. That is something that we are working to improve. Our mode of communicating with contacts varies between household and non-household contacts. So for our approach with households, we oftentimes communicate with a single household representative, rather than each person in the household individually. This is somewhat out of necessity, because a number of cases have children in the household. So to interview a single person in the household about all of the children, all of the adults was a more effective way to communicate and engage with the family.

We rely on text messaging a good bit. We attempt to reach all contacts by phone, and then,m if we are not able to reach them by phone, we also send them follow-up text messages. Speaking of text messages, we are doing a lot of it. We are sending automated text messages to approximately 600 people each day. And our response rates are about 60 percent of the people that we send text messages to, respond to our messages. The graph on the left shows the number of unique persons receiving a text message each day. And the graph on the right shows the number of days they have received a text message. So, it's very common for us to send someone a message every day for three weeks.

I mentioned earlier that our team is heavily integrated with the investigative outreach response teams. And because of the service oriented nature of our program, we also work closely with a variety of teams: cleaning committee, testing providers, medical consultation team, grocery delivery services, and community health workers, part of the community health access program. Just to give you an idea of the referrals we're making, in a two-week period, we've referred 331 contacts to testing. The testing providers are listed here. And then, in a two-week period, we made 202 referrals for grocery assistance, 174 referrals for financial assistance, and so on.

I think that's all I have. Any questions for me?

**Valerie Craig:**  I just wondered if the contact tracing team goes as far as addressing issues for people who are unhoused?

**Dr. Julia Hood:**   We attempt to call all cases, including people who are unhoused. We interview and connect to services as best we can to persons who are unhoused, as we would in any other case. In addition, at the health department we have a team dedicated to persons who are unhoused, and they work with shelters, encampments, for broader delivery of services. When we refer out to community health workers, the community health workers are able to make suggestions on where people can go to receive assistance for housing.

**Nicole Espy:**   I think, Camille, that you are going to chime in, as well?

**Camille Malonzo:**   Other folks have questions for Julia before we head into slides from Kristi.

**Nicole Espy:**   There was a message in the chat that tech people assume that people have phones. So, when you are unable to contact someone via text or phone, are there other means by which you attempt to contact people?

**Dr. Julia Hood:**   We use MOSIO for texting, and MOSIO is able to indicate to us which numbers are landlines. That's about 15 percent of the phone numbers we receive. And then we follow up with them through calls instead of text.

**Max Sutters:**   I have a question about the kinds of responses that you receive when you text and call people. (unintelligible)...

**Dr. Julia Hood:**   Certainly, but we're sending such high volumes--we're sending 600 text messages a day. So, we might get a cranky response from a handful of people, but overwhelmingly, we get, 'thanks so much for doing this; we really appreciate it; god bless you; thanks for helping us in this difficult time.' So, it's really reassuring to receive that positive feedback from the public, because the positive messages we receive far outnumber the negative ones.

**Camille Malonzo:**   Thank you so much, Julia. I think in the interest of time, we will go to Kristi Kolorak for privacy controls. Kristi, I can advance your slides.

**Kristi Kolorak:**   I think that would be great. I appreciate it. I'm Kristi Korolak, and I work for Public Health Seattle King County and Karen Baker also serves as our liaison under out outreach structure. I'll talk to you a little about privacy, and I'll answer the questions I saw that are coming in.

Public Health Seattle King County, as Julia mentioned, is a major metropolitan health department. We serve a couple of different roles in public health. We get to act as a public health authority under HIPAA as well as State law, which really is a ramp to controlling the spread of disease. And we're also a treatment provider under HIPAA, and cover transactions for those served. Also, we must comply with Washington State law, which is our privacy records law, which is our (unintelligible). And again, many of you interested in privacy know that law very well.  (unintelligible). ... privacy rules but are subject to State laws. State and federal (unintelligible). or client information without patient authorization (unintelligible). As a public organization, we often get to comply with the public records act, as well.

Whether acting as a health authority or a treatment provider, we take very much care with our public record requests for our clients. A fundamental around these privacy rules (unintelligible).And we take that trust very, very seriously. And we know clients won't come to us if we don't maintain that trust. So, in order to maintain that trust, we put controls in place. And specifically for contacts, we use controls ensuring that the use of the closure is appropriate. With the applications we have, are we able to use internally and are we able to share that as well that is allowed by law. We also (unintelligible) the use of the controls at the closures. For example, we safeguard the PHI and the emails. We store PHI and encrypt and secure those patients. We put safeguards in place for tele-health, which are not new to us. We also use risk assessments that are conducted, and we put risk mitigation in place for those risk assessments. We have business assessments in place in terms of work appropriate. We provide trainings for our workforce to make sure they are also protecting the client's privacy. We do reporting and investigations and we have compliance. Everything will have an effective compliance program.

As we put the new systems in place, as far as contact tracing. We're using MOSIO and Redcap. Both of those systems monitor risk assessment. They are conducted and where there are mitigations that were bought to our attention, we have contracts and safeguards including business assessments and, of course, training. I wasn't going to go in detail on business. but if there are questions, we can do that, as well. RedCap is a data capture tool that is HIPAA protected web-based program that is used for research (and public health purposes) -- it is led by Vanderbilt University in Nashville. Do you want me to talk about Redcap briefly, or did we cover that already?

**Dr. Julia Hood:**     Did I mention that we are using MOSIO as our texting platform. We are using Redcap. We are actually using the University of Washington's RedCap.

**Kristi Kolorak:**   Next slide. Here's an example of some of the training we have in place for folks that are working remotely. Again, these are controls, things we've put in place to be used at a time where people are working in new places or unusual circumstances. During a pandemic, it's important to give folks (unintelligible) providers. We have staff in a room with a closed door, and no one should be able to see or hear any confidential material. We require staff to use a King County-issued computer, and lock the computer when they step away. They log in and out of the system when they're not using it. They cannot download information to any of their own computers. We're using Skype for King County-issued password protected cellphones. (unintelligible).

I see someone put PHI in the chat. We always (unintelligible)...our administration building commercial shredding. So transport in lock space, and returned for destruction to our administration building. Almost no PHI. It's no longer electronic.

Next slide. I'm going to put some references on some of the regulations that we follow. (unintelligible). Questions? I appreciate people putting additional information in the chat for free.

**Nicole Espy:**   If there are any other questions, will you please speak up?

**Dr. Julia Hood:**    There was a question about whether the contact tracing is hiring. Our info will be in the chat. Camille, do you have any other comments about this section?

**Nicole Espy:**   I think I'm going to hand it to the next speaker. Thank you so much for these presentations. They have been really helpful in setting the scene on what Public Health Seattle King County is doing. I'm going to bring in our follow-up questions to the larger group. I first want to pop a question to Kristi and Julia about the contact tracers. Given the increased demand for contact tracing. As we saw, a number of people you guys are contacting and taking over for the State, who is involved in contact tracing? And could you tell us a little bit more about the training that they receive, especially as regards privacy? Thanks so much for the slide about direction given on remote work, but if you could discuss some of the challenges or the implementation of that?

**Dr. Julia Hood:**    I can start. I think, probably, for everyone in this time, when we first started out, we were talking about literally building out an in-person call center. And it almost immediately, for a number of reasons, including the control of Covid-19 and social distancing, that that would not be possible. And I've been surprised at how well remote work has been working for such a large team. I think I've seen some of the challenges from the security side, but can you imagine starting a new job and never having any in-person time with your colleagues? And the work that we do can be emotionally draining. You do have difficult calls. And not having a co-worker close by, I deep breathe in trying to set up those kinds of systems. I think some of our challenges with doing contact tracing with everyone working remotely is something you can perhaps imagine in your own workplace.

From a data security standpoint, the slide that Kristi presented literally was a key component of the instruction that we give to contact tracers. There is no policing at home so we stress these guidelines in hopes that they are followed. And I don't know if Kristi wants to speak more about remote work and data security from a compliance perspective.

**Kristi Kolorak:**   The only thing I would add is that all of our contact tracers are considered our workforce for public health. Workforce, again, is a term defined by HIPAA, so folks receive just in time training on privacy and security. They sign a workforce confidentiality agreement. They take HIPAA training, as well as program-specific training, which is really important. The County is working on improving, so all systems that have a large PHI, such as our clientele, so we do periodic audits on them,  to make sure that the (unintelligible). We are pretty lucky. We find that our employees, our workforce, care very much about protecting patient privacy. So, overall, our folks are doing a really good job and they ask really good questions. So, I think that they in this pandemic are not seeing a huge uptick of folks doing things inappropriately. Of course, healthcare is all about disclosing information. We make referrals to providers, to other agencies, and there are things that happen sometimes, but overall, we've seen a really good response.

**Nicole Espy:**   I did see a follow-up on that comment about the type of information gathered. Dr. Perham has implemented a contact tracing program at the Fred Hutch, where I work. I wanted to direct some questions to him around the question of companies and organizations implementing contact tracing at their organizations. What sort of information is needed from a contact tracing program in terms of epidemiology, and how is it being considered by employees when there are positive diagnoses?

**Dr. Steve Pergam:**   Thanks, Nicole. It's a really important question because when we think about the amazing work that Julia and Kristi have done at the City level, it's much different when you deal with organizations. It's a little bit harder to, sometimes, keep specific data about who is positive. So, as an example, in a small environment where there is a working group of five people who might be together, and one person is suddenly gone, and then contact tracing questions come to the rest of the group, it becomes pretty obvious who is potentially positive. So, it can be very difficult to protect their privacy. Obviously, this is done on the highest levels, and in institutions, we do our best to protect employees from that perspective, but it can be quite difficult for a smaller organization to do that.

Typically, the way contact tracing works, the work is very similar. From a public health level, as a patient, you would be positive and report that to a hospital system. Specifically, that happens more often. And then that hospital would then go through and talk to the individual about how many individuals they had had close contact with, particularly those that were unmasked, or for prolonged periods of time, and may be at risk for acquisition. And then, using that piece of information, we'll go out and reach out to those people and say, "You have come into contact with somebody and that's potentially a low-  or high-risk exposure event," and then bring them in for testing. This is all done to bring those rings of close contacts in. But it is a lot more difficult, the smaller the group is and the more close-acting people are. And I think, particularly in the Covid structure, where people are often in smaller groups, it can be a little more difficult to protect an individual's privacy. Again, we do everything we can to do that, but sometimes it's not feasible.

**Nicole Espy:**   In terms of the data that's collected for the individual case, as you mentioned earlier, there is HIPAA and there is personal health information. In terms of the epidemiology, what sort of information needs to be collected beyond just the positive case?

**Dr. Steve Pergam:**   What we do, from the hospital's or a center's perspective, is we ask about particular contacts that they have with other hospital employees, patients that they may have come in contact with, but we really try to avoid conversations about what happens outside of the environment of work. So, if somebody, let's say, had been to a private party or someplace outside of the institution, we would not do that. That information about positive employees is also passed on to those who do that outside contact tracing more specifically. So, the institutions who do this work really need to focus on the institutional risk and the institutional exposures. And those are two separate issues. So we partner hand in hand with other colleagues at public health to give them the information that we have as well as making sure that they have the opportunity to know which people are positive within their institution so that they can do home tracing, as an example, which we are not doing within our systems. Those are two different areas. These are work related activities and what people have on campus, and then there are specific associations through our colleagues in the community. Those are two pieces that I think are important to address. One advantage we have is we have a lot more ability to know where these employees normally work, who their contacts are, what patients they might have come in contact to. It can be very difficult sometimes for the public health investigator to know all of the details about them, so I think it's really key that institutions work closely together in these particular situations.

**Nicole Espy:**   Professor Ornelas, I have a question for you about the information that needs to be provided for contact tracing. You do a lot of research with Latinx communities around health access. And I was wondering if you could discuss a little bit about the types of information that contact tracing needs to obtain to be effective, and whether or not that could be considered risky for patients? For example, for undocumented communities.

**Professor India J. Ornelas:**  Hi, everyone, thank you. I just want to reiterate what Julia mentioned that I think is really important. One is the fact that they've got contact tracers who speak Spanish, which is really key, given that we have such high rates in Latino communities here. So, that's really important, just making sure we can get to people. In my own research that I've done, I had an ongoing study with Latino immigrants happening here in Seattle before Covid. I have had the opportunity over the summer to actually reach out to all of those participants by phone, and find out a little more about what's happened to them since Covid started. And we're seeing really high rates of food insecurity and housing insecurity, so I think another really important part of contact tracing is the part that Julia mentioned, about the ability to do referral to other services. About 75 percent of the people that we've talked to have said that they have lost income due to Covid. I think, obviously, there are a lot of concerns around legal status, and making people feed safe when they're talking to people who are employed by the government. There might be mistrust, but I think in general, if it is done in ways that can ensure that their data is being used to safely secure their privacy, people are really willing to talk to the health department staff. And they've been really willing to talk to us, as well. I think another thing the health department has done well is to have really strong relationships with community partners. That's really important, and again maintaining that trust within the community.

I feel confident that public health isn't collecting  more information than it needs. I don't worry about that, in terms of there being big risks to the undocumented populations or other communities. I just know that there is still a lot of misinformation out there, and so it's really important for contact tracers to be able to correct misinformation when they can, and again, direct people to resources when they can. In my online searches, I have seen that there are people who don't know where to get tested, have questions about the cost of getting tested, and there are people who are actually concerned about getting tested because they don't want to know, because it has real implications on their work lives. They are afraid that if they find out that they are positive, then they have to quarantine, isolate. That impacts their ability to earn, or impacts other care giving responsibilities. So, sometimes that's a real issue for people's health.

**Nicole Espy:**   You mentioned that there is not more information than is necessary to be collected. I have a question that goes to both Dr. Pergam and Dr. Ornelas about, specifically, what is the information that is necessary to be able to have the data, the research, to know where infections are occurring. but then what also is the information that might be nice but not necessary. Especially because we're going to move into a conversation about mobile app technologies for contact tracing. So, if you could give us a little bit of a foundation for what sort of information is good to have, necessary to have, might not be needed, or that might also be considered risky for certain communities.

**Professor India J. Ornelas:** I think really what we need to know is who you've been in contact with and how they can get hold of those people. I don't think they need to know much more than that. And people might be reluctant to give more information about their living and work conditions. It could be as simple as the people you've been in contact with, according to the guidelines that Julia mentioned about the length of time and how close they are. That the most basic information that's needed.

**Dr. Steve Pergam:**   I agree. I think that the one caveat is, of course, using your household, which is critically important. Because we know household transmission is probably much higher than what you would see in most community settings. The other questions that likely come up in most discussions are were you masked when you were out, were you interacting with someone, were  you and the other person masked, or were both of you masked, and then the length of time that you spent with that individual. Those are really important pieces that can be helpful in determining who is particularly at risk. Part of the job of the people who are doing these assessments is to gather that information in an appropriate way to better understand, and to be able to put people in risk categories, high risk or low risk, depending on what those interactions were, to determine who really needs additional contact tracing and who doesn't.

Household contacts, essentially from the get-go are all going to get assessments. People who you come in contact with in the community could be very different, depending on that time and potential risk exposures you have.

**Nicole Espy:**   Thank you. There was a comment in the chat that was sort of answered, but mentioned how Julia talked about some risky and language data, and whether or not that is collected, and does it come with referrals. I think that is a thing that a lot of people wonder, whether data is being collected. And as we move into the conversation about mobile apps, the line between HIPAA and health information that will be collected in a database and then used in a mobile app. I want to discuss this further. I will pass this on to Cynthia. Cynthia, are you able to dial in?

**Cynthia:** Yes. So, just to continue the discussion less from the process on it, and more to the technology side, what are some of the questions about technologies that are being researched and deployed that the immigrant community might have? How does technology help or not help that kind of community? I'm wondering, India, if you could speak to that?

**Professor India J. Ornelas:** What we do know is that a lot of them are getting their health information from the internet. So, I think that that's really important. The majority of people that we've talked to, Latino/immigrant communities, I know this is very common. A lot of the immigrant communities use that as a source of information. And it's also a way for them to get information in the language that they need. I think that there is a high percentage of people who are using cellphones and using texting. That's another great way to get information out. Maybe not all necessarily having smart phones, but I think that we've seen pretty good access to telephone and internet. But not all. We need to keep digital equity in mind, as well, and make sure that the information goes out across a lot of different modalities, such as TV. And Spanish TV has also been an important source of information.

**Cynthia:**  That's a very good point. Stefano, what are the common ways that public health and (unintelligible)...use to augment their service? Are those mutually exclusive?

**Professor Stefano Tessaro:**   Thank you. There are two ways in which mobile technology is being envisioned. Right now, people are thinking in the form of apps. this is a general thing, so we can talk later about the conflicts with the State of Washington. One of them, in terms of apps, helping the contact tracing process by detecting exposures that the conventional contact tracing process will not detect. I do not know, in context of public transit, that is something that technology can help, once we come through the whole series of concerns that we can talk about later on. The other approach, which has been simply to take some load off the contact tracing process. and by that I mean speeding up certain procedural steps of the contact tracing process. This will essentially allow us to have an easier workload. And I'm thinking , for example, of things such as speeding up, to a certain degree, the interview process. For example, using available data on the phone, like travel history in a voluntary way, to pre-fill out part of the interview, or some simple checking and fill out whatever you want to fill out. Another way is invasion, or simply to use these apps as a way to broadcast messages to the population at large, and maybe allow them to narrow these broadcasts to particular contacts. For example, if users are allowing me to use their previous location history, I could, for example, send messages to people at various locations. If someone is at a particular location, such as parks, then such messages will happen. This is, more or less, the way we are seeing the apps being developed and try to support the process. So, they are not mutually exclusive. In fact, they integrate quite well.

**Cynthia:**    Thank you for the overview of the technology. It kind of makes me wonder, then, further, about compliance. How that will relax basic technologies, and specifically the mobile app solutions. The data that they gather there, is that covered through HIPAA, or is it not. Would it matter whether or not Public Health Seattle King County is the one who is providing the mobile app and say, hey, you should download this, would it then be covered by HIPAA? But if you use maybe something from UW, could someone on the panel comment on that?

**Kristi Kolorak:**    I can cover that. The County is what is called a hyper-dense (unintelligible)  for HIPAA. So, we have covered a non-covered part of the County organization. And all of public health is considered a covered and standard HIPAA. So it is considered appropriate for physical, technical, and administrative (unintelligible) ...for that data. Where it gets wonky is how the data is used and for what purpose, and that's more on the side of (unintelligible). Basically, all information is public health under HIPAA, and then outside of our organization, you have to look at the data flow and content. If the organization is doing work on behalf of public health and includes protected health information, we would have a business (unintelligible) in place and therefore those requirements (unintelligible)... When you get into mobile apps versus not, when we view a HIPAA (unintelligible). I am not a security officer. But I can get you a complete assessment of how that was being used in stores and the (unintelligible). so, the short answer would be, if you want to make sure you have those safeguards in place for the data being stored and have that used for access. I think it would be tricky with the mobile apps. The great  thing is to have everything covered by HIPAA, therefore we're obligated and is something we would do anyway. But texting is real secure, and when it comes to controlling this disease, we are more willing to take what we call a mitigation approach. We have done some policy exceptions to allow texting information to our clients, because the need to expose the disease is a greater risk than  the individual privacy. We do whatever is necessary. It really is not that simple. You have to look at the whole system. Stefano, I'll turn it over to you.

**Professor Stefano Tessaro:**   I wanted to hear the official side first, because it's complicated. to refer back to what I was saying before, not all apps are equal. It depends a little bit on the app. If the app integrates with the existing contact tracing effort, what I was mentioning before integrating with the interview process, then it is safe to say that there is no such reasonable solution that  will not be applied in cooperation with the party with which it integrates. So, whatever regulation your party decides to apply will apply to the app.

There is a little bit more of a complicated feature with respect to what is known as exposure notification, which many of you have probably read a lot about. Solutions which are now based on a Google app called API. This is readily available in most forms if you updated them. It will allow apps (unintelligible).... There is a design that is privacy-centric. In that case, there is really not much in terms of personal information being stored on the phone at all. Essentially, all that is being stored is some random looking pieces of data, without being broadcast over Bluetooth in the air. It's really hard to define what HIPAA really means in that particular context, other than the technology being used and in particular the cryptography guarantees the anonymity to a certain extent. In terms of policy, what has been happening with these apps is essentially pragmatically Google and Apple will act as gatekeeper to whatever other potential privacy violations will happen within these apps. So, every app which is published within this framework will be vetted by Google and Apple before the app is released. There is one app which is endorsed within every state, so it's very hard to sneak in an app that bypasses any state regulations. Of course, whether you like it or not, it is the corporations in force here for compliance, as opposed to other means.

**Kristi Kolorak:**   And, Stefano, just to add that everything is worse since Covid, the federal government just put out notes for rule making. I'm curious to see how they incorporate the commentary into these new federal regulations.

**Professor Stefano Tessaro:**   I want to make sure I understand your questions....

**Kristi Kolorak:**  I meant to say that last year, the federal government put out some notes, particularly around -- I think it was data blocking. I'm a little rusty. We want to see the commentary as we haven't seen the final rules come out. I think those rules will contemplate some of the discussions that we are having here.

**Professor Stefano Tessaro:**   I'm not sure I have an answer for that. I'm not sure if you are referring to the app and the context of that exposure identification in terms of exposure. A federal regulation on that? thee hasn't been much interaction, I have to say, between federal regulation and what is being happening. There has been a very strict privacy by design approach. I'm not sure if this answers what you're asking, and I'm not sure I have more to say.

**Kristi Kolorak:**   I'll see if I can put the information in the chat.

**Professor Stefano Tessaro:**   That will be good, yes.

**Nicole Espy:**   Building on this a little bit further, we are talking about specific apps, and that seems to matter. I was wondering if you could describe 'common circle' for the group here?

**Professor Stefano Tessaro:**   Yes, so 'common circle' is just semantics. This was a project that started across the University of Washington primarily, with some volunteers at Microsoft Research. This was not a Microsoft product, it was mostly researchers who decided to work on it. Initially, this was something that was called Pact, and it was an actual project that developed a standard for privacy preserving exposure identification to support contact tracing. We participated internationally in the discussion there, and slowly we developed an international app, which was initially for Covid's sake. That was based on our own protocol. And the, at some point, it became clear that it really was impossible to go ahead without integrating with what Google and Apple were proposing, which was more or less equivalent from a privacy perspective to what we were putting forward. So, we started this project so the project sort of merged with the Washington Department of Health and the Google/Apple efforts. And we went on developing the app. In fact, we developed two apps, which are pretty much following what I discussed before. So, one app is an exposure identification app, based on the Google/Apple solution. The other app is an app to support the conventional contact tracing process, so along the lines of what I said before, allowing communication with health authorities, establish particular geographic areas, and supporting the contact tracing interviews. Now, what is really happening in terms of deploying is a little bit complicated, meaning there have been several new developments over the last couple of weeks. In particular, Apple and Google had been extremely dissatisfied in a way with adoption of exposure identification in the United States. So, Washington was quite on top of things from the beginning, but other states are very far behind. And they need to each find an app developer to develop such apps that should inter-operate across state borders. It's a very complicated project. So there is an alternative, which is to adopt a new solution  that Apple and Google are pushing forward, which is called the exposure identification express, which integrates directly with forms. So, at the moment it is not yet clear, at least on the exposure identification side, common circle is going to be the app for Washington, whether Washington will decide to go towards the app with the in-house solution. Evidently, they've had the same problem.

**Call-in User 6:**   These are very good questions due to the audience here. What was the type of data might be collected from a person? It seems like they might be interested in using (unintelligible)....

**Professor Stefano Tessaro:**   So, the basic level, the exposure identification is very similar, so whether it's common circle or any other apps in the country, just because what I said before that, it's very restricted. Basically, what these apps do is every user will opt in, and the app is broadcasting at regular intervals the proximity, using some anonymous signals that cannot be linked together. That's a standard mode of operation for any user. The signals can really not be linked together and they're anonymous. The quarantine is typically 14 days, so whatever window is relevant. Some short piece of information would allow for regional rates. So, it's entirely private. There is no association with personal information. It's just some random looking piece of data. Whenever a user is positive, so for example, their test results come back positive and the user in impacted by volunteer case investigators, it will not really happen. What I'm expecting is the case investigator will assess whether this particular patient has the app installed, and the case investigator would give a code to the user that then allows the user to simply upload this short piece of information that will allow everyone in Washington State, and even nationwide to cross-check whether some of these broadcast signals that the user has generated shows exposure. Which brings me to the final point, so what is being stored? The other part which is being stored is that the app also records this anonymous signal. So, if I walk around a park and other users are using the app and they broadcast the signals, I am going to store that on the app for a certain amount of time, a couple of weeks, until this is relevant. So, this is everything which is being stored. there is no direct connection with personal and private information.

This will be the app for identification. The other app, which is called common circle assist, that is the app that will integrate with the contact tracing process, and I believe there is some very basic personal information it might be storing, but nothing relevant to the actual interview. And the information that will be provided to interviewers are set up. This, of course, is a little bit trickier as far as I know in terms of deployment, the need to integrate the RedCap, and this is far behind as far as I understand in terms of what we said. But that information will not be stored permanently on the phone. And, of course, for this to be effective, users, if they want to use it, they might want to disclose their location history information. It's entirely up to them. Obviously, this will not be stored in the app. It's entirely stored in the phone.

**Call-in User 6:**   Interesting. I've been wondering if there is an issue with other devices, and other apps on the same device being able to access sensitive data. I wonder if that risk exists.

**Professor Stefano Tessaro:**   No. It doesn't exist. There is also information which is going to be stored away from the phone. It's important to point that out. And in particular, there is going to be a national server, which is run by APHL. And this server will store, essentially, information ab out the signals that have been broadcast by users, so they announce to the system. this information is going to be converted. Again, this is not public information. There is a minor risk there, which is being studied in terms of, in the sense that for example, it is theoretically possible, say we have two or three antennas placed at different locations within the City, some malicious actor that wants to take advantage of this, it is potentially possible for this actor having these antennas to realize that the same individual was present on the street location. This could be relevant to some, but not necessarily relevant to most individuals, but it's something that also is a serious aspect. So it is possible, but it's not public.

**Call-in User 6:**   I see. I also wondered if a question can go to Steve. I'm kind of thinking about the data that's he's prescribing and he's collecting -- is this mainly only useful for the exposure identification aspect? Would that only be useful to the individual who has that mobile app installed and has received notification, or would it afterward have the epidemiologist have visibility and find it useful?

**Dr. Steve Pergam:**  Yes. I think  one thing that's really important is that these apps work better the more application there is. The more people that have these apps--if you have 95 percent usage in the community, your ability to actually do contact tracing is going to be advanced dramatically. Where it's 30 percent that are using this, it's going to be markedly reduced. So, it's really about community percentages who use the app. That's one of the issues. As an example, and I'm sure that Stefano can speak to this, too, but places like Singapore put these devices together and tried to look at this more specifically, they had some success and they had some issues with just applications in terms of how people use this. And they have more strict requirements in reporting, and a lot more control than would be available for our technology. But I think it's important that it really is all about how many people have this. So, there are some limitations to these. I think this is why this privacy piece is so critical is that if you don't have peoples' trust in using these apps, then it's really going to limit their overall utility.

I still think, even if it's not complete, there are advantages, because you might not affect people out of the circle--let's say it's 50 percent usage or 30 percent usage--and as Dr. Tessaro mentioned, there is somebody on the bus that you're interacting with, it may help to identify other exposures that maybe wouldn't have been clear. Even if it's not 100 percent, I still think there are benefits. It's just the major benefit, and I think where it becomes a very powerful tool, is when it's used more frequently through the entire community.

**Professor Stefano Tessaro:**   One important aspect is adoption doesn't need to be uniform, for them to be very useful. Even if your adoption rate is not very high, we might still get low count hot spots where the adoption is high. For example, class and campus. If it can get higher adoption there, I think it would be very effective on a campus where there is a high concentration of users. Maybe to answer your question, also, one way I interpret your question was exactly what is the connection in terms of data flow between the app, there is something to be said, too: The apps are really designed to be user-centric. So, there is no way that (unintelligible).... So, if I identify some information on the server that I was interested in, then I would be alerted. the crafting of this message is very important in order to increase engagement. But it's really up to me to act contact authorities. Of course, an important issue that we will need to increase trust in the system so that people actually do something. There are a lot of false alerts. Similarly, reporting a positive is something that really the case investigator can give an authorization to upload the data, but in the end it's up to the user. We have already seen that in countries where is has been already deployed very different habits with respect to that. Virginia, for example, which started with the very first app in the U.S., as far as I understand, the users will get a code to apply, but then only 50 percent eventually upload the keys to this server to allow the users an alert. This is really a lot about engaging the users and how this is going to be promoted by the county and the state.

**Dr. Steve Pergam:**   I have one last point. The reason this is so important that the public help connection is that, obviously, we're in a situation where there is plenty of testing available, thanks to the departments here. Without that piece, it really does not work as well. When someone is notified to know that they can go out and get testing that actually in an appropriate timeframe in a small number of days. For certain parts of the country right now it's taking six to seven days for results to come back. Contact tracing really falls apart. There is actually a really nice research paper that shows that if it's beyond three days, then the value of that really does decrease substantially. So, I think it's another critical piece that we have as an advantage here in Seattle.

**Professor India J. Ornelas:** I was just going to add that, given that so much of it is dependent on the user, there are definitely concerns for how this would be uptaken in communities of color, whether they would actually use it, whether they would have access to it, whether they would have smart phones where they would actually download the app, what the levels of digital literacy are in these communities, whether they would actually understand what was being done with their data enough to want to use it, or to use it correctly; whether these are friendly. So, I think there are a lot of issues there around equity, as well.

**Professor Stefano Tessaro:**   If there are two ways in which apps can be used, and one is terrible with respect to a cellphone, I hope (unintelligible).... So, one helpful way is really to just acknowledge that it's not going to be used uniformly across the population for different reasons, either technology illiteracy or other reasons or concerns about using technology, but it hopefully can be used effectively to focus the efforts on how to upload within some parts of the community. The terrible way of using this is just exactly to reduce resources, period, and again, get better access, get better protection for users that have access to technology. That doesn't seem to be the case here, but that is definitely a deep concern.

**Dr. Steve Pergam:**   I would add that  the other concern is that industry and other organizations could use this to track employee connections and things that might otherwise be somewhat concerning. There have been some questions about this, in terms of apps being used to assess how employees are doing, their interactions, more specifically. They are not being used under the guise of public health purposes, but it might have other activities, particularly for those people of color who might be at risk for exposures and such. I think there has been discussion on a smaller scale on what that might look like.

**Professor Stefano Tessaro:**   Really, one important point here is that it comes back to what you were discussing before about the specific application within either companies or institutes. I think there is a little bit of difference between the apps that we are talking about. What we have definitely seen for a while is exactly the push to have more solutions locally within companies and much more ability to track. You can actually check with employees who are using the same common space, or in interaction with the companies. It would be hard for an employer to get access to them.

**Call-in User 6:**   Kind of building on the discussion about how many users are going to use an app, and how it's more users, but it is still useful and people still get those notifications. I was kind of thinking about how -- I have seen in different journals where they are talking about (unintelligible) usage, and generally about the concern on whether or not (unintelligible).... Consider whether the general public using face masks might lull them into a false sense of security, and most people, according to the article, discount that as basically an unreasonable concern. I tried to find if there was any research on this actually, and the only thing I could find was a pre-print. And the pre-print, which I know all the caveats here when I say that I'm referring to a pre-print. But it did say that, at least for Americans in places where they have mask mandates, during the times when masks are in place, that Americans spent 20 to 30 minutes less time at home, and increased the number of visits to commercial locations. This relates to face masks. I'm thinking about apps, especially the ones that do the exposure notifications. Is there any kind of concern, and if there is, how would the app developers address this? If I had downloaded this app and I have not gotten a notification that I had been exposed, might I have a false sense of security in believing that I am safe. How could we ensure that users of the app still take all of the normal hygiene precautions and aren't lulled into a false sense of security? Hopefully, this kind of thing isn't just buried in a EULA, or a terms of service agreement? I'm not sure who best would want to take this question, so anybody on this panel can dive in on it.

**Dr. Steve Pergam:**   I guess maybe I'll start. I think that one thing that's truly important with these apps is, as you mentioned, through masking, I worry a lot about masking leading people to do things that are not necessarily--that are high risk exposures that they maybe didn't have to do. So, that's always an issue. And there's the sense that masks are 100 percent effective, which unfortunately, nothing is 100 percent effective. So, I think that's one thing. I think having this app and not getting notification, there need to be some caveats for that. So, part of this may just be that these apps were also targeted for -- particularly if they're working with other departments, to have intermittent updates. I must say, hey, just remember that this app isn't perfect, and you should be doing these things. We have to be careful how we message through the messaging service using the phone, and make sure they are not invasive from the standpoint of too many notifications for this kind of information. But I think they could also be used to inform the public. These could be ways that could identify particular locations. They could say, hey, as a reminder, this was a location locally where there are some higher numbers. And the public health department could use this as a way to send information that could be useful, and might also keep awareness by the public to look for new, updated information. I think that, depending on the messaging process and how it works, it could be used to an advantage if more people are using it, and messages are getting out through that mechanism.

**Professor India J. Ornelas:**  We really would worry that people would get overwhelmed with a lot of messaging. I feel like people already are, and unfortunately, the people in the communities that are most impacted are not necessarily a lot of information already. So, I think there is potential there, but I really would worry that they may not all be well-understood.

**Professor Stefano Tessaro:**   I agree it's just about messaging. I think so far the experience we have seen elsewhere where this is being applied, it's got the opposite problems. If people do not react to alerts, it's a similar situation. Instant messaging is very culturally conditioned.

**Nicole Espy:**   We had some questions in the chat. Question from Patricia in which she asks how do you close the gap in apps with results, timeline, and location with the unhoused population and inmigration or fluidity around the City, especially if you need to be able to test them within three days and get results within three days? We might lose them. So, how do we use that for a more fluid, less resourced communities? I don't know if you have any answers about how we deal with, how we provide services to the Pioneer Square population, for example. There is UW clinic testing there, ongoing, to provide testing to those who access services at Pioneer Square?

**Kristi Kolorak:**   I can speak a little bit from an isolation quarantine perspective, but you're probably closer to it.

**Dr. Julia Hood:**     Yes, if you would like to speak on the isolation quarantine? I'm not on this team, so I am more distanced from it. By operating at the facility level, for example, if you were to go to a TSC effective team and do testing there, then we are able to coordinate both the testing as well as the provision of results with the facility staff. And so, if we're not able to locate someone, we might be able to get assistance in locating them by working with staff. So I think that's one advantage. Another, and I think this is where Kristi was going, is that we set up several isolation quarantine sites. Kristi, do you want to speak to those sites?

**Kristi Kolorak:**   No. You're doing great.

**Dr. Julia Hood:**     They are basically converted motel sites that were set up to provide a place to stay so that you could safely isolate if you have Covid-19. And these sites have been key in their response for persons experiencing homelessness. My understanding is residents of homeless shelters or other unhoused people that are probable cases, would have the opportunity to move into these sites as they await their results, as a way to shorten that gap between test and the receipt of results. I think that quarantine sites have been a key part of how Seattle King County is responding to Covid-19 among people experiencing unstable housing.

**Kristi Kolorak:**   Yes. The only thing I would add is as people are able to leave isolation quarantine because they either tested negative or don't have symptoms, after 14 days, we are working with community partners to make sure they are welcomed back in the shelters, because they don't have contagion. It has been helping homeless shelters, as well, because they are also trying to take folks (unintelligible).

**Nicole Espy:**   There was a comment, mention about how with data being collected, and open source, that there might be potential means of identifying a person through the geo-location. And I think there was a comment or question about geo-sensing. I wonder if there were more comments about the risks of identifying individuals by their geographic movement? How has that been dealt with in other mobile apps, other mobile technologies that use that type of information?

**Professor Stefano Tessaro:**   Here is a personal PSI. I was just checking the chat, as you were asking, and I saw some stuff about privacy. Privacy is what I do. It's the main reason I was involved in this process. I think one of the things about this personal identification is actually that we do not want to have any sort of geographic tracking. There is also one other reason why these services complementing the contact tracing interview which was the exposure identification have ended up being separated into two apps. Meaning that the exposure identification app is really based on (unintelligible), some sort of tracking concerns that we can discuss. But the GPS is not active in that app at all. So no geographic at all. In fact, Apple and Google have been pushing this, and all of the entities involved in this do not want to have it because it's all about trust. There have been some circumstances that in one case there was a situation where they did have an app that was supposed to be based on the Google/Apple services. It had location, and it was sort of kicked out of the identity of using the Apple/Google service. With Apple and Google, you might have concerns, and I understand. But we have been very strict on this front. Of course, we track users to some extent, positive users that are being reported positive. As I stated before, there are powerful antennas across the City, and with a camera, someone could figure out this particular user. At this time, there is no connection with geographic information. Another thing that I wanted to address briefly, I saw someone discussing the open source apps issue. I wanted to bring out that none of these apps are open source. So, there is no way  (unintelligible).

**Dr. Steve Pergam:**  Another way that a geo-fence can be used is, let's say, for a hospital that wants to track employees who are coming onto their campus, where it could be used for determining who we're interacting with in a health care organization. This can be very useful to identify. The geo-fence ideas would be -- and if people don't know what a geo-fence is, it's basically once you cross this line, it would turn on or turn off an app, as an example. This could be really useful for employees to know when they're on campus, they are being monitored in terms of interactions that might happen, but when they leave, that data would not be captured. So there would not be this requirement where it would happen to be tracking where you go off campus. So, there are some thoughts that college campuses could use this from a perspective that may help them to identify people in classrooms or other places where this could be helpful. There are potential ways that this could be used in a positive way, as well. But I think there are obviously concerns about what that means in terms of identifying where people are.

**Nicole Espy:**   And I have a follow-up question for you, Dr. Pergam, and Stefano as well. There are a lot of health apps that are beyond contact tracing. I want to broaden our discussion about contact tracing and tech, to use of technologies for health data. A lot of this data is stored, can be stored and used later in time for further analyses, further research, meta-analyses. However, there are clinical trials for which you do a consenting process, and the terms of service are given to an individual, whereas for some health information, and especially for mobile apps, you scroll through the contract and then you press 'acknowledged,' and you move on. I just wanted to know how both app developers and epidemiologists think about the the onboarding of individuals into systems, clinical research versus apps. And also, can this data be -- meta-analyses already have individuals blinded but a lot of times when apps are collecting individual data, they can sell that to third parties because it's now content that can be commercialized. So, what are some of the things that we need to think about. How can we take this contact tracing and technology moment and think about the future of development of health apps and the use of health data?

**Professor Stefano Tessaro:**   So, I want to say -- and you might hear very different opinions here, but I think we're working in my corner. Personally, I have been very critical in general. The level of data collection that has been happening in apps recently is pretty worrisome. It's pretty hard for users to have an overview. If any of you have an iPhone and you open it and set it up for the first time, you might realize that the app has been tracking how many miles you've walked without you even noticing. To use this data you can do a lot of cool things. One of the interesting things that does help within the context of contact tracing is that the bar has been set extremely high for existing applications. so, things that before were considered okay because we actually want to have 80 percent reduction, they are not okay anymore. So, I think it has raised the level of awareness of many users. I think that's a quality message coming out of this. For example, a big discussion that you will hear a lot about in the next months I would venture to guess whether some of these contact tracing apps should be able (unintelligible)...a little bit of data on top of that. This might be for excellent reasons. So, for example, health authorities would like to know how many users actually receive (unintelligible). Right now, these apps do not even reveal this information. So, if you are the department of health in King County, you want to know how many users are actually learning about Covid, you would not know. You would like to know that, perhaps, if you would like to figure out whether this is effective or not. And even these kinds of things are becoming very contentious, even though there are means to do this in a fairly private way. So our awareness is improving.

**Dr. Steve Pergam:**   I tend to agree. I think all of us have done a Google search, and then been quite horrified later on to see ads that are related to the Google search we did prior. We just had no idea that they were tracking this information. And it does become an affront to what we're doing on our computers. So much more that happens on our phones, we have no idea it's happening. And apps really have the ability, whether it's a game or something else you might be using to track information that we clearly have consented to without really consenting. And I think there's a real difference between that consenting process that happens when you have a consent, that is 12 to 15 pages where someone explains it to you, it's very different than what happens when you download an app and there is this massive legalese that oftentimes is difficult to understand what it means for most people. There's a real difference. We have developed an app that's a contact tracing app here at the Hutch. As an example, we are doing this to see how it might work within the institution as a method to supplement our contact tracing, but we're not going to just randomly put this out to people. We had a long discussion about this and we did it through consenting process for a small number to actually show that this is an advantage. And one of the questions we're going to be asking through the consenting process is also, if people wanted to find out more information about the product or the study, and then decided not to participate, did the idea that they were going to be followed through an app, per se, is similar to what we've been describing through this whole process. It was actually one of the reasons they decided not to do this. A lot of these apps are created and then put out in the public spaces, and actually to incent these people to do this kind of research projects, it's actually quite challenging, unless you look at smaller groups. I think the process that the epidemiologists lacks more transparency about what this means, but I think we have to be clever in terms of how we do this. I think we've learned a lot about consenting people through virtual methods, by videos, and by other applications that are better and more informative, and I think those might be ways that we can get people to be more interested and have more awareness of what these apps can do, rather than just getting through this laundry list of things that you put on your phone and nobody can actually read through with any ability.

**Nicole Espy:**   I actually have one more last question about that, as well. I have seen some of these consent studies done for Julia, and it isn't really about explaining what exactly the use of it is. Sometimes, they're fun videos and it's great, but I wanted to ask India for some final perspectives about how we consider all this in terms of making sure the benefits of technology for health is equitably distributed, but then also, how do we assure you consider the concerns of all people when developing these types of technologies?

**Professor India J. Ornelas:**  Thanks for bringing that up. It is something that I really worry about, that a lot of this won't reach the people equitably--people that maybe need it the most. I think the key to that is community engagement early on, involving community in developing these things, gaining their perspectives on what they would be willing to do or not do early on, and how to get more user friendly. I think more transparency is really critical right now when there is so much mistrust. I think a lot about how we have to maintain that trust as we get ready to roll out vaccines, and how important that will be, especially in communities of color. Working closely with community organizations and communities that are most impacted is very important from the very beginning.

**Nicole Espy:**   Thanks a lot. So, this has been a great discussion. Hopefully, there is a way to save the chat. Also check out some of the links. We will also  ask Camille if she wants to close this out, this section of the meeting out?

**Camille Malonzo:**   Yes. First off, thank you to our panelists. I don't know if we can do a clap emoji or something, but thank you all so much for answering all of our questions.  I think we have a few more minutes before the end of our meeting, so we're going to open up now for Q&A for folks who didn't have a chance to ask in the chat or throughout the panel. Also, afterwards, I think we're going to do a round of housekeeping and approve some minutes that we have just within our board meeting. And some announcements. So, if folks have questions for our panelists, this is your chance.

**Kristi Kolorak:**   This is Kristi. I just want to thank India for raising the equity concerns around the use of mobile devices. Whether we're looking at tele-health, contact tracing, it's very, very real, and we know that not everybody has those things. I know there are some grants coming out through the SPC, and that's something we're definitely looking at on our end.

**Camille Malonzo:**   I see also that people are posting announcements in the chat, as well. I have a question. Julia or Kristi, is it possible to share the slides out to the folks on the call?

**Kristi Kolorak:**   Yes.

**Camille Malonzo:**   Okay, great.

**Dr. Julia Hood:**     And, Camille, I sent you a separate email about recording, so we can talk offline.

**Camille Malonzo:**   Okay.  Sounds good.

**Kristi Kolorak:**    For people who have dialed in on the phone but aren't in the Webex, you can dial Star 6, and avail yourself. Camille, I know we probably don't have time, but I know there were some questions about the Public Records Act of Washington State. I will share that with you.

**Camille Malonzo:**   Great. Awesome! I think we have a lot of questions and answers in the chat, so thank you all so much for the discussion and for joining us all tonight!  For members of the CTAB board, please stay so that we can do some business. Have a good night.

**Torgie Madison:**  Thank you so much.

**Dr. Steve Pergam:**   Thank you for having us. We really appreciate your inviting all of us to the discussion. And thanks to the others who were on the call, and all of our other colleagues who are doing amazing work.

**Torgie Madison:**   I want to give a big shout-out to Camille. You have put this all together and organized this amazing two-hour panel discussion.

**Camille Malonzo:**   Oh, and thank you to co-chair Nicole and the Privacy and Security Committee for organizing this with me. I could not have done it without them. So, Torgie, I'm not entirely sure how to approve the minutes.

**Torgie Madison:**   Do you want me to just run through it really quick?

**Camille Malonzo:**   Yes, could you do it?

**Torgie Madison:** Yes, no problem. For board members who are present -- I believe we have Brandon, Camille, I see Mark, and myself. We definitely have a quorum. Really quickly, I'm just going to call for a motion to approve the August minutes. Can I get a motion to approve the August minutes.

**Tyrone Grandison:**  I so move.

**Torgie Madison:**  Was that Tyrone? Can I get a second?

**Brandon Lindsey:**  I second.

**Torgie Madison:**  Great. Thank you. All those in favor, please say, 'Aye.'  If there are any nays or abstentions, please say them now. With that the motion passes. And the next bit of housekeeping, we need to approve the agenda for what you just saw. If you approve what you just saw, can I get a motion to approve the agenda for September?

**Rene Peters:**   I move to approve the September agenda.

**Torgie Madison:**   Oh, hi, Rene. I didn't see you. You must be a call-in user. That is a motion. Do I have a second?

**Camille Malonzo:**   Second!

**Torgie Madison:**   Do I have any yeas for that motion to approve the September agenda? Any nays or abstentions?  With that, the motion passes. And I believe that concludes the meeting. Thank you, Camille, for running things. That was an amazing discussion. Just fantastic. With that, the meeting is adjourned.

**ADJOURNMENT**