

## VIDEO TRANSCRIPT OF A SILICON FLATIRONS DISCUSSION

### Telehealth and Telework Accessibility in a Pandemic-Induced Virtual World

#### Video

<https://youtu.be/3tATAvhd7yU>

#### Participants

- **Blake E. Reid**, Clinical Professor, University of Colorado Law School, and Director of the Silicon Flatirons Telecom and Platforms Initiative
- **Dr. Christian Vogler**, Professor, Department of Art, Communication and Theatre, and Director of the Technology Access Program, Gallaudet University
- **Zainab Alkebsi, Esq.**, Policy Counsel for the National Association of the Deaf (NAD)

#### BEGIN TRANSCRIPT

[00:00:00.06] Good evening and welcome to a very special Silicon Flatirons event. My name is Blake Reid. I'm on the faculty at Colorado Law and one of the faculty directors at the Silicon Flatirons Center. And this is part of the Telecom and Platforms Initiative at Silicon Flatirons. And I am really delighted this evening to be having a conversation about Telehealth and Telework Accessibility in a Pandemic-Induced Virtual World.

[00:00:33.75] And we've got some really terrific guests to talk about the topic of telehealth and telework accessibility.

[00:00:41.52] I'm happy to introduce Zainab Alkebsi, who is the Policy Counsel for the National Association of the Deaf, NAD; Dr. Christian Vogler, who is a professor in the Department of Art, Communication, and Theater, and the director of the technology access program at Gallaudet University. And then last but not least, I'm really happy to welcome Colorado Law 2L Rachel Hersch, who helped provide research assistants for an essay that Christian, Zainab, and I wrote on this topic.

[00:01:16.71] And excited to report that the essay will be released in the Colorado Law Review contemporaneously with this video. So there should be a link along with a recording for you to access that. So if any of these topics interest you and you want to get into more depth, we'll have that. And then just before we get started, I want to say thanks to the Silicon Flatirons Center, our Executive Director Amy Stepanovich, and also Vanessa Copple and Nate Mariotti, who have done a ton of work to pull this event together.

[00:01:47.73] So without further ado, let's get started. And I want to start with a question for Zainab. The pandemic has exacerbated accessibility barriers for deaf and hard of hearing workers and patients, as work and health care shift online. And that was part of the impetus for us to work on the project that we did. Can you share a little bit more about the project, how we got going on this, and what you see as the most critical accessibility shortcomings in our new world of telehealth and telework?

[00:02:33.99] Well, first of all, thank you for having me on tonight's panel. I'm looking forward to the discussion that we're going to be having. The pandemic obviously has had a worldwide global impact in

every possible way. What we've observed is a concerning lack of access, and it really ranges the gamut from all sorts of contexts. Health care telework activities typically rely on video conferencing platforms, like we're using tonight with Zoom, or Webex, or Microsoft Teams, et cetera, including some proprietary apps or applications that are specifically used in telehealth settings, and that has all taken the place of in-person communication.

[00:03:26.18] So one of the barriers has been the failure to provide American Sign Language interpreters and captioning services on this video platform. For example, we can imagine a deaf patient who's experiencing severe challenges in accessing health care. And they're exhibiting COVID symptoms and sent home and really scared. So this individual decided to use her medical provider's standalone app for after-hours care when something happened, to try and schedule a video appointment to get care. And there was no consideration clearly put into excess in how this medical provider's platform was set up. It was a proprietary platform, and there were just no accessibility design features.

[00:04:32.90] And so this particular patient tried to navigate through, and it was obviously a very serious situation, and really didn't have communication access. So obviously, there are chances for misunderstandings, which in a life or death situation can be quite critical, obviously. And she wasn't sure, for example, how many pills is she supposed to take, how often, with food, without food, all of those kinds of instructions, and it can be a very dangerous situation for a patient.

[00:05:03.70] And I wanted to share, I was included in the essay that the three of us-- Christian, you, Blake, and myself-- wrote, and we shared some of these stories which has led to tonight's panel. Now, vis-a-vis telework, really, all the rules of the game have changed and players have failed to provide interpreting services or captioning services for remote meetings, sometimes out of ignorance, just making some sort of an assumption that maybe one size fits all and there's no longer an accommodation need of the same type, or making the argument about cost or logistics.

[00:05:43.59] We hear those kinds of excuses again and again, expecting the deaf and hard of hearing person to just make do with what they're able to lip read on a screen for a remote meeting, which is clearly impractical for the deaf and hard of hearing employees because of the number of people who are typically involved in those sorts of meetings. And again, just to reiterate for your audience that for some deaf and hard of hearing people, in a one-on-one situation, lipreading [INAUDIBLE]. But sort of get beyond a few people, and it's just really not effective at all. It does not work.

[00:06:19.13] And the needs of the deaf and hard of hearing employees obviously vary according to who they are, what their background is, and what their needs are. So what works for one deaf or hard of hearing employee may not work for another person, all of which to say is that the employer should consult with their employees and ask directly to the person that they are going to be working with, what is going to work for you? What is going to allow you to continue doing your work remotely?

[00:06:47.04] The other issue that we have recognized is the potential of the platforms themselves being inaccessible. They are hearing centric. Sound is prioritized. What that means is that pretty much all of these platforms are designed to highlight a user who can speak and hear in verbal English.

[00:07:13.35] So for example, the person who is making noise, who is speaking, tends to be prioritized. Either their box gets bigger or it gets outlined or whatever it might be, and everybody knows who they're supposed to look at, except if you're deaf and you're trying to look at an interpreter. They may not have the real estate space. And so there's things like pinning and spotlighting that's happening in remote meetings.

[00:07:34.26] And some platforms don't really have any kind of features, and some platforms don't even have video quality that is adequate to read sign language. So there are many video platforms that have

worked on it as they've become aware of these issues, and of course, it benefits deaf and hard of hearing users. And the ongoing dialogue with the community is useful in the fact of eliciting feedback, update comes out.

[00:08:05.10] But our advocacy focus is on-- and when I say "our," I mean, of course, [INAUDIBLE] along with my colleagues who are on the panel here tonight, Christian Vogler and Blake Reid and other advocates, of course, as well. Part of what we're doing is trying to develop policy guidelines for communication [INAUDIBLE] fields of telehealth and telework. And actually, you can find them at [nad.org/covid](http://nad.org/covid) or [coronavirus](http://nad.org/coronavirus) [INAUDIBLE] on many other websites. So you can find us at the websites of the other organizations who are represented here tonight.

[00:08:49.47] Many deaf and hard of hearing people have been successfully able to convince their employers or their medical providers to provide captioning or interpreters by using the documents that we've produced. And yet, of course, it's still not where it needs to be. [INAUDIBLE] understand what their legal obligations are and what does it mean to have a fully accessible work environment, especially now that we're working remotely.

[00:09:15.37] And the idea that when you think about place-based employment, [INAUDIBLE] so it's the same sort of concept of a school. So with their interactions in school, you're going to have more interactions with the person that is standing in front of you. Yet, remote conferencing can work if the employer, if the school [INAUDIBLE] to understand what the situation is and [INAUDIBLE] to the pandemic, for example.

[00:09:49.64] Many workplaces had impromptu meetings. And if it's impromptu, it's probably not accessible. There's probably not a caption on staff, ready to go, or an interpreter in the next cubicle that can be brought over. And so often, deaf and hard of hearing people were left out.

[00:10:09.32] Now, with the advent of all of the online remote meetings as [INAUDIBLE] it's in some ways made it easier to provide professional captioning or professional interpreting services because the services can be provided by professionals from their home, so less of a commuting issue, less of an issue of geographic location. Someone is ready to connect right away, even for an impromptu meeting, which it would not be if you had to drive to get to the place of employment or the school or whatever it might [INAUDIBLE] and the transcripts have been found to be quite useful for people.

[00:10:52.07] So with the proper foresight, accessibility actually can benefit everybody. And that's just an example of how things have changed in the fields of telework and telehealth and some impact, even though that wasn't part of the essay that we wrote, just adding that to the bucket, that so many things have changed as a result of the pandemic and people really need to think about accessibility. And that's really the goal of the collaboration of the three organization represented here. Thank you.

[00:11:22.05] Thanks, Zainab. That's a terrific place to start us off. And before [INAUDIBLE] going to ask you a very quick follow up question, which is you mentioned that some of these issues are new. They're a result of things changing. Obviously, the battle for accessibility of workplaces, the accessibility of health care, and other context-- you mentioned education-- is not a new one. That is a battle that long predates the Americans with Disabilities Act, goes back many, many decades, depending on how you want to count it.

[00:12:03.93] What do you [INAUDIBLE] that are happening on telehealth and telework that are new? How much of that do you think is new? And how much of it do you think are the same kinds of problems that we have always dealt with in health care and workplace accessibility?

[00:12:28.71] That's a great question. I mean, obviously, what's not new-- and we mentioned this earlier-- is the ignorance, the assumptions that get made by people who aren't in the know, and the resistance to providing accommodations. None of that is new. But what has changed is the application to online platforms, the discussions that are happening, the confusion and the misunderstandings that people have about how things apply or don't apply. I'll cover that a little bit later in our discussion, and it is sort of fascinating for an area of law to dive into. But I think those are some of the differences.

[00:13:08.76] We still see some of the same assumptions [INAUDIBLE] shifted to an online context, and it's changed the way that [INAUDIBLE]. For some context, and I mentioned this, there are ways [INAUDIBLE] easier to provide accommodations, as I've suggested. But maybe people don't see it that way, or they think it just doesn't apply, the law doesn't apply in the same way. And we'll talk about that later as we talk about some of the legal implications, but I think that's the difference. There are things that are clearly not new and then some things that are.

[00:13:46.48] That's great. So Christian, I want to turn to you now and talk a little bit about technology. So Zainab mentioned that some of the problems that we are encountering in the accessibility of workplaces and health care are a result of employers failing to engage [INAUDIBLE] ASL interpretation and so forth. But there are also a number of technological problems with these platforms. What do you see as the most critical technological and technical challenges to making the platforms that power telehealth and telework accessible?

[00:14:33.67] So to start off, I want to talk a bit about technology. So Zainab made an interesting comment because the two of us actually do have some experience that's a little bit counter to each other. In the discussion of setting up last-minute meetings, impromptu meetings, and trying to bring in interpreters and captionists, from the technological [INAUDIBLE] possible, but we have had experiences in which the demand for interpreters and captionists has become much higher than previous. The number of relay service providers, for example, and captioners has increased by 30% since the beginning of the pandemic.

[00:15:15.47] And so I have had difficulty scheduling interpreters for some of my meetings because for impromptu meetings, they can't always be accessed. So it's [INAUDIBLE] being more convenient. But in my case, it's been a bit more challenging.

[00:15:29.52] Before you go on, can I jump in and just respond to that? I guess we'll have sort of a dialogue here. I agree, of course, that demand has just skyrocketed.

[00:15:39.54] And at the same time, what I meant by sort of it's sometimes easier is that I think people are a little bit more willing to take a job because they have less scheduling headaches. There are some-- you can have a back-to-back meeting, and it doesn't matter because they're not technically across town if you're doing it from your home. So I'm hearing from interviewers that they can fill their schedules a little bit more full than they would have done had they had to commute. So demand has gone up, but there's some flexibility for the providers themselves, just to add that as a response. But go ahead, Christian.

[00:16:12.01] All right. So we realize that in some cases accessibility issues for deaf consumers relies very much on eye contact. So in the case where we have an interpreter and the notes on a screen, in some cases, like today, I'm taking notes on the screen. But if I look away to look at something, I can't maintain eye contact with my own personal setup. So with a speaker, I have to maintain eye contact with the interpreter right now while I take notes, as a matter of fact. So excuse me for just one moment.

[00:17:01.04] OK, I am ready. [INAUDIBLE] I'm able to see the interpreter, but I can no longer see Zainab, so just so you have some insight into what I'm seeing. But that'll be all right, I guess.

[00:17:14.18] I guess.

[00:17:16.13] So Zainab, you mentioned that virtual platforms really do run the gamut. For example, Zoom Webex Microsoft Teams and the like, they do vary from one another. And the accessibility [INAUDIBLE] platform to another. In some ways, that is good. In some ways, that can cause other issues. But there is no one systemic, one size fits all systematic platform that we can use in the same way.

[00:17:43.22] And I will talk about a few of these features that I think you'll notice have caused some issues for us over these various platform. Zainab already mentioned, this video quality. It varies depending on the platform that you're using or how many people are speaking.

[00:17:56.63] So for this presentation, you will notice right now that there are four tiles on the screen. And sometimes if you add a fifth tile, for this meeting, for example, there has been a fifth tile that was added. And when that tile comes up and that person's video comes up, you notice that the quality of the other videos degrades a bit. So there has been instances in which how many videos are on screen, how many people are on screen, how that allows for people to see the video. Or in some cases when the video quality is degraded, makes it more difficult for video to be seen if too many people are on the screen.

[00:18:26.54] Another challenge that we face with screen sharing is that many platforms do not provide accessible features that consumers can look at the interpreter and then at the same time, look at, for example, a slideshow on the screen. And so, by way of example, there are some platforms where on the screen share, you can either choose the interpreter to be shown on the screen, in which case the PowerPoint presentation becomes very small, or choose the slide show or the screen sharing can be very large, and the interpreter in that case becomes very small.

[00:18:56.81] So that can cause some challenges for deaf and hard of hearing consumers. There's really-- it's unusable for many deaf and hard of hearing consumers. And employers of these companies, unfortunately, have set up such regulations that only certain platforms can be used, so it doesn't give deaf and hard of hearing consumers very many options.

[00:19:16.17] The other issue that Zainab mentioned was that most platforms follow the person who's speaking, so who can be heard. But if you're looking at an interpreter, then you may or may not have the option to pin their video at the same time. Some platforms do make that relatively easy. Other platforms make it ridiculously hard, frankly.

[00:19:40.32] And the last thing that I want to mention that I think is quite important in terms of accessibility issues is access to captioning. If you look at various platforms and the features that come along with that and make some comparisons, you'll notice that about a third of all the platforms provide captioning support. So if the platform does not provide captioning support, then that means that the deaf and hard of hearing consumers have to figure out other means of accessing captioning outside of the platform.

[00:20:12.45] And in some cases, that requires a consumer to have a second device or a second screen. So that may be, for example, a computer plus the person's iPad or tablet or phone. So not all of these programs allow access to captioning. And if the consumer only gives us certain options, in some cases, not all deaf consumers have two devices. Then it becomes difficult as well and can cause challenges for consumers who are trying to use captions.

[00:20:46.94] So essentially, the main point is that deaf and hard of hearing consumers have to be very innovative to find out workarounds with their technology for virtual conferencing platforms. As I

mentioned, a second screen is one means of doing so. And if not, sometimes they face issues with picture quality.

[00:21:10.63] Deaf and hard of hearing consumers have to find ways to access the interpreters in some cases in other ways if they can't use platforms. One common workaround is to use a virtual platform, in which case you would have a shared screen and then a separate virtual platform with the interpreter, such as FaceTime. Now, that works if you have a powerful computer or a larger screen, or if your second screen is available. And if you don't have those devices available to you, then it becomes much more challenging.

[00:21:49.55] And I'll mention a bit more information just briefly. The demand for caption has increased exponentially in recent months, and we're currently facing a situation where it is difficult to find captionists in some cases. It actually just happened to me personally.

[00:22:10.24] And so in those cases, I may use automatic speech recognition, which may or may not be acceptable. I mean, some deaf and hard of hearing community members find it useful, some people find it less useful. In cases in which there's little to no other options, they may use ASR, but ASR cannot replace a human captionist by any means, or an interpreter, for that matter.

[00:22:36.20] And the last thing that I want to mention about communication rules, I like to say that for accessible virtual conferencing, it's 20% the technology doing the work, and then 80% has to do with making sure that the people who are on the call are working together to make sure the conference itself is accessible, for example, making sure the participants are raising their hand before speaking. If a person is speaking, to be sure to identify their name [INAUDIBLE]. If the person is not speaking, usually we will ask for those people to turn off their video if they're not making a comment. And the same ideas, you'll ask people who are not deaf on the phone to mute their phones if they're not making a comment or asking a question.

[00:23:25.52] So communication rules [INAUDIBLE] ensure that virtual conferencing platforms will be more accessible for deaf and hard of hearing individuals. And it does require the meeting to be a bit more structured, and can be beneficial to our participants to make sure that people are following rules, and then turn orders to make sure that everybody can follow along in the meeting.

[00:23:46.78] And generally, what we see happen is that in researching some of these rules, making sure the participants have a knowledge of the rules beforehand, before the meeting, and in a lot of cases, we don't see people having a full understanding of the rules. Or the moderator the meeting may not fully understand the rules or may not be enforcing the rules, for that matter, during some of those conferences to making sure that the meeting is accessible.

[00:24:13.46] So Christian, I wanted to ask you a couple of quick follow-ups. And actually, this first one is both for you and for Zainab. You mentioned Automatic Speech Recognition, or ASR, and you mentioned that that's not good enough. We often hear about the promise of artificial intelligence, machine learning-type techniques to advance the state of the art for accessibility to improve opportunities.

[00:24:44.09] What do you see as some of the potential downsides of automatic speech recognition? In other words, why isn't automatic speech recognition a perfect solution? And turn to Zainab.

[00:25:03.77] Sure. So one of the main reasons is that automatic speech recognition can make errors. And if it does make an error, then there is no way for it to identify the error that it's made and to repair it, as opposed to a human caption or an interpreter. Oftentimes, they will recognize the mistake and be able to repair the mistake as a result. If something were to happen, if there was some sort of mistake to



be made, then the interpreter could recognize that and make the repair necessary, whereas ASR isn't able to repair those errors.

[00:25:38.86] However, automatic speech recognition also has many benefits because, for example, lag time is generally pretty low. Human captioners generally have a greater lag time than ASR. ASR is usually in real time or has a short lag time. There are some situations where a deaf or hard of hearing person may actually prefer ASR to a human captioner, but there are also several situations that really depend on personal preference. For a lecture or for a situation that is an interaction with [INAUDIBLE] a very interactive meeting may give more leeway to clarify areas that were created by ASR mechanisms, whereas a direct lecture or a presentation that doesn't allow for as much interaction wouldn't allow for those corrections to be made. I think the important thing is to ask the person what their preference is, not to force them to use one method over another.

[00:26:46.47] And I will answer as well. I couldn't agree any more with what Christian just said, and I want to add kind of my own perspective. You mentioned ASR and the flaws, the errors that turn up in ASR, and that a human captioner or captionist can catch them and fix them.

[00:27:09.15] I'll add to that that ASR also has issues with punctuation. And punctuation maybe doesn't seem like it's like it's critical, but in fact, it's not non-trivial. I mean, it's not trivial in the sense that it can make or break the meaning of a sentence. [INAUDIBLE] identification is also not present in ASR, and that can be very difficult to follow a conversation if there are several individuals because you don't know who's saying what, because the ASR doesn't have that speaker identification.

[00:27:40.00] Now, again, whether it's an online class or an online meeting, deaf and hard of hearing people are already overburdened cognitively. The cognitive load on a deaf and hard of hearing person is more than a hearing person who is taking in a meeting through the auditory channel. And to add the additional work of who's speaking now and where should the proper punctuation be and what was that mistake probably supposed to look like just becomes in some case, it's unusable. And it's an unreasonable burden to place on a deaf and hard of hearing person.

[00:28:11.78] So those are just some of the few reasons why I would say that ASR is not appropriate for most situations. It can be OK, like Christian said, maybe it's an impromptu one-on-one situation, there's just no time to pull in professional services. But again, it goes back to the individual and their preferences and what's going to be effective for their communication. You should always consult and ask deaf or hard of hearing person what's going to work for them.

[00:28:36.67] For meetings that are scheduled three weeks in advance, there's really no excuse not to pull in professional services, whether that be interpreting services, captioning, or both because you want the meeting to be fully accessible, and you don't want to put such access labor or burden on the deaf person. I also wanted to add to what you said in terms of technology. Technology is moving at the speed of light and it is improving daily, but it's not there for critical encounters. It's not where it needs to be for truly effective communications for deaf and hard of hearing people.

[00:29:14.22] Well, if I could just add something briefly, Zainab, so I do really want to emphasize that some print articles have [INAUDIBLE] ASR can be more effective than a-- the accuracy can be more effective with ASR compared to a human captioner. That doesn't mean it's true for every situation. But in some cases, that have been the case, so it's not necessarily a fair comparison to make accuracy comparisons.

[00:29:46.73] And the types of errors can also vary from whether it's a person or an actual computer system. What we found is that some of the ASR errors are, in fact, more severe than some of the more trivial errors that humans may make. If you're counting the number of words that were incorrect, you may

find that in some cases ASR is more effective or has fewer incorrect words. That doesn't mean that the errors are the same type of errors.

[00:30:14.73] And so, really, you can't compare it with the idea of a human captionist. With a human, you should be measuring errors in a different way than just accuracy and word count, correct words.

[00:30:29.81] Sorry for the back and forth again, but I just want [INAUDIBLE] I fully agree with everything that Christian just said and sort of summarize it in one line, that all errors are not created equal.

[00:30:43.93] So Christian, one other thing I wanted to make sure that folks understood, you mentioned the relay system. And folks may have encountered the relay system, which comes with an entirely different technological and funding model than what we are dealing with now in terms of video conferencing. Can you explain how the relay system kind of got left by the wayside when we made this transition to telehealth and telework, and how it might become used again? And maybe just offer some brief details on what the relay system is, for folks who are not familiar with it.

[00:31:29.63] Zainab may want to begin by explaining what the actual system is, and then I can just dive into some of the technical aspects, if you'd like.

[00:31:37.53] Happy to do so. I'll try to explain it as concisely as possible. The relay system-- and there are actually different types of relay systems. So for what we're talking about now, in terms of captioning, there are captioning relay services.

[00:32:00.52] So there are hard of hearing individuals, hard of hearing caller, who tends to speak for themselves. So they can be on the phone and use their own voice, but may not be able to clearly hear or understand what the other person is saying over the phone. So they have a special kind of a phone, and in most cases it's special phone equipment. There is one situation where it's software, as a software app, but generally speaking, it's actually a particular kind of device.

[00:32:30.19] And so they speak into the phone the way you would normally expect someone to speak into the phone. And when their friend speaks back to them, they actually have a readout display that displays on the phone the captioning. But how that happens is that there is a communication assistant, a human, in the middle. So that person is listening to the conversation, and they either have a human who is-- it's called revoicing, so the hearing party says something, the communication assistant revoices it into a software program that converts that speech into text, and that's what shows up on the hard of hearing person's phone display. And they have the ability to adjust it in real time because the communications system is seeing it, and they can recognize that the program-- that there's an error, and they can correct it. That's sort of a traditional way of providing captioning services via telephone.

[00:33:43.21] So again, we've got a hearing individual who's speaking, communication assistant who is revoicing that message that is getting converted by a software program to the hard of hearing person's phone. And the software is trained to the communication assistant's voice. That's why they have that intermediary person. And that message shows up on the side of the deaf or hard of hearing person via a phone display. There is obviously lag. There's a latency issue following that methodology.

[00:34:16.24] Now, there's another way of providing [INAUDIBLE] which is ASR. So more and more, we're seeing relay services providing, and they're becoming certified in terms of using ASR, and they have [INAUDIBLE] ASR. And so, Christian, maybe you want to take it over from here.

[00:34:46.09] You may want to also briefly explain VRS, Zainab.



[00:34:49.40] Sure. OK. I thought we were just talking about captioning since we had just been talking about captioning, but I'm happy to talk about VRS as well, Video Relay Services. So in this case, we might have a deaf caller who uses American Sign Language. Then we have a communication assistant, who is an interpreter, of course, sign language interpreter, and then we have the hearing caller who is taking part in a phone call.

[00:35:17.94] So as they normally would, the interpreter, the communication assistant, and the deaf caller can see each other via video and are having a sign language communication via video. So the deaf person sees what the hearing person has said via an interpreter, and then the interpreter will work into English off of the sign language of the deaf person for the benefit of the hearing caller. That's VRS, Video Relay Services. So again, captioning telephones are mostly used by people who might use their own voice and VRS would be used by those who use sign language.

[00:36:01.84] Thank you, Zainab. And just to speak more about the mechanisms behind those relay services, relay services depend on a phone number. So if you are calling somebody virtually and you are doing so in a virtual platform, you would need a 10-digit [INAUDIBLE] service. If there is no phone number available for one of these meetings, then you don't have the option to do so.

[00:36:33.21] The second thing I want to add is that the Federal Communications Commission oversees all relay service systems currently available, and there's money that's paid into the system that is paid by telecommunications companies, as mandated by the ADA under Title IV, I believe, Zainab. Yeah, Title IV. And so there are mechanisms available that are paid into a fund that the FCC administers along with contractors to make sure that these services are paid out for the work that they do.

[00:37:05.83] It is completely free to deaf and hard of hearing users, and they provide what is known as functionally equivalent access to communication. Unfortunately, the ADA is a somewhat antiquated [INAUDIBLE] when the ADA was signed, they didn't necessarily anticipate the switch to the IP network and to the internet. So that means that, again, we're facing situations in which you don't have a telephone number, then you're not able to access those relay systems.

[00:37:35.12] So what is happening is that for many online virtual conferences that do not provide phone numbers, and if they were to provide phone numbers, then the relay services could be accessed virtually. And so that is better than nothing. I mean, there are certain technical limitations and doing so.

[00:37:58.77] For example, if you have a Zoom meeting that's going on and you give a phone number to somebody who is calling into the meeting as a relay interpreter, the interpreter would not be able to see anybody else in the meeting. So they'd be connecting directly through a phone number. They would only have access to the audio. So that means that the interpreter is in a situation in which they're missing a lot of information that may be visual in the Zoom meeting. They're not able to see what's going on in the Zoom screen.

[00:38:30.83] So it becomes more complicated as we go from there. As communications become more reliant on the IP network, on the internet, and become more virtual, we're seeing instances in which relay services can't always connect those virtual conference platforms. The technology, it is manageable.

[00:38:57.93] Currently, there are policy-- the FCC's regulations actually do not allow for interpreters to be connected to video interpreters who are in the same room. And I may want to go to Zainab or Blake to talk a bit more about that. Policy, in a lot of ways, is the issue, as opposed to tech. But I'll maybe let somebody else take that discussion.

[00:39:25.67] Go ahead.

[00:39:27.92] Zainab, please take a swing at that one.

[00:39:39.55] So maybe I'll answer the first half and you'll expand on the second half. I think the gray area is that the FCC has said that relay services are for phone calls. If the people are in the same room, they can't use relay services. You can't use a VRS system or the IP CTS system because if you're in the same room, you wouldn't be calling each other. You'd have to use other [INAUDIBLE] facilitation. They weren't intended for that situation.

[00:40:17.62] But now what we're seeing is that people are having Zoom meetings or other kinds of meetings, and they're really taking the place of in-person meetings. So it's not technically a phone call in the traditional sense. I mean, I don't think the FCC has explicitly come out and said, actually, that it cannot apply to these video conferencing platforms. That hasn't happened. It's really a gray area. That's what I would say. And with that, I'll turn it over to Blake for another--

[00:40:51.03] Well, since you mentioned gray area, Zainab, and Christian mentioned laws that are out of date, I think it's probably a good time to shift in to kind of our final topic for the evening, which is what is going on with the laws that apply here. And I'm happy to invite Rachel in, who is going to help us moderate this portion of the discussion. So Rachel, please join us.

[00:41:20.29] Sorry. I'm having trouble starting my-- leave it off for now. That was a perfect segue, actually. So this is for Zainab and Blake, but Christian, feel free to jump in as well.

[00:41:34.04] The legal landscape for the accessibility of health care and employment is also undergoing a rapid shift to virtual contexts, as telehealth and telework become the new normal for millions of Americans. What are the biggest legal challenges in ensuring that the civil rights of Americans who are deaf or hard of hearing are met during the pandemic? And Zainab, maybe we can start with you and then we can turn to Blake, and of course, Christian, if you'd like to jump in as well.

[00:42:04.26] I'm happy to start. And Blake can cover maybe the CVAA, the FCC kind of things, while I cover the ADA side of the house.

[00:42:17.20] So as a bit of background, Title III, without question, applies to buildings, so physical structures, doctors' offices. In a virtual world, the question then becomes, does the ADA apply to the same doctors' offices that are now providing telehealth appointments? So they're not physically going to that address and that building and riding the elevator up to the office, but is it a place of public accommodation? Or is this actually the responsibility of-- is it the virtual platform that becomes the place of public accommodation, and therefore it's actually the software companies that are required to be accessible?

[00:43:07.27] We don't have case law that decides this issue in terms of health care. But we do have some [INAUDIBLE] unfortunately, they're split. So whether or not these are places of public accommodation, we look at some of the rulings vis-a-vis websites. And there are actually three interpretations out there that different circuit courts have come down on.

[00:43:34.41] So there are some circuit courts that have said, if you look at website, a website is like a place of accommodation. A website is usually tied to a retail location, therefore a website would have to be accessible in the same way that the building has to be made accessible. So it is a place of a public accommodation. That's one ruling that's held by some circuit courts.

[00:43:54.17] Some of the other circuit courts have said, well, a standalone website cannot be considered a place of public accommodation. It's not tied to any brick and mortar building, so it would not be subject to Title III, unless there is some sort of a physical place that you can tie. And yet another

circuit court has held that even though there may be a connection or not a connection to a physical place, it's not a place of public accommodation, so again, a gray area.

[00:44:33.80] They view health care quite differently in the circuit courts. Generally, Title III will apply to health care contexts because there is a connection to a physical doctor's office. Health care is now being provided virtually, but the encounter is exactly the kind of encounter that would be taking place in a doctor's office or medical provider's office. But the courts in the last group of circuit courts have held differently.

[00:45:08.12] So now we come to the issue of what about the software companies or the video conferencing companies? Are they responsible? This is very gray. It's a tool. It's an access point between person A and person B. I mean, the provider and the patient have the relationship that they have. And really, how can the software company that's providing a platform have any vested interest in that? So it's a really novel situation that we haven't encountered before and we don't have any clear answers as to how judges would-- or courts will eventually rule. That has to do with health care.

[00:45:44.92] Now, vis-a-vis [INAUDIBLE], that brings us to Title I. And again, it's like Title III in the sense that we don't have current court decisions that make it very clear whether or not Title I applies in this situation or that situation. But it's actually far more cut and dried because Title I doesn't use the language of a place of public accommodation or of the placeness. They talk about the relationship between an employer and an employee, so that relationship exists no matter how the counter is happening.

[00:46:24.55] So the employer is responsible for making the workplace accessible or the work encounters accessible, whether or not they're in person or in a virtual world. So for that reason, we feel that it's unlikely that Title I would apply to the platforms because the provider of the software, there's no employer the employer-employee relationship.

[00:46:51.03] So I guess to sum it up, there are far more questions about platform providers, but there is an argument to be made that, in fact, the ADA does apply to medical encounters and in telehealth and telework settings. We just have to sort of resolve some of these outstanding granular issues and make it clear that just because the ADA was written before the internet was as widely dispersed as it is, that doesn't mean that these futuristic technologies are exempt from the intent of the ADA. And so again, we need to look at what is the intent, and how does that get interpreted in a virtual world. So I'll turn it over to Blake at this point to cover the CVAA and FCC side of the house.

[00:47:51.41] Thanks, Zainab. And just to underscore, because I think it's helpful to think about the ADA, I think a lot of folks think the ADA was designed to make society as a whole accessible. But the different pieces of the ADA have this different operation. You have Title I that focuses on that employer-employee relationship, and then you have Title III, which focuses on places of public accommodation. And when we're in that employer-employee relationship, that's fairly easy to understand, even in a virtual world. That transition to a virtual world doesn't change much.

[00:48:29.07] But when we look at Title III and we make the shift from a physical world to a virtual world, we're stuck with this metaphor of a place and this analogy of a place. And it's a kind of complicated and confounding metaphor, and we really see the courts struggling with that, which is one of the reasons that we don't have straightforward answers about the accessibility of virtual places, as it were. And that's maybe where the FCC comes in.

[00:49:00.99] So the FCC has a more direct set of authorities that focus on particular technologies. So Christian talked about the relay system as a mode of basically making telephone calls or the telephone system accessible, and it's evolved to a certain extent to embrace internet technologies. But we're

starting to see the limits of that metaphor of direct communications, and we're starting to think about, now, how do we make video conferencing platforms accessible?

[00:49:39.17] And one of the unfortunate things is in 2010 Congress passed a law called the 21st Century Communications and Video Accessibility Act, the CVAA, which is kind of the 21st century update to the ADA. Or that was one of the ways that it was envisioned. And the ADA-- or excuse me, the CVAA, has a set of provisions that require the accessibility of Advanced Communications Services, or ACS. And the hope with these rules was that they would encompass a broader set of new technologies and sort of pick up where the ADA left off and where the relay system left off, and make a whole new world of communications accessible.

[00:50:28.34] And they've succeeded to that to some extent, but there's a problem when it comes to video conferencing. So the CVAA says what are called "interoperable" video conferences need to be accessible. So this word "interoperable" has led to loads of trouble because the FCC could not reach a decision when it initially interpreted the CVAA about what that word means. And so we still don't have an answer to the question of whether services like Zoom or Teams or Webex and so forth are actually interoperable because they don't work with each other. And so the question is, does that mean they are not interoperable? What exactly does interoperability mean?

[00:51:18.92] And the FCC has never issued a decision on that. In fact, that issue has remained pending since the initial implementation of the CVAA. So we don't have a clear set of rules that say, video conferencing platforms need to be accessible, even though we have the wide range of issues that Christian talked about in terms of the user interface design, problems with reductions in video quality, the confusing aspects of how you access captions and slideshows at the same time, all of those sorts of issues.

[00:52:00.35] And we also don't have clear rules about how interoperable video conferencing and the relay system work together. So it's a little bit difficult, as Christian alluded earlier, to figure out whether we can use the relay system and the funding mechanism that goes with the relay system to make video conferences accessible. So the FCC has a lot of tools that it could be using in this area to try to make sure that video conferencing services in general, not just with health care, not just with employment, but with a wide array of contexts, like schools, for example, being another context, are accessible. But so far, the FCC has not chosen to address those issues, and so we're left without much clarity.

[00:52:50.37] All right. I'm to take off my speaking hat here and put my moderator hat back on because we've got about three minutes left, and I want to stick to the time. So Christian, Zainab, a last question for both of you, and if you could try to keep your answers to about 90 seconds. If you could wave your magic wand and fix any of the underlying policy issues that underscore any of the problems that we've talked about today or implement any policy solution, what would you do?

[00:53:28.95] This is Christian. I'll begin. Again, this is Christian speaking. I would say, Blake, in regards to what you just mentioned, your comment about the FCC having not defined interoperability, there's another issue in that the FCC hasn't yet defined what accessibility means for video conferencing and other advanced communication services. So really, that means that accessibility goes beyond just the UI, but also how do we define accessibility in these terms.

[00:54:02.53] I would wish that the FCC would come up with clear guidelines, clear and explicit guidelines, about what would be required, what should be required for videoconferencing platforms to be accessible. That includes the UI, that includes the video quality and the audio quality, that includes the mechanisms to allow interpreters and captions to be seen on the screen. So that is, in sum, my wish and desire.

[00:54:26.12] I will try to be brief as well. Basically, my desire, if I had a magic wand, what I would like to see is that the CVAA would have a 2.0. The three of us have talked about this for quite some time. The CVAA has obviously made a lot of improvements. We've come a long way in terms of technology and the possibilities for accessibilities, but there are gaps. The three of us have a wish list of the things that we would put into a version 2.0 of the CVAA.

[00:54:56.78] So that's what I would do. But I'll add just one other quick note, which is that we need quality standards. We need quality standards vis-a-vis captioning. And we've talked about this in the relay system context, but we could really apply those conversations to the video conferencing situation as well. So that would be my two cents. I have, I guess, a 1A and a 1B wish-list.

[00:55:31.51] Well, thanks very much to you both for joining us. This has been a really wonderful conversation that just touches on some of the issues that we flesh out [INAUDIBLE] the essay "Telehealth and Telework Accessibility in a Pandemic-Induced Virtual World," which is now posted live at the Colorado Law Review forum. Our thanks to the editors at the Colorado Law Review for working with us on this.

[00:56:01.03] I also want to just take another moment to thank my colleagues at the Silicon Flatirons Center, particularly Vanessa Copple, who really worked hard to pull this event together, and to Nate Mariotti as well, and our Executive Director, Amy Stepanovich, our interpreters, Sarah and Mike. Thanks so much for being with us.

[00:56:21.76] And we really hope you will join us again. We've got a number of exciting events coming up. I encourage you to look at the website at [SiliconFlatirons.org](http://SiliconFlatirons.org), and we look forward to seeing you at our future event. Thanks so much.

[00:56:39.67] Thank you.

**END TRANSCRIPT**