COVID-19 Telehealth Impact Study
"*Unscripted*" Podcast Transcript

The **COVID-19 Telehealth Impact Study, Exploring One Year of Telehealth Experimentation** (DOI: https://doi.org/10.30953/tmt.v6.280), was developed by the COVID-19 Healthcare Coalition and designed to unveil telehealth adoption during the pandemic using data sets from 2 billion healthcare claims and surveys of providers and patients, across the US to inform healthcare leaders and policy makers.

Speakers
Dr. Francis Campion, Principal Digital Health Analyst, The MITRE Corporation
Dr. Steve Ommen, Medical Director, Digital Products & Product/Platform Strategy. Mayo Clinic, Rochester, MN
Moderator: Tory Cenaj, Founder and Publisher, Telehealth and Medicine Today

Time: 1:05
Moderator: Good morning Francis and Steve, and thank you for talking to us this morning about the explosive emergence and adoption of telehealth in the United States. We've recently published your new **COVID-19 Telehealth Impact Study**.

Before we hear your thoughts and findings about the research, can you first tell us what the impetus behind MITRE and Mayo Clinic founding the COVID-19 Healthcare Coalition was?

Time: 1:35
Dr. Francis Campion: Sure, I'm happy to comment on that. It seems amazing the distance we've come over the last year-and-a-half, but it was last late February and early March when the Mayo Clinic and MITRE discussed the great challenges before us and decided to form the COVID-19 Healthcare Coalition, which rapidly gained membership. We ultimately had over 1000 member organizations, all from the private sector, ranging from healthcare systems to bio and pharma companies and many, many participating foundations and universities.

So, the goal was to figure out the challenges before us and begin solutioning immediately. As it turns out, telehealth was very obviously going to be part of the solution set and we quickly developed a workgroup related to telehealth. We had over 15 different workgroups from ventilators to PPE (personal protective equipment) to other aspects of miss and disinformation and vaccines and such. The telehealth workgroup was started back in the first week of March 2020.

Time: 2:56
Moderator: It sounds like it's been a successful partnership. Congratulations to you all.
What do you expect to achieve with this study and series, and what impact might it have on US healthcare policy?

Time: 3:19
Dr. Steve Ommen: I think that we wanted to take advantage of a unique opportunity. Prior to March of last year, telehealth existed but it existed in low volumes. And many providers were participating to gain information about the value of telemedicine and remote care delivery. It was going to take a long time, and now that the entire nation and world essentially gave us an opportunity to study telemedicine. Our hope was to shed light on the fact that so much of healthcare can be done in more convenient ways for patients; and that we might be able to influence state and national level policies to convert the regulatory environment when it's much more favorable to allow patients better access to care using these tools.

Time: 4:14
Moderator: Would you agree we've solved the awareness and adoption hurdles on both the PCP (primary care physician) and patient side since COVID onset?

Time: 4:38
Dr. Francis Campion: As a PCP, I'm a general internist in a large group practice, I think we know now that telehealth is here to stay. Patients and providers alike have seen what's possible and it's going to be hard to put the genie back in the bottle.

Like many physicians, I had been thinking about telehealth and that my practice wasn't promoting it, so my first telehealth visits for ambulatory care occurred in tandem with the onset of the pandemic. I had been part of a hospital group delivering acute care in the home with an early phase company in the year prior to the pandemic. Once the pandemic hit, we scaled up what was a small pilot program in pediatric telehealth ultimately covering all 800 physicians in our medical group.

Time: 5:53
Dr. Steve Ommen: I think the answer to the question “is awareness solved?” is that everyone is aware that telemedicine exists now. I agree that, largely, people are assuming that it's going to be part of healthcare moving forward. I think we haven't completely solved awareness around the best use cases for it. That might differ in FX's practice for primary care and continuity of care management versus my practice, which is subspecialty and referral based. I think we're still trying to hone in on the right patients and the right moments in their healthcare journey where telemedicine is optimal, and then the smooth transitions when in person care is going to be necessary.

Time: 6:49
Moderator: Where did you obtain your data set of over 2 billion healthcare claims, and is it compliant? The reason I ask is that there are a lot of privacy skeptics out there.

Time: 7:13
Dr. Francis Campion: Sure. As I mentioned, the telehealth workgroup was a voluntary effort as part of the COVID-19 Healthcare Coalition. One of the voluntary participants was a company

called Change Healthcare. Change Healthcare manages the claims flow process between providers, hospitals, physicians, and insurance companies. They're a back-office phenomenon that helps ensure claims are clean and complete as they move from the provider to the payer. The company has an amazing breadth of geography and is involved with healthcare claims of all types, but particularly the private insurance market.

We were very fortunate that they were part of the coalition. As soon as the call requests were released from Steven and myself, they were very willing to participate voluntarily. They're now part of the Optum family of companies, but we're very, very fortunate to have Change Healthcare be a part of our research team. They were very scrupulous about making sure the data set met all the privacy and security standards, and HIPAA compliant. Our studies and all the forthcoming materials from them have been completely de-identified.

Time: 8:57
Moderator: A significant limitation of the data is that it did not include Medicare and Medicaid indemnity claims. How would the inclusion have impacted outcomes?

Time: 9:20
Dr. Steve Ommen: I think that's a good question. FX, I'm interested in your thoughts on it as well. I think that it's a very valid critique of the effort we put together, but it was not something to overcome with what was available to us because Medicare and Medicaid claims come in on a different timescale than those of private payers.

When you look at the study's patient survey, we saw an even distribution of patients across age groups, including Medicare-eligible individuals; and there weren't large shifts in acceptance, positivity outcomes, etc. from the patient base survey. It's not clear how it would have changed the outcome of the study, but it's a valid question of ethics.

Time: 10:19
Dr. Francis Campion: The telehealth impact study is actually three studies. One is this large claims analysis. A second is a physician survey that was conducted during July of 2020 (relatively early in the pandemic) and a patient survey, which spanned December, January, and early February of 2021.

We learned a lot from both the claim survey, claims analysis and the two surveys about telehealth's position. When it comes to the physician practice, I'm sure Steve will agree with this since both serve our patients with telehealth, we were not differentiating between payers. One of the fortunate things we learned during the pandemic was that regulatory requirements were relaxed across the board. We had both public and private payers using the same rules of engagement as far as which claims would be covered and which modes of telehealth transmission would be appropriate. For example, both private and Medicare paid for audio-only or telephone only based visits. That was something that didn't exist pre-pandemic. We can see trends in both public and private payers.

In our practice, we don't differentiate based on payer. Some of the things we learned about were which specialties were using telehealth and which clinical problems patients were presenting with for telehealth. That's consistent from a public payer perspective.

As Steve mentioned, one of the things we were trying to gauge during the pandemic was to understand how telehealth was evolving and emerging during the first year of the pandemic. We published month-to-month trends on our website. The data set from Change Healthcare allowed for that. We were reporting open claims. Once Change Healthcare processed the claim between the provider and the payer, we became aware of it, which is early in a research data flow for claims analysis. Most people who read claim studies are used to seeing closed claim studies. That often takes many months after the claims, including the date the service occurred and payment. We were fortunate to be able to have an early data set and flow in the study design, and that was critical for the learning we needed to capture during the pandemic. What we found was both providers and payers were looking at the data, allowing them to understand the full impact. I believe that the findings from the claim study and the provider payer surveys are quite relevant and consistent.

Time: 13:41
Moderator: Another aspect of study results reported peak levels of telehealth varied widely among states—anywhere from 74.9% in Massachusetts, to 24.5% in Mississippi. Does this reflect disparities across states for telehealth reimbursement and parity prior to COVID?

Time: 14:09
Dr. Steve Ommen: That's it's an interesting question because I don't know whether that is a relative increase, or what those percentages refer to. For instance, in the state of Mississippi, the University of Mississippi already had a very strong telemedicine program, going back a number of years, so that's a relative increase and reflects the fact that they had a good baseline already.

Time: 14:33
Dr. Francis Campion: These are the peak actual levels. We know some states were primed and some states were hit very hard early in the pandemic. For example, Massachusetts and the Boston area were hit hard by COVID in the very early months (March and April), and that's certainly when the peaks span across the country. It's partly reflective of the pandemic itself and a degree of readiness. But you're right, Tory, we did find that through the rest of the year and into the last quarter of 2020 there was significant variation.

I think that's what we're learning about. Our goal to report what's apparent. We probably need to investigate the causes or what's possible. We certainly don't have all the answers and we're hoping that the data stimulate introspection and reflection about what's possible. When we see peak use of 74% Massachusetts, that means it's possible for physicians and patients to engage at that level. Whether that's sustainable in the future, we don’t know, but it’s amazing to see how the Healthcare System, both patients and physicians responded once they were free to engage. That's one of the exciting things about this event and suspending all the rules. It was just good doctors and good patients making decisions about what works for them in their environment at a time of great need.

Time: 16:26
Moderator: How do you maintain continued virtual broad access to telehealth when patients are being encouraged to book in-person appointments now to get their annual checkups back on track? We hear commercials now about scheduling dental visits and cancer prevention screenings. What are the best practices that have emerged for when to use telehealth?

Time: 17:17

Dr. Francis Campion: From my own practice experience in Boston in April and May of 2020, I was certainly at the 74%, or maybe higher for telehealth. Today, I'm probably at the 30% range. Maybe my practice is a textbook example of this ebb and flow with a spike and then left wondering what is going to be the new normal going forward?

We're learning quickly. In 2021, I think this will be a continued year of experimentation to figure out what's best for patients. As long as we keep that as our goal, and what is appropriate in a flexible environment enabling a doctor and patient to make the best decision for that patient. I have some patients who prefer face-to-face visits and many that didn't realize how much good could occur from telehealth. I find that a mix is probably going to be the best for most patients.

We have three smaller case studies that we're formalizing from the data set. One is in mental health (soon to be published), another in diabetes, and another for pregnancy. I think best practices vary considerably, specialty to specialty, and even diagnosis to diagnosis. We're trying to understand what ratio of face-to-face and telehealth visits make sense for diabetes care. It's clear that a mix is likely to be optimal; so I'm not worried at all that patients need to have face-to-face visits. In fact, it's evident that telehealth has limitations, particularly regarding a physical exam.

I'm really excited about what's coming. We hope to be able to spread the story about what good care is and what's possible. The thing I'm most worried about, honestly, is having insurers begin limiting coverage. We're worried about individuals that may have limited access to smartphones and computers and broadband. It would be a big worry, a big concern if some patients didn't have access to adequate telehealth going forward.

Time: 20:10

Dr. Steve Ommen: I think those are important points. The things I'm seeing in my practice are that, very much to FX's point, your patients have preferences one way or the other. In some respects, we will need to respond to understanding a patient's preferences. If they truly value that in-person experience, we need to meet the needs that way when appropriate, and if they prefer doing it remotely, then we can do it remotely. We have to match the need.

I have many patients with a specific diagnosis as a cardiologist, who have now converted their checkup evaluation for their cardiac position to remote where possible; which means I need to take advantage of being able to upload the echocardiogram or imaging studies they had at their local hospital, local office, and make sure that I can view them ensuring adequate information. Then I can interview the patient talking to them; and if they're stable, that's much more convenient for the patient. Other patients just don't have access to the quality diagnostics that you might need. Those patients, based on where they live, might still need an in-person checkup, particularly if their health status is changing. It's going to be a combination of patient preference and condition being managed. The stability, or lack thereof, of the condition we are managing will determine whether an individual patient is best served in the moment by a remote option versus an in-person option.

Time: 22:07

Moderator: What would you say the top three innovations in telehealth were since January of 2020, and what do you think the next three innovations might be by the end of 2022?

Time: 22:33

Dr. Steve Ommen: That's an interesting question. The time-scale for the innovations we're going to see at the end of 2022 are probably already in flight now. The time between ideas and implementation in our practices is longer than that. The big change in healthcare delivery in 2020 was the use of video and telephone visits for patients to get care. That's probably the biggest impact. In the telehealth impact study, the number one remote care option that was utilized where patients suddenly realized they could get their care this way. Now, they're going to demand it moving forward.

What I think is going to have a bigger role in the future that we were utilizing before, is remote patient monitoring. We use devices in the patient's home to monitor things like their blood pressure, pulse rate, weight, oxygen saturation, and the data is automatically uploaded to the care team's medical record. The team can monitor that, set alert values to monitor if someone's health path is deviating from what's expected. We can do an earlier low touch intervention with a patient to keep them from deteriorating further. We were monitoring close to 1200 patients a day in their own homes using these types of tools during 2020. We're publishing a study soon reporting very significant improvements in healthcare outcomes from patients being monitored versus those that were not. The ability for the patient to have low touch continuous oversight by their care team is going to be a big change in healthcare going forward. In addition, machine learning or artificial intelligence might help detect changes even before we see changes in pulse rate or blood pressure. That's really going to impact change.

Lastly, placing care for lower acuity situations into the patient's hand – what we call facilitated self-care. It's a lower touch version where the patient can "check-in" to report daily or weekly activities, and if they have questions, they can "upgrade" to an interaction with their nurse manager. This will help patients control their own care, facilitated by their trusted healthcare partner. I think that those are going to be the biggest changes we're going to see as the next step beyond video and telephone visits.

Time: 25:47

Dr. Francis Campion: I'd like to mention hospitals in the home or acute care at home. Most physicians had never heard of the concept in January of 2020, but many heard about it during the pandemic. I think it's going to play a major role going forward. How hospitals configure their resources such as number of beds is a big decision. If 10% or 20% of their bed capacity could be replaced by telehealth in the home, that's a game-changer for strategic planning for health systems.

We know that in Boston, we were able to preserve precious hospital beds during the height of the pandemic because we had already started to put in place a "hospital in the home" infrastructure. That was very beneficial during the height of the pandemic.

Now that we can see what's possible, that model is spreading throughout many health systems. Mayo Clinic and Kaiser Permanente have big initiatives requiring the inclusion of paramedics and EMT or emergency medicine to bring technology into the home. These teams see patients, manage IV infusion capability 24 hours a day and ensure many of the remote monitoring elements that Steve discussed. These approaches are now becoming ubiquitous for many models including ambulatory, traditional, chronic disease, and now acute care in the home. A patient that would

have traditionally been hospitalized for pneumonia, cellulitis, heart failure exacerbation, or COPD exacerbation. We know that they can move safely from the ER back home, with their IV and oxygen in place, as long as reliable telehealth infrastructure is in the home. This requires providing tools in the home to make sure Wi-Fi is hardened and available all the time. It also requires the provider has 24-hour coverage in a telehealth center or telehealth bunker command center that's staffed by clinicians, nurses and physicians, that are able (and willing), to care for these patients. It's an exciting and very different model and quite apparent it will be part of our world going forward, delivering better care, safer care, and lower-cost care for patients in need.

Time: 29:05
Dr. Steve Ommen: That's the spectrum if it's not appointment-based care, it's ongoing care. If it's at the high end of acuity, employing an advanced care at home model will be developed. We will likely find more chronic care management in the middle. On the lower end of the spectrum, we will have facilitated self-care. I think these types of devices and services will make a difference going forward for all the reasons stated.

Time: 29:33
Dr. Francis Campion: Another simple technology that became very useful, to a patient where they could log on and go through a series of questions to help make a decision about "what do I need?" or "am I appropriate to be tested for COVID?" is bots. They can help facilitate "what's the best treatment for COVID?" The use of these bots is going to be more apparent in the future. The question is how does that paid? Is a bot interaction reimbursed as a separate encounter? Probably not, but it's going to become part of information collection and the triage that will make face-to-face and other telehealth delivery more efficient and more accessible for patients.

Time: 30:27
Moderator: You're both practicing clinicians, what do you consider the one major barrier to telehealth?

Time: 30:52
Dr. Francis Campion: Firstly, my worry is that different payers will set up different rules. In the clinic, I don't want to be thinking about payers. I want to be taking care of the patient using all the infrastructure I have, including my care team and technology-enabled care. My worry is the fracturing of the regulatory and payment system, which maybe inevitable, but I think at this moment in time, we need to be voicing the benefits of having consistency.

Secondly is the inaccessibility of technology for patients with pockets in urban, suburban and rural environments where reliable broadband access is not the norm. We need to be thinking about our most vulnerable patients to make sure we have what's reasonable and fair moving forward.

Time: 31:59
Dr. Steve Ommen: Yes, I think as a specialist who has a large referral practice, it is not that different. The biggest barrier for us will be licensure regulations, which are governed on a state-by-state level. This might limit access to people who are looking for expert care at Mayo Clinic or with other specialists but do not live in that state. If we revert to the pre-pandemic regulatory environment, much of that will have to be in person again rather than remote, or trying to figure out ways to influence that. That's it's a challenge for us. It doesn't make sense when you think about it. I have a Minnesota state driver's license and am allowed to drive anywhere in the world

because I have that driver's license, yet I can't practice medicine (which is much more consistent in terms of the healthcare needs of the patient), across the state line, even though I actually have 20 State Medical licenses. I think that's going be a bigger challenge for specialty and referral-based care, and the reimbursement landscape is definitely going to be part of it. I think if we all focus on delivering the care that's best for the patient, by whatever means, in the long term, reimbursement should follow - particularly if studies like the telehealth impact study and following studies prove the value in that care. The question is how long can hospital service systems survive financially until reimbursement catches up to the needs and demands of the patients.

Time: 33:59
Moderator: Were there any surprises in the diagnostic classifications most reported in the study?

Time: 34:07
Dr. Francis Campion: I think we saw what many did and became apparent that the challenge before us was that behavioral and mental health diagnoses had a large and immediate uptake. It seems logical now because we know tele-based care for behavioral health, particularly for counseling, spiked with anxiety, mood disorders, depression, etc. These were real problems that continued during the pandemic exacerbating patients with chronic illness, as well as new diagnoses of anxiety that related, in part, to the pandemic itself. Behavioral and mental health were several times higher than any other category of diagnosis grouping. Even now, later in the pandemic, mental health continues to be the highest diagnosis area for the use of telehealth.

Time: 35:29
Moderator: What were the top three platforms reported, as most used in the research?

Time: 35:43
Dr. Francis Campion In the survey of providers of physicians, we asked what were the platforms that patients primarily use, and Zoom was number one. Over 30% of practices were using Zoom. The next was audio-only, again, around 30%.

Now, most practices use a mix of technology platforms or devices to deliver telehealth, so these aren't exclusive. Doxy.me and another called Doximity were also highly rated each with over 20% of use. FaceTime was in the high teens. EHR telehealth modules were 17% to 18%. This was in the summer of 2020. If we were to take the same survey now, we would probably see more EHR modules reported. In fact, when we did the patient survey in December, June and December 2020 to January 2021, when patients reported what they did and how they connected, 30% said that they were using their HER - the solution or EHR their physician was using.

It’s been a very dynamic process of what technology was available and in use. I think what we're learning is that we need connectivity with some of these commercial off the shelf technologies, but need to make sure that privacy and security are maintained or introduced into those platforms. Familiarity with the platform is key for its usability both for patients and for clinicians.

Time: 37:55
Dr. Steve Ommen: I would add some of those more common consumer-based platforms aren't necessarily HIPAA compliant. Enforcement of HIPAA compliance was relaxed in 2020 to allow patients to be able to connect. Zoon, for instance, has both HIPAA compliant and non-HIPAA

compliant options and better if the hospital system is using it. We'll see shifts as we go back to a post public health emergency environment with HIPAA enforcement.

From a user experience standpoint on both provider and patient side, it will be more effective if it's part of the EHR environment. That doesn't mean EHR companies must to develop a video platform, but they need to make their EHR able to connect with any number of video clients that are HIPAA compliant. The healthcare system might choose have video embedded within the EHR and workflows building a better experience for both the patient and provider.

Time: 39:22
Moderator: There are millions of uninsured patients in the United States. What is their perspective on telehealth? What are your research plans for this target and future?

Time: 39:42
Dr. Francis Campion: It's certainly a high-risk population, and the potential for uninsured persons being left even further behind exists in the healthcare marketplace. I think research in this area is difficult because we typically don't get traditional claims for uninsured persons. It's going to take a novel study design to actually find out how these patients are being served and whether telehealth is playing a role. This is certainly another reason why audio-only or telephone-based care is important to make sure we're reaching populations at greatest risk. Study designs for the uninsured will need to be very thoughtful. Who pays for that type of research is another question. It is going to be up to both government and foundations to develop that type of research. We're very interested in working with foundations and government funders for a variety of different telehealth studies. I'm hoping that listeners to this interview may be able to get in touch with us and help us reach the potential for new studies in the next year or two.

Time: 41:12
Moderator: How does telehealth reduce market costs? Where are the opportunities for efficiencies, and what is the timeline?

Time: 41:33
Dr. Steve Ommen: It remains to be answered, but telehealth provides us more options for right-sizing the interaction with a patient based on the needs they have at the time. If I can take care of a patient with a shorter appointment visit and it's done virtually, I can have longer appointment visits with patients who have more complicated profiles that need to come into my office. Likewise, if the patient doesn't have to come in for testing at Mayo Clinic, that means a CT scan or echocardiogram slot is now available for someone else who needs it. It allows us to right-size testing and time spent otherwise to the needs of the patient. Telehealth makes it possible for patients not to take a half-day off school or work to get care. We have to broaden our lens both in timeframe and in value measurements to truly understand and appreciate the true value of telemedicine options and its impact on larger societal cost.

Time: 42:54
Dr. Francis Campion: When you think about research design, it's quite possible that doing a true randomized controlled trial where you have some patients receiving telehealth and another population not getting any telehealth is possible. Designing a trial for heart failure and acute care for example, will be difficult. For my diabetic patient, if I can see them three times in the office and three times with telehealth visits over the year, it's going to be better care than if I'm only able to

see them three times with a face-to-face visit. If I can additionally communicate with them with remote patient monitoring and obtain data on their blood sugars, blood pressure in between, we're going to be able to get better glycemic control, and potentially prevent progression to renal disease or eye disease over the longer term. The real value proposition is in higher quality care, and better patient satisfaction, and better long-term outcomes, which will take time for us to actually measure.

Time: 44:20
Moderator: The research article claims a foundational stake for telehealth in the United States healthcare marketplace. You've proposed a national digital strategy for healthcare in the US. What's included, and again, in what timeframe?

Time: 44:52
Dr. Francis Campion: I think you're referring them to the National Health Digital Strategy that MITRE Corporation has recently released, and to some extent it's learnings that we have from the pandemic and the challenge to determine what's possible going forward in both the public and private sectors.

We've articulated six goals for effective digital care. These include the need for universal broadband, the need to have a sustained healthcare workforce trained in the ways of digital technology and have access to it. We need to have data exchange architecture – interoperability, and have been laying the groundwork for that for many years. Now it's apparent that we need to exchange data between EHRs health systems to make care efficient. For example, just the knowledge of who has been vaccinated is better with the COVID vaccine than with flu due to the focus of making sure vaccine registries around the country are communicating. It's been a game-changer.

This integrated concept of digital care is going to take work on the infrastructure side. Steve mentioned the licensure of physicians and other licensed care professionals. All these need to be coordinated to think about what is best for the patient. If we keep that as our North Star, we will be able to reconstruct and guide us forward. I think we should do be able to do it in an accelerated fashion. People realize you can make a vaccine in a year. Why can't we get telehealth to work for everybody within a year? We've been working on telehealth for 20+ years, to be honest, and we knew it's there. It was never used in a way that expresses the best care for patients. I'm excited about this, but it's going to take education, initiative and a strategy that we can all work toward. We're hoping that our digital health strategy is widely embraced and that we stimulate some significant conversations about what's possible.

Time: 47:25
Moderator: What's the subject or hypothesis of the next study in your three-part research series? What should the market expect?

Time: 47:25
Dr. Francis Campion: As I mentioned, we have three case studies coming out: behavioral health, pregnancy, and diabetes. As Steve pointed out, the real excitement is in the details of the different clinical case types in his area (heart failure and cardiovascular care). It couldn't be more exciting.

I think that in future we'll ask, "How do we take care of patients with specific clinical problems?" We'll match certain digital capabilities to certain patient groups for our workflows for best practice, and hopefully create a reimbursement environment that enables us to do the best thing for our patients.

Time: 48:39
Dr. Steve Ommen: That's exactly right FX, I think that understanding individual diagnosis types that lend themselves best to healthcare, understanding the impact to outcomes, and the appropriate measures of value in a larger lens is really where we're going to see the research shift going forward.

Time: 49:02
Moderator: Thank you both, gentlemen. This is a great way to end our discussion with these final comments. I'm sure the audience will look forward to your unveiling those results soon. It's great to have research that informs and guides strategic undertakings for the marketplace. I hope these insights are helpful to listeners and policy leadership. Thank you again.