UNITED STATES FEDERAL COMMUNICATIONS COMMISSION

BROADBAND HEALTH SUMMIT:

BUILDING CONNECTED HEALTH AND SMART CARE SYSTEMS

IN FLORIDA AND BEYOND

Jacksonville, Florida

Thursday, October 1, 2015

PARTICIPANTS:

Welcome and Introductory Remarks:

DR. SARVAM P. TERKONDA
Site Medical Director for Connected Care in Florida
Mayo Clinic

THE HONORABLE MIA L. JONES
Florida, District 14
House of Representatives

Brief Remarks:

TOM WHEELER
Chairman
Federal Communications Commission

What Next? A C-Suite Chat with Chairman Wheeler and Commissioner Clyburn; Connected Care: The Next Decade of Broadband Access and Care Delivery:

Discussants:

TOM WHEELER
Chairman
Federal Communications Commission

MIGNON CLYBURN
Commissioner
Federal Communications Commission

DR. GAIL CROALL
Chief Medical Officer
HealthSpot

DR. DEBORAH MULLIGAN
Chief Medical Officer
MDLive

DR. STEVE OMMEN
Medical Director
Mayo Clinic Center for Connected Care

PARTICIPANTS (CONT'D):

MICHAEL ROBINSON
Vice President, U.S. Health and Life Sciences
Microsoft

ALEX ROMILLO
Chief Operating Officer
Health Choice Network

Brief Remarks:

MIGNON CLYBURN
Commissioner
Federal Communications Commission

The Challenge: Catalyzing a Broadband Health Ecosystem in Florida

Part 1: Florida in the Broadband Health Spotlight:

Moderator:

RENA BREWER
Chief Executive Officer
Global Partnership for Telehealth

Discussants:

DR. KEVIN BARRETT
Medical Director
Mayo Clinic Telestroke

DON HUGHES
Fire Chief
Satellite Beach Fire Department

KENDRA SILER-MARSIGLIO, Ph.D., HCC
Rural Health Partnership Director
Community/Health IT President
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PARTICIPANTS (CONT'D):

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Health Science Specialist
Veterans Health Administration

AUSTIN WHITE
President and Chief Operating Officer
MD Health RX Solutions, LLC

Luncheon Keynote:

MEREDITH ATWELL BAKER
President and Chief Executive Officer
CTIA - The Wireless Association

Part 2: Interactive Telehealth Design Session - Broadband. Bridging Gaps for Seniors and People with Disabilities:

Design Lead:

DR. MICHAEL CHRIS GIBBONS
Chief Broadband Health Innovation Officer
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Facilitators:

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DR. SARVAM P. TERKONDA
Site Medical Director for Connected Care in
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Closing and Wrap-Up:

DR. SARVAM P. TERKONDA
Site Medical Director for Connected Care in
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P R O C E E D I N G S

(9:06 a.m)

DR. CHRIS GIBBONS: Good morning, everyone.

AUDIENCE: Good morning.

DR. GIBBONS: My name is Dr. Chris Gibbons. I'm with the Connect2HealthFCC Task Force in Washington and we are delighted to be with you today. We understand that there's significant traffic. I'm wondering if I'm back in Washington or I'm still here. So we're trying to give a few more people just a couple more minutes to get here before we go. But while we wait, there's a few housekeeping things that I'd like to take care of.

Just so you know, we will be live streaming today, it's in your program, and people will be able to submit questions, tweets, and things like that throughout the day. There is Wifi available if you haven't seen it already. The name of the Wifi is Mayoguest. There is no password. You just have to accept the conditions

that they'll ask you to do.

Bathrooms are through these first set of double doors and to your left, both men and women. For those who need it, there is a small café. If you just go back to the lobby and then turn right and go down a bit, there's a little café there if you need it.

I think -- oh. For those -- we encourage anybody who would like to tweet about what's going on today to do that. The hashtag that we would like for you to use is #C2HFCC. The Mayo Clinic is @mayoclinic. All right?

And we'll give two more minutes for anybody who is straggling late and then we will get started. Thank you.

One more thing to you. You will see some ladies over here doing some interesting things on the board. For those of you who have never seen this before, these are graphic recorders. Their job is to listen to everything and to take notes but in a way you've probably never seen before if you haven't seen this before.

It is amazing stuff.

And so feel free to watch what they're doing, but this is actually a serious form of note taking for the events throughout today. They'll be here all day and we really appreciate their services. Feel free to walk over and talk to them during the intermissions, but they'll be listening and taking notes in what they call graphic note taking all day today. Thank you.

(Pause)

DR. TERKONDA: I think our two minutes has come up. Good morning, ladies and gentlemen and honored guests. I want to welcome you to the Broadband Health Summit: Building Connected Health and Smart Care Systems in Florida and Beyond. Mayo Clinic is honored to have Chairman Wheeler, Commissioner Clyburn, and the Federal Communications Commission's Connect2Health Task Force to our Florida Campus. We are excited to hear this important discussion on telemedicine.

I hope anyone that has an interest in using technology to deliver health care will find

this an innovative form for discussion to accelerate the delivery of health care through telemedicine in the state of Florida.

The transformative power of telemedicine is impressive. It's going to improve accessibility, the availability, and affordability of health care. With advances in broadband and next-generation communications technology, we hope that telemedicine is poised to change the face of health care.

At this point, I would ask Representative Mia Jones to give a few words, if that's okay.

REPRESENTATIVE JONES: Good morning.

AUDIENCE: Good morning.

REPRESENTATIVE JONES: And welcome to Jacksonville. When we come together in a place that I basically call home when we start to talk about Mayo Clinic and telemedicine, it is a pleasure to see those who recognize the importance of all that is available to us.

And so today, I would like to thank

Chairman Wheeler and Commissioner Clyburn and your staff for recognizing Mayo Clinic and coming here to Jacksonville to share and to help to move forward the conversation. And, hopefully, through this conversation I look forward to in the next few months legislation that will help to elevate the state of Florida in the area of telehealth.

Today's summit is close to my heart, and Building Connected Health and Smart Care Systems in Florida and Beyond is a title that I'm going to steal from you guys and I'm going to use it when I go back over to the legislature because a number of years ago I called Layne Smith up and I said, Layne, I just came back from Alaska and I saw the work they were doing in Alaska and I said that if they can do it in Alaska, I know we can do it in Florida.

Florida we have urban rule communities that health care, especially specialty care, is almost nonexistent. I heard yesterday at an event by a doctor who had agreed to come into the urban community that the reason he made the decision to

establish the clinic was because a year or so ago he had a young lady come into his office and she had a three-year-old child with her and she was sweating.

And he said is the air condition not working in my lobby? And she said, no, but I just, we walked here. He said, well, where did you walk from? And for those of you who live in Jacksonville, you'll understand just how far this was. She walked from UF Health on 8th Street to Emerson with a three-year-old. And so he said, well, why would you walk that far? She said, you were willing to see my child and he needs care. And so he said at that point he knew that he had to find a way to touch that community.

Well, just imagine if that mother could have gone into a room in a clinic that may have had a nurse practitioner, or into a fire station, or even into just a building, an office building, and there was a kiosk that she could have by the touch of a finger talk to a doctor, the doctor being able to see what was going on, hear from

that mother, and being able to diagnose and send them for additional care.

That's what we're talking about being able to do. Earlier this week in Jacksonville, Crowley announced that they would be having a pilot program where they have set up a kiosk that actually came to Tallahassee and stayed in the capital for over a week and shared with the legislators what they were doing and able to do down in South Florida. And I heard that your program in South Florida went well and I know that in the state of Florida we have over 180 stakeholders who are interested in telehealth and telemedicine and all that is available to us.

So today, I ask you to sit back, listen, be engaged in the conversation, and make sure that you take this message forward to encourage others to get engaged in the conversation. We are doing great things with telehealth from Wolfson Hospital in Nemours, to Mayo Clinic with their telestroke program, and we have so much more that we can do.

My colleagues in the legislature have

told me that, and I told them, you know, this is my last year in the Florida House, and I don't intend to leave the Florida House without us having legislation on the books to make sure that we're creating an environment that is receptive and fertile for positive growth in this area.

(Applause)

REPRESENTATIVE JONES: Thank you all so very much for being here.

DR. TERKONDA: Thank you Representative Jones. As most people know, Mayo Clinic is a nonprofit leader in medical care, research, and education. Our mission is to inspire hope and contribute to the health care of the United States, and, more broadly, internationally.

At this point, I'm going to ask Steve Ommen to give a few words about our history of telehealth at Mayo Clinic. Dr. Ommen is a cardiologist and is the Associate Dean for Connected Care for the Mayo Foundation.

DR. OMMEN: Thanks, Sarv. On behalf of the Mayo Clinic Center for Connected Care, I want

to thank the Commissioners for being here today and the other participants. As Sarv said, we've had a long history with telemedicine. More than a decade ago, Mayo Clinic started an enterprise called E-Health. And similar to the banners you see today, about two years ago we changed that title to Connected Care because we felt that was a better depiction of what we're trying to do.

And so over that time, we've developed from an enterprise that provided patients access to their portal, to the electronic health record, before that was the thing that we all expect.

So now we're trying to extend our care and services to our patients and even non patients in a more continuous way. We recognize that health care has traditionally happened when people had decompensations in their health instead of high cost interventions when someone was ill. And through the technologies we have available to us now, we can extend the relationships we have with our patients and other people, health seekers we call them, in a more continuous way to help them

maintain their health.

We are real excited for this discussion as we are really seeing now a title change in the conversations that are occurring. Just this past year, we saw a tremendous acceptance of changes to thoughts about state licensure requirements with the adoption of the state medical licensure compacts in many states when previously there was almost no discussion, and we had many states sign onto that this year.

Discussions about the infrastructure that we might need to provide these much needed services to people is also a continuation of this momentum we're seeing because the reality is we know that people are going to expect and demand that they connect to their health care teams in a more continuous, more logistically easy way. And we think the discussions like today's are setting the stage for that to happen.

So again, welcome everyone. I'm looking forward to the discussion. And, Sarv, thanks for the time this morning.

(Applause)

DR. TERKONDA: Thank you, Steve. At this point, it gives me great pleasure to introduce to you the Chairman of the FCC, Mr. Tom Wheeler. And as I stated to him earlier, when I read his bio, I almost felt like I had done nothing in my life compared to Chairman Wheeler.

(Laughter)

DR. TERKONDA: But Chairman Wheeler became the 31st chairman of the Federal Communications Commission in 2013. He was appointed by President Barack Obama and unanimously confirmed by the United States Senate.

For over three decades, he has been involved with Next Telecommunications Networks and Service. He's also an entrepreneur and businessman. He started and help start multiple companies offering innovative cable, wireless, and video communication services.

He is the only person, and this was noted by President Obama, selected to both the Cable Television Hall of Fame and the Wireless

Hall of Fame. And President Obama rightfully termed him the Bo Jackson of telehealth.

(Laughter)

DR. TERKONDA: Chairman Wheeler.

(Applause)

CHAIRMAN WHEELER: Well, thank you very much, Dr. TerKonda. That's a very thoughtful introduction, and I don't want to tell you how pleased we are, the whole Connect2Health team challenged by Commissioner Mignon Clyburn to be here at Mayo Clinic.

You know, you think health in America, and you want to play a word association game? Health. Mayo. And so to be here today means a lot. And your leadership, and what we've seen, your leadership is important.

And Dr. Ommen, where did he go? There he is back there. Thank you for your work throughout Mayo to continue to push forward the opportunities that harnessing technology can bring.

Representative Jones, I understand that

in Tallahassee when people think about health care policy and about using technology and some of the legislative and legal hurdles,that has to overcome, that things lead to your desk. And thank you for your leadership on that and for the challenge that you laid down to everyone here today.

But I especially want to thank my friend and my colleague, Mignon Clyburn, who without her vision and leadership there would not be a Connect2Health Program at the FCC. And we'll have a chance to hear from and learn from Commissioner Clyburn in a couple of minutes.

But I can be really clear and say that I'm here today as Mignon Clyburn's warm-up act and the job that she has done in terms of keeping our agency focused on this important issue.

And, of course, then I also need to make sure that Michele Ellison, who is the head of the Task Force, and you already met Dr. Chris Gibbons, I mean, how fortunate can a regulatory agency like ours be to have a scholar in residence like Dr.

Gibbons with real life experience as we deal with policy issues and he can say, well, wait a minute, let me tell you how the real world works, and to identify to us the kinds of issues that we need to be focusing on.

You know, I'm kind of a history buff. And I discovered the other day that in the leading Doctor's Manual published at the turn of the last century, beginning of the 20th century, there was an observation made saying to doctors the telephone is as important as a stethoscope. You know, and today we chuckle like that. My goodness.

Yesterday, I saw stethoscopes connected to the internet. That's what we're talking about here today. The opportunities that exist to harness this incredible revolution in high-speed broadband connectivity and apply it to the challenges of health care.

But the thing that's important, you know, we talk a lot about broadband networks, high-speed networks, the impact of the internet,

how it's the greatest revolution in network technology that the planet has ever seen. But it's not physical networks that drive social and economic change. It's the use of those networks.

It's the secondary effects of the primary network that determines the course of history. And clearly, one of those impacts has to be how the network is used to transform health care practices.

Let's go back in history again. Another historical exam. The first commercial telephone line was installed in Hartford, Connecticut in 1877. The first subscribers to the line were 21 doctors connecting to the Capital Avenue Pharmacy because they recognized here was a tool that would help them deliver better health care.

Two years later, the telephone came to a small town in Minnesota called Rochester, Minnesota that some of you may have heard about. And the first user was Dr. William Mayo, who got a telephone line so that he could call the drugstore.

So yesterday we were at the Nicholas Children's Hospital and at a HealthSpot kiosk that was working with the hospital. And we saw the successor to that idea, and it's a logical step, but it's to use the network for an awful lot more than prescriptions.

Virtualizing health care is our opportunity at this point in history to have our secondary effect using this great network revolution. You know, if you stop and think about it, hospitals and modern health care was created in the industrial age by applying factory-like techniques for delivery of health services.

We have seen in the economy how the high-speed network has distributed economic activity out of centralized areas, and we have from big factories to independent activities out on the edge of the network. The same opportunities hold true for health care.

And if you do that, a couple of things happen. Better networks mean better health care. Logical. Better networks also mean big data. My

doctor is fond of saying to me that medicine is the use of information. And if information can be digitized to be transported afar to provide health solutions, it can also be digitized in order to create databases that can be used to help identify various health care challenges in individuals.

So this is an exciting time, an important time for all of us. But it's a -- we've been asked as we've been on this trip, why is the FCC here? Why is the Federal Communications Commission here? And I think there are a couple of answers to that.

The first overriding answer is because you know it's good to get outside of D.C.

(Laughter)

CHAIRMAN WHEELER: You know. It's good to have a chance to talk to real people and find out real things that are going on. But our agency is responsible for all of the nation's communications networks. And we are trying to be the sparkplug for the rollout of fast, fair, and open, high- speed broadband connectivity.

Since about 2009, private companies in this country have spent $420 billion dollars to build out that kind of connectivity. Last year alone $78 billion was spent to create that kind of connectivity. And so our networks are expanding. But there are areas of our country where that expansion is slow.

It's much more challenging, obviously, to put fiber optic in remote rural areas than it is in downtown Jacksonville. Also, there are populations, there are groups of American citizens where the uptake of broadband is low for economic reasons or for simple lack of understanding and awareness reasons.

And we also have a situation where we have insufficient competition and choice so that consumers can say, hey, I want to have several suppliers of these services both wired and wireless, and have multiple choices inside there.

The way in which you drive investment is to drive demand. And so if the FCC is here today talking about how broadband can be used, and that

drives demand which stimulates investment in competitive services both wired and wireless, then that's an important part of our role. And I should emphasize that those need to be competitive services available to everyone.

But let me close with where I started. The second reason we're here is it's the effects of networks that count. Commissioner Clyburn keeps us focused on results. There is an annual thing that those of us who have been in the technology business always look forward to. And that's the annual report of a woman by the name of Mary Meeker, who does a state of the internet assessment every year.

She goes through and she ranks various sectors of the economy by the internet's impact on those sectors. And at the bottom of the list are government and health care. We can do better. We have an opportunity as commissioners of the FCC to attack both of those challenges to use the internet better in how we make ourselves accessible to Americans, but also, to focus on

just how we use the internet to make health care services better for all Americans.

I was particularly interested in Representative Jones' comments at the outset because what I heard you say, Ms. Jones, is it's not technology that's the issue. You've been to Alaska. You saw the technology. It's not that we need to go out and invent something. We have to use it. And we have to have the will to use it. And people have to be willing to take the risks to use it.

And people who have said, well, I've always done it this way need to ask themselves might this work too. And that's the second job that we're about here. We're about saying, okay, how can those of us who are responsible for high-speed networks say, hey, have you looked at what the other alternatives, what the other applications might be? Do you understand it's not the technology. It's the application of the technology.

So I'm excited to be here. Thank you to

the Mayo Clinic and to everyone for your interest and your involvement in this and I look forward to the ongoing discussion here in a moment with those who are actually putting these kinds of ideas to work.

So thank you very much.

(Applause)

DR. TERKONDA: Thank you, Chairman Wheeler. We're going to start the first portion of our agenda which is, "What next: A C-Suite Chat with Chairman Wheeler and Commissioner Clyburn regarding Connected Care: The Next Decade of Broadband Access and Care Delivery.

This is going to be an executive level dialog which will focus on the next decade of connected care and the overarching vision that the health and technologies bring to the table.

We'll ask our discussants to join us on stage. First, I'd like to ask Commissioner Clyburn to join us, please. We're going to Dr. Gayle Croall from HealthSpot. Dr. Deborah Mulligan, Chief Medical Officer of MDLive. Dr.

Steve Ommen, Medical Director, Mayo Clinic Center for Connected Care. Michael Robinson, Vice President, US Health and Life Sciences from Microsoft. And finally, Alex Romillo, Chief Operating Officer of Health Choice Network.

Thank you very much. Chairman Wheeler.

CHAIRMAN WHEELER: Well, thank you, Dr. TerKonda. We get the rubber meets the road folks up here.

(Laughter)

CHAIRMAN WHEELER: And so let me just begin by asking a question, and I think it's great if we just start here with you and move right on down because that means we can end up with Mignon and she then can kind of help relate this back to the bigger context of what going on.

But walk us through, if you will, your particular area of interest and the specific kinds of applications that you're interested in, you're working on, and what it says in the broader sense as to what we all ought to be looking at. Doctor.

DR. CROALL: Well, great. I really

appreciate the opportunity to be here. Thank you, Mr. Chairman. Commissioner. And it really is a privilege to be able to talk about how telehealth can change the way health care services can be delivered.

And actually, I think a picture is worth a thousand words. So I wanted to actually show what the HealthSpot station looks like. Have any of you seen the HealthSpot station? A few of you? Okay.

So essentially, the HealthSpot station brings the doctor's office out into the community. So what the technology has done is really recreate the doctor/patient exam face-to-face in the doctor's office, but bringing it through technology out into the community in terms of where access may be needed.

And it may not necessarily be only rural areas. So I'll give you an example of a Medicaid mother who has to take two bus routes to get to the community health center. She takes one bus route to get to the emergency room so guess where

she goes for care? The pharmacy where our HealthSpot station is located is right across the street.

So what we do is, essentially, the equipment that the physician uses to examine you, the stethoscope, the blood pressure cuff, the otoscope, is right in front of you, the patient, but the doctor is virtual. They're on the video screen. But all of that equipment is connected to the physician so the physician can actually do a diagnostic exam.

So the physician through their laptop regulates the doors in the station. They drop the door down for the stethoscope. You take the stethoscope out, you put it on your chest, and the doctor can actually virtually listen to your lungs, listen to your heart.

The consumer takes the otoscope out, puts it in their ear. The physician can see the eardrum on the screen, but what's really interesting is that the consumer can see the eardrum on the screen too. And what we hear from

consumers is that they're much more engaged in their health care when they're actually interacting with the equipment with the physician.

So these stations are pretty mobile. They need an internet connection, but they can be placed anywhere. So as Chairman Wheeler mentioned, it's at Nicklaus Children's Hospital in their hospital system. At Florida Blue, it's in their retail center. Mayo in Rochester has it in schools. Cleveland Clinic, who is one of our partners in Cleveland has it in a college. You can put it in retirement communities. You can put it in work sites.

And we've now spread the HealthSpot station out into the community in terms of retail pharmacies. So why retail pharmacies? Well, 93 percent of Americans live within five minutes of a retail pharmacy. And the retail pharmacy can also provide additional services such as immunizations, wellness visits, point-of-care lab testing.

But we partner with the local medical community to provide the services. So in

Cleveland, for example, when you go into the Rite Aid where we partner with the Rite Aid Pharmacy, you can pick a Cleveland Clinic physician, you can pick a University Hospital physician, you can pick a Rainbow Babies's pediatrician to see you for that care. You walk right up and could be seen immediately.

So I'm going to play, actually, a video that actually walks you through kind of the consumer experience at the retail pharmacy. And when you look at the video, think about how this mirrors your face-to-face exam with your physician.

(Video plays)

NURSE: Hi. Welcome to the HealthSpot Station. How may I assist you?

PATIENT: I'm having a little earache and a little bit of a fever.

NURSE: Okay. Well, you can check in here with the reason for your visit. I can also verify your insurance, collect any copays, or any other payments, and you get to choose your

provider for this visit. If you need any help, just let me know.

PROVIDER: Will do, thank you.

NURSE: You're welcome.

(Short pause)

PATIENT: I think I'm all done.

NURSE: Okay, great. Let's take you into the station. Now I will get your blood pressure. I'm also going to take your height, weight, and temperature before you connect with the provider.

(Short pause)

NURSE: The provider will be you in just a moment. If you need my help, just press the "Need Assistant" button and I will be right back.

PATIENT: Okay.

(Short pause)

DOCTOR: Hi Dehari. Welcome to HealthSpot. I'm Dr. Smith, and I'm sorry to hear you're not feeling well today. Looks like you've got an earache and a fever; is that right?

PATIENT: Yes.

DOCTOR: Is it your right ear that you're having some pain with?

NURSE: Yeah, this ear here.

DOCTOR: All right. So what I'd like to do is I want to go ahead and write a prescription for you. And I send that electronically right over to your pharmacy.

PATIENT: Thank you.

(Short pause)

NURSE: Here's your visit summary. Have a great day and I hope you feel better.

PATIENT: Thank you.

(Video ends)

DR. CROALL: So the attendant then cleans the station in between each patient visit and then there's an ultraviolet light that also cleans the station just like an OR.

Our technology platform integrates with insurance eligibility. So in our retail model, anybody can go into the station. We connect in with your payer in terms of your insurance eligibility, your copay, your out-of-pocket. It's

integrated with the local medical systems, electronic medical records, and the physicians' billing system so they can send the claim to their payer for reimbursement.

We started with these kind of minor sick visits, but we'll be expanding to really help population health management across that full continuum with wellness, to behavioral health, to chronic condition management.

So we're really excited in terms of how HealthSpot can play a significant role in terms of being the new front door to that health care ecosystem.

CHAIRMAN WHEELER: Great, Gayle. Thank you very much. Deborah, tell us what you've been working on.

DR. MULLIGAN: Sure. I actually brought this as my prop.

CHAIRMAN WHEELER: Everybody has one of those, you know. I mean, what a convenient prop.

DR. MULLIGAN: It's amazing, but only as good as your broadband.

(Laughter)

CHAIRMAN WHEELER: You keep saying the good point.

DR. MULLIGAN: So I guess if I can recap the stories I'm hearing briefly to give you context. So we've heard this morning and from Representative Jones that health care is in transformation right now. We are in the future, so to speak, and it's changing in a way where people are pointing at system of systems such that the value and focus and coordinating around the patient as you're discussing and integrating it into the community.

Secondly, people are more than patients. They're consumers of health care. They're demanding they want their health care hot and now and they want it the highest of quality. They want to know where their expenses are going, and they want to make sure they get good value, and they deserve to know all of that.

And then data. The patient population and ourselves, we have access to data like we've

never seen before. And we can make decisions at the point of service discussing that together. So that's patient education and health literacy. It's so important.

And the next, telemedicine. It's exciting for me. I'm a pediatric emergency medicine physician and you know me through EMSC, setting up the system across the state, and my whole life, 25 years.

By the way, a little side bar here. I got permission to mention Dr. Jerry Shiebler, who is a stone's throw away from here. If it weren't for Dr. Jerry Shiebler and Dr. Fred Lippman at Nova Southeastern University, you would be scalding your skin in the morning, you wouldn't have your seatbelt on, and there's dozens of pieces of legislation that protect us every day. So we were just wanting to acknowledge them.

And with that in mind, telemedicine is, as you've heard it, it's an emerging ecosystem. It's evolving all the time. Regulations impact. The marketing environment impacts. The health

care system, it's different if you're with the Mayo versus out in Clewiston. There's nothing, there's no Mayo out there. And that's part of our (inaudible) with Nova Southeastern University, a population that you've been touching on.

So then we look at what you heard earlier from one of our hosts. The smarter city, the smarter health care system looks at building around the individual, identifying those areas of insightful ways by which to manage their health care so that they're a whole person, behavioral, social, clinical. And we're talking about seniors and the disabled. They need all of that not just a quick fix for what has been in the past the emergency care as you mentioned, urgent care, doc-in-a-box.

So when we migrate away from fragmented episodic care for acute illnesses, that's where MDLive comes in. MDLive is actually through the insight of an amazing CEO, Randy Parker, and founder for the medical group, Dr. Gurland, recognized a few years ago that you really need

connected care partners on the ground.

And so what they've done is we have over states with large hospital health care systems who are true connected care partners. And what does that really mean? On a daily basis, that means that patients no matter what vertical they come in through, employer based, health care system based, or payer based, as you mentioned, the Blues, they are given coordinated, connected, continuous care that ends up at the local level with their medical home. And as pediatricians, we want you back at your medical home.

So as that evolves, the partners include, Walgreens is an interesting partner. We talked about subacute care, subspecialty care, behavioral health, all of which is offered by MDLive now anywhere you are. And that's why I brought this prop. It can be this screen. It can be your laptop. My mother is 82. She doesn't always like to drive anymore to her doctor. So she's not so, you know, facile with a cell phone, but she's great on a laptop. And so she's able to

see her doctor using the system on a laptop. Works for her.

So any screen, kiosk, Walgreens Retail Clinic, wherever you open your eyes, a senior assisted living center, your home, where your life travels throughout the day. So you understand my meaning. 24/7, anyplace that you are you have a trusted relationship because it involves your medical home.

And I guess tying it all together would be all of this is fantastic. One area we discussed earlier, which is one of my areas of expertise, would be disaster medicine. All of this works beautifully until disaster strikes. We have hurricanes every year. I know that you and many others in this room, we have not been able to use our landline, our cell phone, nothing. We go days without communication.

So it's ever more important to support the FCC in any way that we can to insure that they're able to commandeer the resources to find a way that when those disasters strike we can still

reach our patients and we can still help them in a meaningful way wherever they are housed in that moment.

CHAIRMAN WHEELER: It's a great point. First, the network has to work.

DR. MULLIGAN: Yes.

CHAIRMAN WHEELER: Steve, so you sit atop all of Mayo's efforts to try --

DR. OMMEN: Something like that, yeah.

CHAIRMAN WHEELER: -- to try -- no, no, no, not all of Mayo's efforts. But all of Mayo's efforts to try and adopt these kinds of concepts. What has your experience been?

DR. OMMEN: It's a broad question. How much time do I have?

(Laughter)

DR. OMMEN: So I think that our experience has been it starts slow and it builds. And as we were discussing before the session started today, we're kind of in a time frame where there're kind of two modes or two peaks of acceptance. There are earlier (inaudible) people

who are so excited for this happen that they are rearing to go, and they can't understand why we can't meet the needs because as you mentioned, it's not the technology that's keeping us from doing this. It's somewhat the practice paradigms that we're working in.

And then that other peak of individuals are the ones that you've mentioned from the podium. They're like but it's so comfortable doing it the way we've been doing it. Mayo Clinic just celebrated its 150 years of doing medicine. What we think is the best way that it's been done. It's hard to get people to change when you've just proclaim how good you've been doing it. But the reality is that's the last 150 years and not the next 150 years.

And so we are in this groundswell of change where we need to build the best case example of the best practices to show people if you just try this technology, if you just try changing the way you follow your patients or the way you engage your patients that we'll see that

adoption happen.

And I think that for the consumers -- having trouble with my mike. So similar to what you just mentioned, we're actually having a dialogue where we're trying to get rid of the word "patients," because people aren't just about their illnesses. They're people. And they always have health and wellness needs and sometimes they have sickness needs. But they are people first and foremost, and they're going to demand to be connected just like they have in other industries.

Banking is the easiest example because your finances are intimate to you. We were all nervous about online banking. Now I challenge almost anyone to name an employee at your local bank because no one does it that way. They use the same (inaudible).

So we're going to see this change happen in medicine, and I think it's going to happen much faster than it happened in banking, but it is going to require the practice inside of medicine --

CHAIRMAN WHEELER: It's going to happen much faster than it happened in banking.

DR. OMMEN: Because it's a familiar pathway. Once consumers get on that pathway and they say, gosh, this is just, I've built this before, I've been here before, they're going to demand it happen.

CHAIRMAN WHEELER: Interesting.

DR. OMMEN: And it's not just the rural patients that can't get into --

CHAIRMAN WHEELER: Yes, that's right.

DR. OMMEN: -- it's not so much getting down the highway. Sometimes just getting out of the kitchen is just as hard for someone who's just had a hip operation or bad arthritis. Or just for the convenience of life. We all are much more familiar with using our devices to connect to all the services we need.

CHAIRMAN WHEELER: Interesting. Michael.

MR. ROBINSON: Yes. So I'm going to echo a lot of the statements that have already

been said, but as a technology provider, Microsoft believes that, much as you mentioned, Chairman Wheeler, that it's not just the technology. It's really the use of that technology and how do we foster and create collaboration around that.

So for us there are a couple of key points. First of all, we think there's a confluence of key factors, a perfect storm, so to speak, of regulatory and regulation reform, of technology coming of age and being available and ubiquitous. And then, also, we talked about the active and engaged consumer as well.

And so having those three things come together is really forcing a stronger adoption of technology and collaboration in the industry to make that happen.

So we, again, our mission is to make sure that technology is available to empower organizations and individuals to achieve more. And we think that being that platform we help address. It's not just about having a healthier population. But we look at things like our rising

costs of care and the percentage of our GDP that we spend on health care is escalating to a point where it's unsustainable. And so we have to find technologies that can help bend that cost curve. And so there are a number of factors including shortage of physicians and primary care providers that is pushing these technology to bridge that tap.

And so we believe there's a huge opportunity. There are some regulatory hurdles and challenges that we have to get over, but we believe that having an open, secure, accessible broadband and access for people is key to making that happen.

We go back to, I'm in this industry, technology, and I actually started in telecommunications, so spent 15 years in that industry, and we go back ten, 15 years. We talked about a digital divide. Now it's more about, as technology is more ubiquitous, it's more about how do we get those services. So there's more of a services divide and a health disparity that we

have to deal with today.

CHAIRMAN WHEELER: There's still an access challenge --

MR. ROBINSON: Yes.

CHAIRMAN WHEELER: -- in terms of the divide there. But you're then saying that even those who sign up, they have their own disparity and their own divide. And what do you think is at the heart of that divide?

MR. ROBINSON: Again, I think some of the other panelists mentioned around education. So consumer education, I think, is key as well. As well as we need more collaboration across the plans, the providers, and some of the service providers as well. And we're seeing that convergence in the industry as well.

So I think that to Steve's point, the way we provided health care for the last 150 years or 200 years, or however many hundred years you want to go back, that has to change and there has to be a more open collaborative process to make that happen.

CHAIRMAN WHEELER: Alex.

MR. ROMILLO: So we're a network, we're an uninsured network of not-for-profit organizations that are known as Phillipe Holfed Health Centers. And so we're at the front line of health care.

Lots of such technology already spoken about, we use all the time. Except that as you hear education and your comments, Mr. Chairman, on the telephone --

CHAIRMAN WHEELER: Yes.

MR. ROMILLO: -- we have patients that don't have a stable phone line. They don't have a stable mobile line. And so as we look at playing, as one of my board members said, playing the game of health care with our peers. We receive a list on a monthly basis of your most acute patients that are lost to care. This is a patient that's been assigned to a provider. That provider is responsible for that patient whether they see that patient or not.

And we try the usual techniques to reach

that patient except when the patient has a catastrophic case, a disease that requires immediately attention, a child in a public school that is in a foster program. And, unfortunately, we've had lots of examples in South Florida that hit the news that are all negative cases that could have been avoided by technology.

Our partnership with many of the folks on this panel, including Microsoft, was how do we bridge that gap of when my technology partners tell me everyone has a phone? We've partnered with the program Lifeline and --

CHAIRMAN WHEELER: You're sitting next to the champion of Lifeline.

(Laughter).

MR. ROMILLO: I know I am. And it's been amazing to watch the stories that come back from the grandparents that are taking care of multiple households, as just referred to, in the program in one home that we finally gave them a stable phone number to be reached. In many cases, you mentioned the Medicaid patient, when we

launched our phones and our technology to these patients, they had to go through the entire process of agreeing to participate which was a challenge because of language issues. Not education. We had very highly educated people that don't speak English.

So we had to change our consent forms, and we couldn't really find an attorney that would like to take the consent form, specifically in the state of Florida, bring it into Spanish to a third grade Spanish which is actually a dialect in Venezuela, as an example.

So you look at these barriers, but I want to highlight the positives. We ended up loading apps that had nothing to do with health care on these phones. We started loading our apps from Miami-Dade Transit. Your example of the Medicaid mom. Our example was for bus routes. And my staff, which is very technical and works closely with Michael, could not believe this because they haven't taken a bus since they were born.

So we put them on a bus. And we said let's go through this process. Well, there was a reason why this patient that's supposedly lost to care seeks care at the local emergency room because it's not a bus way away. It's actually a walk away.

So we have to understand some of the challenges that our patients, our consumers are facing to understand how this technology is going to reach them. Our biggest trial has been with patients that have been lost to care with an A1C over 15 that now is under 9. And all we did was give them a stable connection to their provider. A provider that actually cares, that works very closely --

CHAIRMAN WHEELER: Alex, what kind of connection was that?

MR. ROMILLO: It was a mobile connection to the Lifeline Program with some smart apps. But the challenge became how do we educate that consumer to use the phone. Our first major win was a grandparent that doesn't use technology or

the internet and, actually, didn't realize why she should use the internet until we gave her the phone.

My care coordinators spends more time being a help desk on how to turn the phone on, how to turn the phone off. It stopped working. Did you charge it? Not really.

(Laughter).

MR. ROMILLO: But I will tell you this. This 87-year-old superstar, she's my super hero, and she's actually one of our most (inaudible) patients, is now an avid user of text. She receives her seven text messages a week, one per day, that includes Healthy Mondays, Nutrition Tuesdays, Access Wednesdays, and it's amazing because she has the option of receiving the text as a consumer and ignoring it, or following instructions never returning the text back.

But she always responds. And she actually gives us, our care coordinator actually has more access to these grandchildren that are not our patients because she's now a text message

guru.

So it's amazing to us the program. We love where Broadband is going with the Lifeline Program and the thoughts around that. We also believe that the eligibility process of Lifeline is some of the areas we really want to focus on because we want to make sure the folks that need it have access to it. But we're also partnering with Miami Children's Hospital that's using telemedicine and telehealth programs, and Miami-Dade Public Schools.

The superintendent of Miami-Dade Public Schools is a champion of technology. We've rolled out 70 devices to 70 schools. And now we just need to get the doctors to want to use it, to change the way they've practiced medicine for the last 40 years on why I need to be in front of a terminal versus access to these patients.

And we give them data to offset that challenge such as this child's medical home is Miami-Dade Public Schools. As a matter of fact, they'd never seen a PCP in Dade County. They've

only gone to the nurse, which is doing an amazing job at (inaudible) Park Elementary.

CHAIRMAN WHEELER: So as is so often the case -- thank you, Alex. As is so often the case, we now get the opportunity to way, okay, Commissioner Clyburn, tell us what we ought to think.

(Laughter)

SPEAKER: Or do.

CHAIRMAN WHEELER: Or do.

COMMISSIONER CLYBURN: So you know by, and you probably have gleaned from what you've heard from the Chairman, he's quite a character.

I really appreciate this opportunity, once again, thank our hosts for enabling these interventions, this conversation. Wanted to let you know that you all have a part in this. You will have a part in this. We've got a virtual mike right here and a live mike over here that at any point we would love for you to take advantage of if you hear something that motivates you to do that.

And what we're going to do is have the live mic in the center until we're having a couple of, at least we need to augment your experience using one of the mics. And we'll do that.

Also, before we do this, want to, if you haven't been noticing what's been happening with our visual or our graphic note taking, it's been quite remarkable. Please feel free to get up and see how that is evolving. I'm assuming the easels will, once that gets populated, you will see that around the room and you'll be able to take part.

We, also, invite, because we are live streaming, questions from our virtual audience. So please feel free to do that. We will get your questions presented to the audience.

I guess what I'm hearing is a very, a series of real tangible stories about the challenges, but more so, I hear more opportunistic conversations here because you're recognizing that there are often transportation barriers. There are often plain old connectivity barriers.

One of the things that you brought to

light is a stat that a lot of people do not know. That there are 5 million people in this nation without a dial tone. Now, we say we think everyone is connected, particularly with a mobile phone and a lot of is, if you do the pure math, that's true. But I have two. You probably two or three. And so when you count those individually, it does not really reflect what the total American experience is.

So when we talk about these things, I guess I'm wondering, there's so many questions, but I'll focus on the first one that, I don't know if it was Dr. Mulligan, that you mentioned what does this mean in terms of definitions? I think Dr. Ommen, also, said that you are getting away from the word, "patient." I'm wondering if we're getting away from the word, "doctor" or "providers."

You know, what does that mean because we're talking about all of these elements and possibilities for care. They look unconventional. They're not brick and mortar. They have a conduit

that is technology driven.

Are we speaking of a redefinition of what a provider is?

DR. OMMEN: I think that's a great question. I do think that we talk more and more about health teams.

COMMISSIONER CLYBURN: Right.

DR. OMMEN: Because the question that the individual may have, their need for that day, may be something that someone, a nurse can answer, or that an appointment coordinator can answer. But someone on that person's team, that person who has got their back and they can connect to in a reliable way, can answer that. So it's not just about the individual with the MD behind their name or with PA behind their name. It's about that whole team that is dedicated to serving that group of individuals.

I don't know if either of you have anything you want to add to that.

DR. MULLIGAN: Well, I would -- oh, I'm sorry.

DR. OMMEN: Go ahead. Please.

DR. MULLIGAN: I would add we never really talked about language or culture. We have --

SPEAKER: (inaudible) I know, and I'm so happy about that.

(Laughter)

DR. MULLIGAN: But, for example, just using MDLive because that the hat I'm wearing here, when you look at the health care team at MDLive, they have a call center onsite. We manage Korean population from (inaudible) relationship. We have a partnership with Univision. Univision has the Univision Farmasia and they are launching November 1 UniConsulta. And so you have to understand from the moment they enter that triage, because that's what it is, it's a triage place, the experience has to be rich.

And you mentioned the idiom from Venezuela. We could use, I could give examples of somebody the way they say that they have some stomach problem. It would sound that way in

English, I have a stomach problem. That's how it sounds if you translate directly from Columbia. But they're really saying that they just had a really healthy bowel movement.

So when people -- my point being --

COMMISSIONER CLYBURN: There's a difference.

DR. MULLIGAN: There's a big difference.

(Laughter)

MR. ROMILLO: By definition.

DR. MULLIGAN: Just one example. So when they come into the triage, in particular with Univision, we actually have staff that are from the countries where they're geo located.

So first language, Puerto Rican, first language, Dominican, first language, Mexican, very, very different on how you communicate. And then at that point, they're triaged into the physician population. But, for example, with the Korean population, we have a Korean nurse who helps the patients walk through the system, and it insures, as you say, that when they get to the

physician, is clarity about what the issues are. We have the records of the patient to review. And so that team then becomes the physician, the call center, the promotor or the health navigator, the nurse, the records, and then bringing them back to their Mayo doctor, whomever they might be needing to follow up with.

And along that way is education. We didn't talk about that either. Training and education not just of the patient population, which is our responsibility on any given day, but also the doctors. How are you using this technology? So we have what's coined MDLive University, and we actually have mandatory modules that are CE driven, meaning they get continuing education that the physicians must take and complete and then go through a mock just as you would for a cardiac event, mock training to make sure they really are providing the kind of service that we expect the patients to receive. And then there goes through the usual quality.

But along those lines, there's also the

importance of making sure that the patients, as you say, have the information in their language in third or fifth grade reading level. And it's an enormous understanding but it's exciting and I'm really grateful for telemedicine to be able to be that additional modality, that additional tool that's part of your continuum of care. Not separate, but part of that continuum. And we're finding great success in helping people understand their illness better and being able to provide mental health, social services, and medical care.

COMMISSIONER CLYBURN: Mr. Robinson.

MR. ROBINSON: Yeah, I was just going to add that we believe that care team collaboration is key in terms of transforming health care as it is today, and that we are allowing those caregivers to really to participate at the top of their license so that you're not, you're utilizing the resource just in time and when you need it and you're getting the right resource.

In addition to that, I think, Chairman Wheeler, you've said in your opening marks, we

believe that there's an opportunity for us to collect this data and information and use that as an enabler to decision-making, care-giving protocols through the use of machine learning and other technologies that can help the physician or the person give the right type of care at the right time as well.

So we think it's a combination of, you know, having the right person as well as having the right --

CHAIRMAN WHEELER: Is Microsoft doing anything special with the Cloud? I mean, so you're -- wait, wait. Let me back up. Is Microsoft doing anything special for health care with its Cloud activity?

MR. ROBINSON: Absolutely. We actually -- I'm proud to say we collaborate with everyone on this stage, so first and foremost. And then we have collaborations across the industry around things like precision medicine and genomes. We actually give computing capacity to researchers at the University level on our (inaudible) platform

as part of our contribution to advancing the health care initiatives that are going on.

So we have a broad set of collaborations across the board with the Mayos, with the Cleveland Clinics of the world that allow us to bring innovation to the marketplace, as well as our partners like MDLive and Health Choice Networks, and others.

So we try to take as a broad of an approach as we possibly can making our technology assets available to those that are actually on the forefront of bringing that innovation to the marketplace.

So, yes, we have a health Cloud that is focused on, right now, the consumer segment primarily. So we have a health band that's collecting information, feeds information. For a decade now we've had a personal health record called Healthflow that is incorporated in many of the solutions that were presented today so it's a personal health record for consumers to share their information with their providers. And we

continually evolve the machine learning aspects of our technology for gnomics research and other things.

COMMISSIONER CLYBURN: And I'm glad, Dr. Mulligan, you expanded on the cultural challenges. And I'm especially pleased that you mentioned the education that needs to take place with the medical professionals, which I'll be careful how I say this in a health environment, that sometimes they may not see that they are in need of some intervention. I don't think I was politically sensitive as I should have been, but this is the truth because, again, the patient experience is evolving, patient needs are because of the evolution we're going through in terms of health care delivery, the types of patient is going to be more broad. And so it's going to be a challenge on the professional. I'm wondering if anyone wants to expand on that.

And going back to what Dr. Croall was speaking about in terms of the kiosk, how do we -- it seems very efficient on paper. Makes a lot of

sense. We talked about the cost might be on one-fifth of what a brick and mortar construct would be. How does one insure that the patient is comfortable? That a patient would go there? Even if they walk into the drugstore, they may see it there? Still might not make that connection about what it could mean to enable healthcare. What do we do? How do we educate to drive that comfort and any other things that I might have teed --

DR. CROALL: I think this is one of the biggest --

COMMISSIONER CLYBURN: And the audience too. Your price for water is going --

(Laughter).

DR. CROALL: I do think adoption and utilization of the technology is the biggest barrier. How do you get people comfortable doing it a different way? You spoke about physicians being comfortable? We as consumers of health care need to be comfortable using the different types of technology.

But I think we, learned, right, from the

cell phones it has to be easy. It has to really meet a demand that I need as an individual consumer for my health care in order to really use it.

One of things that we do do with HealthSpot, because it is very different and very unique, is we actually do what we call free health checks. You can just walk in, into the station, get your blood pressure, your weight, your height, meet the attendant, and they walk you through the experience. They help you register. So the next time you're in and you want to connect into the local medical community, you feel much more comfortable doing that.

But we need to help people feel comfortable, also recognizing what it can do in terms of helping them as an individual in their health care.

And I did want to mention with the earlier discussion that it is a shift from kind of a provider- focused, physician team focus to really an individual and their support group

focus. And I think that's a huge change in how we practice medicine today.

And every person is unique. Whether they both have diabetes or not. All of those social determinants, all of those other issues that are happening in their lives make such a difference in terms of being able to improve their outcomes. And the ability to use telemedicine as a way to connect in, I think we're just staring at the tip of the iceberg in terms of what we can use it for.

MR. ROMILLO: I think -- I'm sorry.

MR. OMMEN: No, go ahead.

MR. ROMILLO: Just in regards to the titles that we're using and the labeling that we're using, I think it's important that the education is driven by data. And if you look at the airline industry, what they do with the kiosk at the airport, they launched their first four kiosks and they had 18 people behind the counter. And then they launched another two kiosks and they took people away from the counter.

And so data, as an avid flyer, I realize that I'm a technology person, but I want to use the kiosk, I want to get in and out very quickly, and the data shows that my wait times were less.

One of the key aspects of access which is important, whether we call them consumers or patients, or we call them care teams or providers, is sharing the data that either your care is compensated in a best fashion in regards to savings, your outcomes and quality are better, and my physician, specifically, whether they're 85 years of age or just out of medical school, they love when we show them the dashboards and they're not at the bottom of the list.

If you're a physician and you've gone through medical school --

DR. CROALL: (inaudible) like that too.

MR. ROBINSON: They are very driven just like CEOs, just like health plans, and more importantly, just like consumers. If you show that there is an added benefit, I spend more time with my family than in the waiting room. That I

spend less time in the emergency room but at home. And the physicians have better outcomes from the work that they did because it's codified.

One of the things that we're missing, specifically, from a health plan perspective and a communication perspective is we assume all the data and all these amazing electronic health records is accurate. That's a poor assumption, primarily because providers went to medical school to serve patients not drop codes.

If we didn't get it right for the last couple of decades with IC9, the chance of getting it right with IC10 is going to be awesome. So we need to make sure, and if you look at HealthSpot and you look at MDLive, you see how easy it is to codify data. There's a lot going on in the background.

I think patients, providers, and care teams gravitate to the fact that there might be a change in the way they practice, primarily because someone's sharing good data with me and what that data means.

DR. COALL: The other is just also being able to collect unstructured data.

MR. ROBINSON: Right.

DR. CROALL: It's so important.

MR. ROBINSON: Right.

DR. CROALL: So codifying, we're collecting structured data, but the ability to really use both unstructured, structures, and socioeconomic information to target I think is huge.

MR. ROBINSON: GPS. Absolutely.

DR. OMMEN: So one thing, you asked the question, and both Drs. Croall and Mulligan have referred to this with respect to their systems, and that is the training necessary to deliver the service that people expect. And there's actually a movement in part led by a psychiatrist in California, Dr. Don Hilty to define competencies that the care teams will need in order to deliver appropriate care via these connected technologies.

And so this is a, and there'll be a panel session at the American Telemedicine

Association meeting next year in Minneapolis where we're going to talk about the competencies required which are different than the competencies that we were trained as physicians when these technologies didn't exit.

CHAIRMAN WHEELER: In what way? The biggest example of the difference is?

DR. OMMEN: Well, the biggest example is you had, you basically had one form of communication. You had a person sitting next to you and you had a conversation and we were taught empathetic interviewing and all those kind of things. Now we have all these different channels from a face-to-face visit, to a face-face-face-over-the-video visit, to a texting type interaction.

And one of the things that we have to learn as providers is when to shift channels of communication because it's so easy to text. We all I've all done this with our own kids, our own friends. At some point, you say why are we texting about this? Can we get on the phone, or

can we get together and talk about this? And we have to take lessons from that and shift it into the health care environment.

So as we've rolled out, you've asked what the experience is. When we first started doing secure messaging in a HIPPA-complaint way, and we said this is a, it's a great thing because it means you don't have to both be on the phone at the same time but you can get the information there.

And one of our providers said, but look at this three-page text that someone sent me. And I said that's a great example. You can respond and say that's too complicated for us to handle by text. We should have a direct conversation about that.

So it's that kind of competency, feeling comfortable, shifting the communication channel you're using, and then environment to recognize some key things. And in your disaster medicine, well, you know there are some thing that require, oh, we have to go to this path for this.

And shifting with all the communication channels that are available to us now is something we weren't trained in. We were trained in face-to-face interviewing.

COMMISSIONER CLYBURN: So, Mr. Chairman, and panels if you could give me, I'm a PK, a politician's kid so --

(Laughter)

COMMISSIONER CLYBURN: -- so I want to recognize a couple of people, and this list, of course, is not exhaustive because everyone in this room is significant. PK. Learned a lesson there too.

I wanted to recognize a representative from Congressman Crenshaw's office, Jack Moran. He's here with us today.

I have to, because there's this southern thing going on, I had to recognize my girlfriend, we say that in the south, Paula Guy, who is just an awesome advocate of telemedicine in this region. You probably all know her.

One person has been not even mistaken,

but affirmed as a superstar in the room because everybody says he looks familiar. I know him. Former representative, lawmaker, Tony Hill.

I want to recognize -- he and the Chairman are fighting over the tall -- well, anyway, we won't go there. This is height envy for me so you have to forgive me for that.

And I want to recognize two brothers in the room. One is a former Public Service Commissioner in Florida, Leon Jacobs, and his brother, Keith Jacobs, who is an awesome by way of the space in terms of an app developer.

And I could not leave the room if I didn't recognize the Chair of the Florida Public Service Commission, Art Graham. He's back there.

And I believe there are a couple of representatives from Senator Rubio's office. I apologize for not getting your name.

MS. GRIFFIN: Excuse me. Adele Griffin and I have an intern with me, Michelle.

COMMISSIONER CLYBURN: Thank you. This is Principal Intern Day. I love it because

(inaudible) from Senator Crenshaw's office so I appreciate all of you. And as they bring the name up, I will recognize again. I want to be able to get on the airplane with all of my political credibility intact.

So welcome all of you. And I did that for more than one reason. Not just because I want to go home. But to know that there are several significant partners and players in this room that if you have not met, we need to strengthen those relationship.

So Mr. Chairman, please.

CHAIRMAN WHEELER: So, Commissioner, I'm a SK, a Salesman's Kid.

COMMISSIONER CLYBURN: Okay.

(Laughter)

CHAIRMAN WHEELER: And I just want to point out that Congressman Crenshaw is the Chairman of our Appropriations Subcommittee.

COMMISSIONER CLYBURN: Okay. So a double shout out to you.

(Laughter)

CHAIRMAN WHEELER: Well, there's an interesting dialog here that there's one, two, three, four, five different approaches. One of the things that we find in the network world is that the concept of interconnection becomes essential. What's the experience that you all have had with that issue thus far? And what's the future of interconnection, collaboration, the Cloud, whatever the case may be?

MR. ROBINSON: I'll start. I think there are some interesting models that are evolving around collaboration that I think are a few years out in terms of the morphing of plans and providers and how that all comes together.

But I do think that there is some opportunities from both a regulatory perspective as well as just the health industry collaboration perspective that I'm starting to see take --

CHAIRMAN WHEELER: So are there barriers to collaboration?

MR. ROBINSON: There are significant barriers. So --

CHAIRMAN WHEELER: I mean, are there -- okay.

MR. ROBINSON: One is that, again, we love that regulation has pushed or helped guide providers to digitizing health records. But that created more silos in terms of sharing of information. So me as a patient, I have services at Mayo and then their Cerna shop or a Epic shop. And then I go, you know, I'm traveling. I'm on the road all the time. I go to Cleveland Clinic or wherever and they have a different EMR. So just the sharing of that information, that data, having one point of reference for Michael Robinson is a difficult barrier to overcome.

So one of the things that we're supporting and helping guide or provide feedback much like we did on the Lifeline initiative is around interoperability and how do we make data more available across systems.

And so I think that's a huge barrier to having the kind of precision medicine, the type of personalize care that we want to provide in the

future as well. That's just one example of --

DR. CROALL: Now for HealthSpot, we really had to break total new ground here. So we had to convince payers that this hyper technology was the same as a in-person, face-to-face office visit for reimbursement. Well, guess what? They agreed.

We had to go to the Ohio State Regulatory Board, the Medical Board, to say this is a quality standards-of-care, evidence-based practice. Well, guess what? They agreed.

We had to go to the health systems to say this is a different way to extend your practice out into the community. They agreed.

We're now working with the Ohio Pharmacy Board. We're working with the payers as well to start to think about the top of individual's licenses and how they can make care more accessible and easier for consumers. So a pharmacist, if the physician orders a rapid strep, seeing a child for a sore throat, well, we need to get the payers to reimburse for doing that rapid

strep test. A challenge.

We need to get CMS to recognize for Medicare that a pharmacy is a place of service for telehealth. So we still have some significant barriers in terms of being able to have everyone access care. And in our FQHCs, the same thing. They can't provide services through a pharmacy telehealth setting. So there's still some opportunities in terms of how we can further collaborate, but it has been really uplifting to see the collaboration so far.

We have payers who are actually paying for transportation to go to the HealthSpot stations because it's more convenient for their members, and also provides better outcomes and lower costs of care.

DR. MULLIGAN: If I could touch up three areas. And I'm smiling looking at our mutual friend from Georgia, Paula, over there. And that is to say although that's really fantastic and I'm so happy for you, there are, I've been in front of the Federal State Medical Board and testified.

I've been at CTEL where we were taken to task and it was a rather vibrant, robust experience.

COMMISSIONER CLYBURN: Is that the word we use now, "vibrant?"

(Laughter)

DR. MULLIGAN: Vibrant, yeah.

COMMISSIONER CLYBURN: I'll take that. I'll take that. Because I feel we'll be using it a lot over the course of (inaudible).

DR. MULLIGAN: But what's interesting to me is look how fast it has changed. November at CTEL, we were not the favorite panel of the four telemedicine companies and chief medical officers. There was literally a line into the hallway at the mike for people to have what they wanted to say.

But then I just saw her a couple of days ago at the ATA meeting in Washington, D.C. and it's a whole new different understanding because of what you said. People resist change. And they feel fear that they're not going to be able to provide the compassionate loving care of the families they've known for generations. That

someone from the Philippines is going to come onto the camera and manage a patient where they feel a real dedication to that family in Georgia.

And yet now there's a whole new world because of the data that's been brought to bear, because of the policies that are being made from our organizations, the certification programs that are now in place from the American Telemedicine Association, and MCQA to look at quality of care. We haven't mentioned that.

And so now we have policies in place from trusted health care organizations like the ATA, AAP, AMA, ACEP, and we have quality certification to demonstrate they really are who they say they are and they're doing a darn good job.

And so it's, I would say we're almost halfway there to meeting some of the new federal regulations. Senator Schatz, if I could mention him, from Hawaii. He's a pediatrician. He replaced Senator Inouye, who had passed a few years ago who started the whole EMSC Program, as

did one of our congressmen from Florida. He is now running with the telemedicine bill that looks like it's going to do well and that will address reimbursement.

So for those who want to follow, if I could just say the Alliance for Connected Care is a good place, good landing page. It's from Senators Daschle, Lott, and (inaudible). It's an organized group that provides a lot of information that you can see reference points and different documentation to be able to know what's going on the Hill.

But Senator Schatz is a good one to follow. I think he's --

CHAIRMAN WHEELER: He's also the ranking minority member on the Senate Telecommunications Subcommittee.

COMMISSIONER CLYBURN: A shout out to him too.

DR. MULLIGAN: Isn't that something? How convenient.

CHAIRMAN WHEELER: Just following your

lead.

COMMISSIONER CLYBURN: We talked about this. And if you include, if you see fit, two of the, because we're in Florida, because this used to be recognized as the place where everyone when they make their money and retire, they come here because it's paradise. I'm from South Carolina. We're going to have a little tug-of-war on that --

(Laughter)

COMMISSIONER CLYBURN: Since I'm here, I will yield that --

MR. ROBINSON: We can share. We can share.

COMMISSIONER CLYBURN: Yes, we can share. Right.

DR. MULLIGAN: We can share.

COMMISSIONER CLYBURN: So when it comes to dealing with seniors, when it comes to those 50 million Americans who have been identified with some type of disabilities, again, we're talking about two populations that rely heavily on when we look at the health care portfolio, they may be the

most resistant because of fear, economics, and to be honest with you, some disconnects when it comes to, when you talk about disabilities, it's across the spectrum. So you might have sight, hearing and different very manual challenges.

What are we doing in terms of providing care, especially with those populations that might have more intense needs? What are we seeing? What are the promises that --

DR. MULLIGAN: I would ask you from Miami-Dade because, to speak of it, because a lot of times it's family that is helping the seniors. So he has the super senior extraordinaire at 87. But there are the digitalspeakers. Who are they? Those are those ten and 12-year-olds who can just, you know, grandmother you needed a photo uploaded for your rash? Here you go. And so with the permission of the patient, it's a family experience and you can speak to that perfectly.

MR. ROMILLO: Yes. So when we talk about -- I still want to go back to the challenges because I heard everything is going well, but I

want to talk about the boots on the ground a little bit.

But as far as seniors, the care team does involve the chief medical officer. In my household the chief medical officer is my wife. Right? And she's got everybody on, she's got the HealthSpot records, etcetera.

And when we talk about seniors and we talk about vulnerable populations, there's always someone in the home that our care team gravitates to because they are the ones that are responding to your text. Consent is always your problem. Once you get through that consent hurdle, we find in our ACO, we're one of the most successful ACOs this year with our seniors, it was about sharing data again, if this provider actually has, your wait times in this area are 30 minutes or less. They'll actually go there because it's 30 minutes or less versus the beautiful billboards now every emergency room has in Florida that says we're under eight minutes.

(Laughter)

MR. ROMILLO: And so the good news is our seniors are not on the highway anymore so they're not seeing that. So we're actually gravitating --

(Laughter)

MR. ROMILLO: -- to the PCPs? But it's the entire care team why all those people are supported. When we talk about minorities, we talk about education and language, we find the child in the home is the CMO. And if we can gain that access to that child, they're representing their parents, and that seems to work very well when we have disease-specific.

The challenges of communication. We find that, especially in Florida, there has been infrastructure laid years and years ago in the ground, and that becomes an anchor for that telecom (inaudible). This is my region.

And what we find in the non for profit, vulnerable populations is those communication barriers among telecom organizations needs to come from a regulatory perspective of saying if health

is an app loaded on top of that infrastructure, there should be a way that we can work on it.

We find that in the schools. We have public school systems in Florida that still don't have, we call it broadband because they're a little bit over a meg. That's not really broadband when you're talking about a three meg type of connection.

So I think that we still have a ways to go and I do think we need more people at the table from education and health care that are not part of the big system but more a not-for-profit or free clinic sitting in Dade County, not rural by any means, trying to communicate to a hospital in Orlando because their patient was at a theme park and broke their ankle.

That's it. I'm not trying to get, don't go into diabetes or cancer or all of that. Simple, not acute, episodic type (inaudible) and we still can't communicate.

I think the EHR vendors and I think the folks on the panel here have done an amazing job

of saying let's agree that there's not going to be one system everybody goes to. It's okay to have an iPhone or a Microsoft device --

DR. OMMEN: Thank you. I appreciate that.

MR. ROMILLO: It's okay. We can communicate. We can communicate. My iPad was with your surface and now I have a surface --

DR. OMMEN: You have a lot of great Microsoft devices.

MR. ROMILLO: I do have a lot of great Microsoft devices. But they've agreed that no one's going to take over the market and it's going to be one. I think the (inaudible) is going to agree to that that what Epic and Cerna are doing is, listen, we have to communicate. I think telemedicine organizations represented here have done a great job of being interoperable.

We just have to take it back to that consumer that we're trying to reach. They're still having challenges with if you've ever tried to move your cell phone number even though now

it's a ruling, it requires a high level of education to fill out that form online. And so I think we have a way to go.

And I also would mention that the FASA Program, we need to bring in other supporting organizations into this. Some of the regulations around consent and just access needs to agree that we have a very large foster care program, and we have a lot of folks doing great, amazing work, the chief medical officer for these families.

MR. ROBINSON: I would add that reimbursement as well is going to help drive some of this change because as we move from fee-for-service to fee-from-outcomes, that level of sharing of information is going to be much more important. And you're going to also have to have that active, engaged consumer.

We're not there yet, and so I think there's still a lot of work to be done to Alex's point. I think that the EHR, EMR vendors are starting to open up the (inaudible) and share information, but I still think there's a long way

to go.

COMMISSIONER CLYBURN: So about a seven-minute warning, Dr. Ommen.

DR. OMMEN: So one of the things you talked about in terms of the pipe that's been laid, and maybe I'll reveal my naivete when I have Microsoft and FCC sitting next to me, but we talk in our networking team at Mayo about the last mile as being the barrier. That is within our system we have a pretty good network system, but when you try to get to the patients where they're at, that last mile is where the challenges. And it's not just about laying that last mile worth of band because as our devices get better, and we're soon going to go to 4K video capabilities on our handheld devices, the amount of data that gets transmitted in that kind of video is going to overwhelm the inner city and hospital systems that have current broadband capabilities.

And so this is, it's going to be a challenge that needs to be addressed so that people when you need video connection you can

count on it. And if we overwhelm the current pipes with too many ones and zeroes, it gets to be a challenge.

MR. ROMILLO: And we were part of the Katrina recovery efforts. And so it's great when we talk about the future and what we need to do to build up the infrastructure which is being done and I think a lot of people doing great work. When everything you rely on, if you don't have dial tone in your home, panic. When you have power issues, panic starts.

And so what we learned from Katrina, and we've tried to look at South Florida and Florida in general, is we have two ways, two avenues, out of South Florida in the event of an evacuation. Being able to access -- I will never forget during Wilma which for us was a nonevent, and Katrina was a nonevent in South Florida. It was actually one of the most beautiful days the day after and we didn't realize it was going to occur, only one cell phone tower was left on. And thank goodness we had one employee that had that one carrier that

no one else wanted to use because that was the only cell phone that were charging just to communicate with our providers in Utah and New Mexico which were saying we don't really care what's going on in South Florida. We still need access to a lot of the systems, our support system.

So our care teams are now displaced in their home. We have this great program now for care teams to work from their home so we need to make sure the infrastructure is sound as part of disaster recovery efforts.

COMMISSIONER CLYBURN: And you're so right. And the Chairman has been with all of these funds that are under the universal service umbrella. We are really quietly, probably maybe too quietly connecting in addressing those needs. It's just going to be one community at a time, and it's not, it's going to be over a multi-year period.

So it really is never going to happen as quickly as we would like it, but there is

movement. Especially with those hardened, redundant networks that you're speaking about, that is important. Secure. We didn't talk about the secure networks. Those thing are important in order for people to feel comfortable moving to the next step when it comes to digital medical options.

Mr. Chairman.

CHAIRMAN WHEELER: No, I mean, you're absolutely right. And we just, the Commissioner and I and the whole Commission just last month put in a new requirement for resiliency in networks for that very reason where we're saying to the service providers, excuse me, this is part of it.

The other thing that really gets interesting here is that right now you're going from HealthSpot to Nicklaus Medical Center which isn't too far away. But a lot of your 911 calls, for instance, are switched in Denver. In Denver. And what happens when the network goes out? In that kind of situation, and I presume that at some point in time the doctor on the other end from

HealthSpot may not be a couple of miles away and is going to be hundreds of miles away. And then how do you assure that you have the redundancy on those kinds of networks?

So as we become more and more network dependent, what Steve said about the network itself has to continue to improve. We've just recently said that 25 megabytes per second down and 3 up is the definition of broadband now. Two years ago, it was 4 meg. Okay?

So that speed has to improve, plus the reliability has to improve, and then what Commissioner Clyburn just raised, the security has to be improved because the thing that we haven't talked about is the more we are connected, the more there are also access points for nefarious activities.

And so there is incredible promise in all of these kind of things. We want to make sure that these move at warp speed, but also not to be naive about the fact that they're going to bring with them a whole set of new challenges as well.

COMMISSIONER CLYBURN: So any questions from the audience?

CHAIRMAN WHEELER: Come on. We really have such a shy retiring audience.

(Laughter)

COMMISSIONER CLYBURN: I know. And it doesn't exclude journalists. So how about that?

CHAIRMAN WHEELER: Here comes a gentlemen.

COMMISSIONER CLYBURN: Oh. Would you identify yourself?

MR. HENDRICH: My name is Dan Hendrich and I teach Mass Communications at Edward Waters College.

COMMISSIONER CLYBURN: Okay.

MR. HENDRICH: And I just have so many questions.

(Laughter)

MR. HENDRICH: Or comments.

COMMISSIONER CLYBURN: So we've got this thing, this challenge called consolidation so I will --

(Laughter).

MR. HENDRICH: I think the first thing is, is that you have all been talking about this concept of the consumer or patient using these, communicating to that patient. But I have Blue Choice, Florida Blue, and I signed up to get my documents delivered and everything delivered. And my doctor, who is younger than me, has not uploaded my documents. And so I think it's his process of, he is trying to, he doesn't understand. You haven't talked him into the fact that he's got to give me the records and that I don't see those records until I spend 45 minutes waiting in the room and stuff like that. So I think there's that too.

And the other thing is, is that I can't help but think that the insurance company is going to push for some sort of a virtual, reduced virtual payment, and that they're going to categorize things because the insurance companies with or without the Affordable Care Act control how health care happens. Me as a consumer, my

thoughts anyway.

Now maybe you have answers to all that sort of thing. And then the other thing is, is that I spent 30 years working overseas doing pro social medical productions. And the communication process of, let's say, the UFHealth ad related to the two people who throw themselves all over the things, and then they get online and they talk to a virtual doctor. Right? Have you seen that?

SPEAKER: We have not.

MR. HENDRICH: Okay. It doesn't do anything to support the fact that that virtual experience with a doctor online is as valid as going to the emergency room. It doesn't do that at all. And so if we're going to communicate to educate our consumers as just poor people or not just poor people, or seniors, or people who are not millennials, or not digital snackers, or however the term you do it, it's going to have to be a concerted process with your people and network to communicate.

CHAIRMAN WHEELER: Let's see if we can

get a response. We can get some other questions --

COMMISSIONER CLYBURN: Okay. Mr. Chair, do you mind yielding for a second?

CHAIRMAN WHEELER: I'll be happy to yield.

COMMISSIONER CLYBURN: Thank you. So, Professor, we've got your three consolidated questions. If you would, we'll get, if everybody can retain what he said, we'll get the other two in and --

CHAIRMAN WHEELER: Oh, yeah.

COMMISSIONER CLYBURN: -- if the panelists would incorporate that in their closing statements, then you'd be the beneficiary. If not, you know where they are. Okay. Thank you.

MS. GUY: Good morning.

AUDIENCE: Good morning.

MS. GUY: Thank you all so much for doing this. I am amazed that really you would take the time to come down here and share with us and give us ideas about what's going on because

telemedicine is reforming health care. It is changing the world. We see it over and over.

What I want to know is when is wireless going to become so available -- I represent -- it's not about the technology anymore, I so agree with you, it's about applying it. And I am representing a lot of rural across 18 or 19 states that we're doing work in. When is 4G going to become available, 4G, 5G, 6G, whatever it is, in these rural communities because we're starting to use, yes, we're doing very high quality telemedicine in our network. Georgia is leading the nation. There's not another program like it anywhere. Emory, Georgia Regent, all these people participating. The top specialists in the world available. But we've got to have, if there is not, and Georgia, it's wire. I mean, we can get the cost of it. But 4G is changing the world.

I, literally, was in Honduras in the middle of nowhere, no electricity, solar panels. Guess what was sitting out on side of a mountain top?

SPEAKER: Cell tower.

MS. GUY: A cell tower. And we're doing telemedicine in Guatemala, Honduras, Mexico, all these places. When do you anticipate getting the wireless carriers to put a tower in rural areas? I mean, they make a lot of money. Why can't they just put one in there even if they don't have but a few folks on it? That's my concern.

COMMISSIONER CLYBURN: Okay.

MS. GUY: 4G is wonderful.

COMMISSIONER CLYBURN: So we'll take two quick more questions. I'm ignoring what staff just said. But those of you who didn't get a chance at the mike, we'll take your questions and, as I said, we'll do the best we can to kind of do a lightning-round wrap-up of what, because I know everybody's kind of taking notes, also.

Yes, sir, if you could identify yourself.

DR. McCOY: Sean McCoy from the VA with the Office of Rural Health. And we have been to ATA and a few other large panel discussions, and

one of the things as we're talking about, HealthSpot and moving it out into how do we into the community and infrastructure?

We had put forth -- every community has a school. Almost every community has a post office. And almost every community has a library. And we look at these as for Medicare for facilities for people to go and receive their case which the ARTE most of the time they have connectivity, they're secure, they're well known, and they're generally pretty quiet. Especially for the schools also in the summer and even during the year as we said with the school nurse, the person that check you in, most schools aren't seeing 45 kids to the school nurse every single day. There are some additional time where they can sort of be the hands of a provider because that mother or the father, the grandmother, they're dropping the kids off at school and it makes another access point that we were also looking at.

COMMISSIONER CLYBURN: Thank you for the Anchor Institution intervention and the last one.

And those, again, who we didn't get to, we'll provide you some cards or abilities for you to funnel the questions through. That was what I was supposed to tell you three minutes ago. But I'll end with you.

MS. ARMITAGE: My name is Linda Armitage. I'm the Quality Director at a multi-site ambulatory care center here in Jacksonville.

COMMISSIONER CLYBURN: That does not fit on a business card.

(Laughter)

MS. ARMITAGE: I'm burning bridges because ICD10 went live today so I'm very grateful to be here.

(Laughter)

MS. ARMITAGE: We are an accountable care organization in our third performance year. We are meaningful users. We are also a Level 3 patient center medical home. My question comes from the primary care. We have about 96,000 patients, and I'm listening to interoperability

and I am concerned because when we have disparate, and I think it's absolutely needed, but we can't get that information back to the primary care to meet the quality measures.

We partner with the insurers. They want their five stars. We are responsible for every, the dental we're responsible. And Mr. Romillo, you're very aware of the requirements on the primary care end.

The primary care gets one lump sum for value-based care. So think about that when you're doing all these outreaches. Absolutely necessary. We do have those needs. But we're not all speaking the same language, and when you get that information back to us in a PDF, we have to hire somebody to then manually put it in the EMR so that evidence-based decision-making can occur. That's my concern.

COMMISSIONER CLYBURN: Thank you for that. Mr. Chair, yield to you.

CHAIRMAN WHEELER: I'm following your lead. Let's go down the line and everybody gets a

chance to respond to what they heard.

MR. ROMILLO: So just for the professor and the ambulatory side, I'll try to combine it. It's interesting as a payer, working with a lot of the payers, we don't expect to lower what we pay our providers through telemedicine. What we expect as a payer is to reduce the burden and the risk involved.

And I'll give you just one example. We had this one patient in a very rural county in Florida that chose to go to the emergency room four times a months on average. And we didn't really understand from a peer perspective based on the information we received from all the health plans why even after assigning a care team this individual decided to continue back to the emergency room.

So we had the data. We looked at it. We assigned a care team. We finally dispatched someone out to their home to figure out what was going on. This was a 720 pound man that his emergency room in his county actually has a bus

that actually can transport him. And out of sheer fear, and he had a lot of things going on. He was also a veteran. He felt safe being, every time he had a nosebleed or a common cold, he felt safe at his emergency room.

So from a plan perspective, I can assure, at least from our plan, the Medicaid plan, that we don't want to reduce the cost or the expense that we're paying out to our providers. We just want to make sure it's the best care.

And we find that we use a lot of patients what we call it lost to care, and this telemedicine, telehealth, teleaid, sometimes as simply as a cell phone, allows us to redirect expenses that we can avoid to the patients that actually need it.

And I'll just say this. A chest x-ray at a FQHC versus a chest x-ray at an emergency room for us the difference is about $275. I can see three Medicaid patients for that. So that's just one piece.

And the ambulatory side I just

mentioned, we're pushing the peers, and the peers are actually being very good partners now, because now that you look at health care reform, if you state's in health care reform or not, it's still a (inaudible). So it's going to be important for the peers to get that information out to the providers in a way that they can digest that information. The PDF was a safe way. As a matter of fact, many people think the PDF a safe way to transmit information. I'm here to tell you that it's not. But they want to get the data in the hands of the plan, the peer, and the provider that they can ingest it and actually do something about it.

We would have never been able to identify this patient that I just used in the previous example via a PDF. We had to get the information from the plan. And what I encourage you, because you're a very large ambulatory site. I know exactly where you're from. You have to use your power of size and say we will stop seeing your insured patients unless we're able to get

this information in a certain way.

And thanks for Microsoft, and Cerna, and Epic, and all the other EHRs, they can at least ingest it in a way that you can actually have to avoid hiring someone and actually spend more time on the care team.

So I tell you that the change is occurring. It's just a slow piece, but we're seeing United, and Blue Cross/Blue Shield, and Amerigroup, and Prestige, and others saying to the providers what form would you like it in.

So it's slow. But it's coming. I promise you that.

MS. GIBBONS: If I can tag onto that topic. When we integrate with the electronic medical record at the health system, it is exactly what the health systems wants to import that information, right. So it may be a PDF for one system. It may be HL7 for another. And it might be a bilateral push through for another.

So every health system is kind of different in terms of where they are at with their

readiness to do interoperability, but I think the good news is, is everybody wants to get there. So we are actually working now with actually real time push-and-pull from our personal health record into the electronic medical record and vice versa at the real time of the visit.

The other point I wanted to make too is your comment about the data because I agree wholeheartedly that the individual needs to own their health data. And right now I can tell you that's being held hostage. Whether it's a payer, whether it's a health system, it's very difficult to get everybody to release all of that information that's so vital in terms of being able to really identify the appropriate people and appropriate interventions.

And then the other point I wanted to make was about the quality measures. So we are working with the health systems and with the payers in terms of really identifying those specific (inaudible) measures and star quality measures that we can impact through these visits,

and how we need to identify and coordinate so that we can identify, one, the opportunity change from just an episodic visit to what I call a holistic visit.

It's not just taking care of the sore throat. It's taking care of what else is going on with that individual at that time. What else can I do in terms of improving your health care when I'm the physician behind on the screen to be able to really influence outcomes?

So we are working and targeting with different payers and different health systems with their targeting for their key pay for performance use and star quality measures.

COMMISSIONER CLYBURN: So that was your closing. But you know we're friends (inaudible)

MR. ROBINSON: So I would add, I mean, there's much more demand expertise on this panel then I have in terms of, you know, policy, and those types of things. But I would say from a technology standpoint, we have to figure out how we collaborate together to make sure that we

remove the barriers, and we're bending the cost curve.

And to your point about data and how you receive it, both structured and unstructured data. Technology is not the barrier. We can take a PDF and we can convert it to whatever format you need it to be. It's really about how you apply the technology and how you use it.

And I would like to tag onto the young lady's comment about 4G. I had the privilege of serving and running Microsoft's business in the Middle East and Africa for four years. And there are a number of countries, quite frankly, that are using wireless and they've leapfrogged us in terms of capabilities and innovation on how you deliver health care. So I've managed to help business in Africa.

And we need to take that more to heart, I think, in terms of a country and how do we utilize wireless as an infrastructure as tell.

DR. OMMEN: So I think that the questions you're raising, the statements you're

raising are all the things that we're wrestling with. And I agree with your statement that I don't really hear companies saying, well, we want our own proprietary technology.

Sure, there was a rush for people to be first in to make a splash into telemedicine because everyone recognizes the potential. But everyone is seeing that it is the individual. We're all patients. We're all individuals who are going to need health. And unless the things communicate with one another, unless we solve the policy issues and the infrastructure issues, we're not going to get to where we want as individuals. And I haven't heard a single startup, a single big dog, anyone say, well, we want ours to win the day. Everyone's trying to work together to solve these issues.

COMMISSIONER CLYBURN: Dr. Mulligan.

DR. MULLIGAN: Boy. I guess I would tie it all up by suggesting that what you're hearing is it's the United Nations, the different players that are involved. And in order for us to be able

to reach the goal that we have right now and in the near future of integration of health care that is being provided as I had said earlier as a system of systems, looking at the data points, being able to provide people in the middle of Georgia with something more than 3G. All of the things that you're hearing require true collaboration of the stakeholders as you're just commenting.

And to lift off your P as a PK, that means providers, physicians, psychologists, pharmacists, policy makers, all galvanized together to make that goal real. And I think we can do it. I think we're there.

If the gal that asked about the FQHCs, I think she was talking about FQHCs in her, yes. There is a wonderful example in the state of California, MDLive's equity partner there, Sutter Health, and they have a model program with the FQHCs in the Pacific Northwest, and I'll be happy if you're still here, I don't see her, I'll be happy to give you a contact there so that you can

learn from that model.

COMMISSIONER CLYBURN: So, Mr. Chairman, it's just been incredible for those of you who obsess with food like me, this was a very robust appetizer, but do not leave because the, we've got more to come.

Mr. Chairman, if you (inaudible).

CHAIRMAN WHEELER: Well, why don't we also do one quick answer to Paul's question?

COMMISSIONER CLYBURN: Okay.

CHAIRMAN WHEELER: Because what you were talking about is the importance of the network.

COMMISSIONER CLYBURN: Oh, yes.

CHAIRMAN WHEELER: Okay? So excuse me. There has to be a wireless signal. All these wonderful things aren't gonna happen unless there's a signal. All these wonderful things aren't going to happen unless there is high speed, open broadband.

And that's what we're working towards. So specifically with regard to your 4G question, here's the challenge. 95 percent, roughly 95

percent of the American people are covered by a 4G signal today. But that means 5 percent aren't. 5 percent of 320 million people is a lot of people.

So one of the things Commissioner Clyburn has been constantly focusing on in her comments you heard today and elsewhere, is we've got to make sure that we have programs in place to see that where it becomes economically impossible or difficult to deliver services, or where it becomes economically difficult for someone to obtain services that we ought to have programs to support those.

And one of the things that we're looking at now in our Mobility Fund which is part of our Universal Service Fund, is the problems you talked about with 4G are basically doughnut holes all over the country. And we've got to figure out what is it going to take to incentivize people to build in those donut holes. And that's a priority of ours.

I would also urge that you're going to have Meredith Baker here, who is the head of the

Wireless Association, for lunch. And that's a really great question to ask her.

COMMISSIONER CLYBURN: Mr. Chairman puts up with me saying all the time when is 95 percent not an A? 95 percent is not an A when we got 5 percent peoples stuck in mobile darkness. And so I appreciate you continuing that up.

DR. GIBBONS: Please join me in thanking the panel for a very well done --

(Applause)

DR. GIBBONS: At this time, we are going to take ten minutes for a short break. And let's try to be back in our chairs. It's now 11:01. At 11:10, let's be back in our chairs. Thank you.

(Break)

DR. TERKONDA: Well, I have to say the first session was very stimulating and hope brings up a lot of questions so we can move telemedicine forward.

At this point, I'm going to formally introduce Mignon Clyburn, who served as the Acting Chairwoman for the FCC following her appointment

by Barack Obama in 2013. Ms. Clyburn began her service at the FCC in August of 2009 after spending 11 years as a member of the Sixth District on the Public Service Commission of South Carolina. She served as it's Chair from 2002 to 2004.

Prior to her service with the Public Service Commission, she was a Publisher and General Manager of the "Coastal Times," a Charleston-based weekly newspaper. She has been a longtime champion of consumers and a defender of the public interest.

Please welcome Ms. Clyburn.

COMMISSIONER CLYBURN: Thank you.

DR. TERKONDA: Thank you, Commissioner.

(Applause)

COMMISSIONER CLYBURN: Good afternoon. Once again, allow me to thank all of you for joining us today as we spend some time thinking about what our broadband-enabled health future, what that will look like.

We want to, again, thank the Mayo Clinic

and especially Dr. TerKonda and Dr. Ommen from the Center for Connected care. And I also would like, as he walks in, back in, to thank my good friend and colleague, Chairman Wheeler, and the awesome staff of the Connect2Health's Task Force for working to make this all possible.

You heard the Chairman speaking about the impact of infrastructure networks, and the potential of broadband networks to enable integrated, collaborative, and comprehensive smart health systems.

As important as these future systems could be, the Chairman and I believe them to be the goal. So this is Mignon speak. It's not about the systems, but how these systems empower consumers.

Today, if a consumer develops a pain in the middle of the night, he or she may head to the emergency room if they can get there. Or they may hold on and suffer a bit until the morning where that doctor's office is open and hope that they can be seen. When an elderly person who lives

alone, it's so easy for that person to become socially isolated, malnourished, or even depressed before they can get any assistance.

The current health care system, I don't have to sell to this audience, can at times work incredible miracles to treat these individuals when they develop problems. But often, and too often, it is unable to prevent these problems from happening in the first place.

So these are not theoretical exercises. These are real-world situations. Our population is aging. And most of us prefer to age in place or live independently for as long as possible. The question for me, and I know for you, is how do we enable, all of us, to stay home, be functional, mobile, and with a good quality of life as we age and as our medical needs increase.

By 2030, one in five of us will be 65 years or older in this nation. I'm hoping it won't be me, but I think, doing the math, it will be.

(Laughter)

COMMISSIONER CLYBURN: And one in five of us over will have four or more morbid conditions. The badly kept troubling secret is that we do not have enough health care workers to meet the demands which they have.

By 2025, it is predicted that we will have anywhere from 50 to 100,000 fewer physicians than we actually need. But broadband, I believe, can help serve as a bridge between this expanding chasm of diminishing resources and the increasing need that we have.

Not only can broadband serve to connect everyone to the resources that they need, but by interconnecting systems, it can be a force multiplier to achieve positive health results.

To accomplish this, it's been made very evident today that we need to build on the broadband networks as the Chairman has talked about to integrate not just medical systems with each other but medical institution with social service providers, grocery stores, family caregivers, senior centers, Fitbit, smart homes

and cars. Then the information and services these people and institutions provide, then and only then can they be available to consumers when they need them day or night.

It may just move the needle from a largely fragmented medical system to an integrated, fully integrated health care network that provides us with that continuum of care that we so desire.

These systems can enable consumers to access the specific information supporting of the services that we all need. These smart systems could be exquisitely personalized to the specific needs of any of us.

The data from the multiple sensors and monitors that will be deployed in our homes sooner than we would like, and in our environment. These can continually analyze our experiences and help those caregivers and providers and those family members to be alerted if there is a need or an emergency with our loved one even if we're thousands of miles away.

Take for example in another case. A teenager, and this is too often the case, that suffers from asthma. Scientists tell us that certain environmental triggers like pollen, pollution, cold air, or certain foods can trigger an attack. A smartly-designed health care system could detect these levels of pollution in the air and automatically send that person, that child, an alert to that cell phone. It could automatically close that window in that car or house to limit exposure. And it could also lower the chance of an actual full-blown attack.

Unlike the medical systems of today, which will treat you at the stage of crisis, future, and hopefully, today's smart health care systems could be both preventative and proactive.

Over times, all of these systems could access broader broadband or consumer behavioral patterns when we drive, when we shop. And it could help predict certain behavior that will assist us so we can make course corrections and make alternative choices for better outcomes.

But perhaps the most amazing thing about these future broadband-enabled smart systems is that they could actually be largely passive. They could actually work to help the consumers with their needs without them doing anything special.

Now we know from public health that the most powerful health interventions are those that are actually passive. Take, for example, when we put fluoride in water, or we put that iodine in salt, we don't even think about that anymore, but it was a big deal back then. It has prevented so many diseases, and it has saved so many lives just by adding those two elements to our water.

These simple but dynamic changes have made incredible differences and we have yet to scratch the surface. So we believe that there is a significant potential for broadband-based smart health solutions to enable providers and those of us who are managing our care to have better outcomes.

It will enable all of us as consumers to be much more equipped to manage the care of our

loved ones anytime, anywhere. This smart care, and the bottom line for this smart care, and these solutions is the fact that we could even through today's lens' have incredible outcomes from a health care management and caregiver experience.

Today, again, we are just talking about it. We have yet to scratch the surface. So for the remainder of the program today, I would like for us to focus on exploring what all of us can do to insure that these smart solutions that are just around the corner that they will be available for all us here in Florida and across the nation.

We have a very interesting interactive and thought-provoking panel putting the pressure on all of you that will further charge and challenge us to come up with solutions to insure that all of the technology, all of the technological advances, all of the connectivity that we are working so hard to insure that every citizen in this nation is comfortable with signing on and can afford to stay on. Thank you so very much.

(Applause)

DR. GIBBONS: Thank you, Commissioner. At this point, as the Commissioner outlined, we're going to move from a discussion with CEOs about the future and what's potentially possible to a discussion of what's possible with what's happening right now.

We have a dynamic panel of innovators who are doing things. Have already designed and deployed solutions right here in Florida that are broadband-enabled. We're going to hear from them and talk about how these solutions can be scaled to reach more people than they are reaching now.

Just briefly, I'll introduce our panel members: We have Dr. Kevin Barrett, who is the Medical Director of the Mayo Clinic Telestroke Program; we have Don Hughes, Fire Chief, Satellite Beach Fire Department; We have Candice King, Executive Director of the Acorn Clinic; we have Kendra Siler-Marsiglio, who is the President of Well Florida; and Sean McCoy, Health Sciences Specialist at the Veterans Health Administration.

And this panel will be moderated by Rena Brewer, who is CEO of the Global Partnership for Telehealth. Rena.

MS. BREWER: Thank you very much. I'm also a PK. I'm a plumber's kid. So my goal --

(Laughter).

MS. BREWER: -- my goal is to flush out all of this (inaudible) information that we have up here at this table.

But I would like to make a comment before we get going about Paula Guy. I know her better than any of you because she has been my mentor and boss for the last ten years. And I want you to know that all of us have been impacted by her tireless effort to champion telehealth not only in Georgia or the southeast, but across the country and across the Globe.

And know that Georgia Partnership is the basis of all the work that we do and it is a nonprofit just up the road from here in Waycross, Georgia. And it is amazing what has come out of that little, tiny organization in the swamps of

south Georgia.

There are children in schools that are having clinical encounters probably as we speak right now. There are residents of nursing homes who are being seen right now and not having to be transported at a distant site. So they're avoiding all of the errors and the injuries that could occur just in transporting those fragile citizens.

There are children in Guatemala who are seeing American doctors because of the work out of Georgia Partnership for Telehealth. And it is amazing that this little company is now in eight countries and 18 states.

So, Paula, certainly, has led this work and she is a great resource for all of us.

Now, as the Southeastern Telehealth Resource Center, we were granted, Georgia Partnership, was privileged and asked to become the telehealth resource center for the southeast. So for the past five years, that's been my role as the Director. And that's my work here in Florida

and in all of these states which is South Carolina, Commissioner Clyburn, South Carolina, Alabama, Georgia, and Florida.

And each of these states what we've done is formed work groups. And I'll be selfish now. Since you are here at this meeting, you should be in the Florida Telehealth work groups.

And Lloyd Simmons, if you'll raise your hand, Lloyd, has now taken the role of Director of the Southeast Telehealth Resource Center. And I would encourage you to become a member. It's a group of volunteers, a large group of volunteers, from across the state who come together. And there's many work group members in here right now.

And we have one voice and we're making a difference. So I invite you. And so check with Lloyd. He'll put you on our contact list. And our next meetings are going to be the last week in October. We'll meet in Gainesville, we'll meet in Miami, and we'll meet in Tallahassee. So please see him.

One more thing that we do as a resource

center is we help to host regional conferences. And our work group has played a pivotal role with the Florida Telehealth Conference. It's coming up in December. We had one last year. We had over150 people attend. It will be in Winter Park, and I would encourage you to be there. The agenda is wonderful. You'll be surprised who's going to be speaking at the conference.

And so, here again, talk to Lloyd, Paula, or I and we can tell you about that. It's going to be in Winter Park, Florida at the Alfond Inn which is a divine place to be. It's just beautiful and exciting and I'd love for all of you to come. In fact, if you're interested in telehealth in Florida, you really need to be there. Okay.

DR. GIBBONS: I neglected to introduce one panelist and please forgive me. It's my fault. On the far end is Austin White. He's the President and CEO of MD Health RX Solutions.

MS. BREWER: All right.

MR. WHITE: Thank you.

(Applause)

MS. BREWER: So let's get started. We're going to start with Dr. Barrett, and you tell us all about you and your work.

DR. BARRETT: Sure. Well, thanks everybody for having me here today, and thanks for the opportunity. But what we're going to do very briefly is I want to bring this telemedicine to life for you and give you a quick demonstration of the technology that we use here at Mayo Clinic Florida for our telestroke Program.

And so the device you see in the corner of the room is one of our devices that we commonly employ in a TeleStroke Network site emergency department. And what you're seeing on the screen, actually, is the interface that I'm seeing on my control station.

And by the way, when we first started this is 2010, we had large desktop-based control stations. And then we got laptop control stations. And now we can operate these devices in emergency departments off of tablets and even

iPhones.

So the ability to access these telepresence devices has improved and let's us be more mobile. So instead of being on call chained to my desk at home, now I can actually leave the house but still be available to do these types of consultations.

And so what you'll see here, and Gail Gamble, who is my partner with the Telemedicine Program, but we have the ability with the device to zoom in and out. This pans around the room. I can control it just by a mouse click. And even targets that are further away. And we'll pick on our news colleagues. They're used to being on camera. This is a camera war right here.

So you can see that the resolution is very good. And what we'll do, for a standardized stroke evaluation in an emergency department, we've got a validated scale that we can use that measures certain aspects of neurologic function and allows us to come up with a measure of stroke severity, and that has both prognostic value as

well as therapeutic value as well.

Now, I'll show you just some of the elements of the examination, but I'm going to zoom in on Dale here. And one of the things that we'll often do is examine the eye movements. So you can see if I had a bedside nurse, we could even go as far as looking at pupillary light reaction. And I bet if Dale closes her eyes and then opens them up, you can see the pupil constrict.

And then I'll back out a bit, and then what I'll have Dale do is just keep her head nice and still, and she's going to with her eyes look to the left, look to the right, look up, and look down, show us your teeth. Perfect.

So you can see the resolution is good. We can measure aspects of neurologic function. And then some other things that the device lets us do is present different images onto the device. So those of you at the panel, what is at the bottom of the screen is actually what's being projected onto the telepresence device.

So that's a standardized picture we use.

It's called the cookie theft picture. I'll try and point it up so more people can see it. And we ask the patient to describe what they see in the picture, and then we can scroll through with other presentations. We ask them to name common objects. And then there's a few phrases that we'll have them read back to us when we assess language and clarity of speech.

Now this system is dynamic. It's also the portal through which we access images. So Dale's a stroke patient in an emergency department in Parrish Medical Center in Titusville, Florida. She had a CT scan done to rule out a hemorrhagic type of stroke, a bleeding stroke because that's the piece of information we have to have in order to be certain we can safely treat patients with ischemic stroke with clot-busting medications.

I can pull up that image through this device, review the images, and even for family members project certain key images onto the screen just like I'm projecting these common data elements.

So just a brief demonstration, and then I'll flip over to this Power Point presentation that we have. That was the segue. Excellent. Excellent. Okay, very good. No one's sleeping in the back.

And I just want to give you some perspective, we'll back away a bit, of why we're doing this. And stroke is a common condition. Its prevalence is directly related to age. And by that, stroke prevalence dramatically increases with age.

So you can see for those individuals who are between the ages of 20 and 39, the prevalence of stroke is less than 1 percent. But as we come up into these higher age categories, particularly for those 60 to 79 years old, and those over 80, the prevalence can increase to nearly 15 percent.

So this is an age-related problem in a state in which we have an abundance of elderly individuals. So this is a critical disease that we're fighting on a daily basis.

Across the United States, there are

795,000 new ischemic strokes that occur each year. Two-thirds of those are first ever strokes and a third are actually recurrent strokes. So if you look at the averages, every 40 second somebody is having a stroke in the U.S., and it's the leading cause of adult disability.

I should also mention too in terms of stoke- related mortality, the stroke over the past ten years has exchanged places with chronic pulmonary disease to become the fifth leading cause of death in the U.S. So stroke mortality has actually decreased. The mortality is likely, the decrease in mortality is likely tied to the improved efforts that we've achieved in terms of controlling blood pressure because high blood pressure is the strongest and most independent risk factor for stroke.

This is a snapshot of our network. So we're here at the hub at Mayo Clinic in Jacksonville, and we serve spoke sites in Waycross, Georgia, Titusville, Florida, and two sites in Pensacola.

So as telestroke networks go, this is a relatively small network. Our colleagues in Rochester serve an entire health system with over 25 sites. We've got colleagues in Arizona that's spread out to nearly 20 sites as well.

So why is telestroke important? Well, this gives people realtime access to subspecialty expertise. In this case, it's a vascular neurologist. And it's interesting, you know, you see the cities that we're serving. They're not necessarily rural. There's a two-pronged problem with access to stroke expertise. One is geographic. But even in larger cities, there is a disincentive for neurologists to be involved in acute stroke care. What is the disincentive? They're not paid to do it. And it occurs at all hours. So it requires a timely response.

So the example, and one of the reasons we have a telemedicine device on this campus is that even though I live ten miles away, I can still be in our own emergency department faster with telemedicine than I can by driving ten miles

from home on a night or weekend. So telemedicine can be applied across lots of different applications.

And what we're trying to do here is we are trying to treat patients with ischemic stroke with a clot-busting medication that can improve their functional outcome, and that medication is called TPA.

And I'll give you an example of the impact that telemedicine has had. Parrish Medical Center that we partnered with in 2010, for the year prior to our partnership, they treated less than 2 percent of their patients with TPA. This is the only FDA-approved medication that improves outcomes after stroke.

Following our partnership with them, implementation of telemedicine in their emergency department, we treat now up to 25 percent of their patients with TPA. So this is reducing stroke-related mortality. It's reducing stroke-related morbidity. And it's helping patients.

And then with the few minutes remaining, I just want to give you a glimpse of the future of telestroke in particular. As it stands now, hospital-based telemedicine for stroke and identifying patients who can benefit is established. It's validated. It's being done all across the country.

So where are the next opportunities for telemedicine? Well, it turns out it's by leveraging the devices in terms of not only a clinical examination and reading an image, but actually attaching peripheral devices to that telepresence device in order to gain more diagnostic information real time.

And then I'm going to talk about pre-hospital and mobile applications. So this is an example of something that we developed here. We've published this. It's called teleneurosonology. So this is the integration of ultra sounds with telemedicine. And what you're seeing here is my colleague, Dr. Rubin. He is examining a patient with a Transcranial Doppler

device. This is just a simple ultrasound device that's able to measure blood flow velocity within the blood vessels of the brain.

And this is me at the foot of the bed observing. So one might say, well, that's pretty neat. You can look in on somebody performing an ultrasound examination. And here he's actually got another device and he's looking at the carotid arteries.

Well, it turns out through the connectivity that we have between devices, we can actually change the display such that what you remote view with the forward-facing camera and me that's being projected on the screen, I have hair there, by the way, and then my colleague here. But we can bring in a third channel which is the realtime ultrasound output.

And here's an example of that. This is what's displayed on my end remotely while he's doing the examination. So this is realtime, teleneurology. A nice example of how peripheral attachments can be utilized through telemedicine.

And now pre-hospital applications. So one of the cornerstones of effective stroke treatment is that the quicker patients are treated, the better they do? So these systems of care at the moment a patient arrives in the emergency department have become very well-oiled. We can get patients from arrival to treatment with TPA very quickly, often within 30 minutes. So the opportunities to further compress the time intervals related to treatment are going to be before the patient arrives in the hospital.

So we just completed the pilot here. My colleague, Dave Freeman, was the leader of this, and we deployed a fleet of iPads into the back of ambulances and began to measure, this is the poster that was presented regarding the results, and measured that standardized stroke scale score in the back of the ambulance prior to the patient arriving at our hospital.

So we would get a call ahead of time. We're bringing a suspected stroke patient your way. We dialed into the back of the ambulance on

the iPad. Had a clamp mount within the back of the ambulance. And then were able to get some of the preliminary data, examination, and important time intervals that we need to be able to safely treat these patients.

And then to take things one step further, this is the Cadillac of mobile telemedicine. And this is a ambulance in Germany. They were the pioneers. It's called STEMO. And in the back of this ambulance is not only a telemedicine hookup that's hardwired, but also a portable CT scanner such that TPA with a CT scan done en route, and a neurologist dialing in through the telemedicine link to get the appropriate history and review exclusions, you can begin thrombolysis or treatment with this lifesaving medication even before hospital arrival.

So this is the future of telemedicine. So in summary, I'll close. I think the take home points are that acute stroke therapy can be effectively delivered through telemedicine. It's

reducing stroke-related disability and mortality. And the emerging applications within telestroke are going to be delivered in the pre-hospital setting.

So I'll end there. Thank you.

(Applause)

MS. BREWER: Okay. Mr. Hughes from Satellite Beach Fire Department.

MR. HUGHES: Well, I have to say to you I am absolutely in awe of you. I wondered when I was asked the question to participate in this I was thinking why in the world would you want a fire chief at a conference and speaking like this. And I suspect that maybe you are thinking the same thing. Is what does a fire department fire chief bring to the table.

So if we can start up, my slides are here, and just give you a little bit about the projects that we're doing here in Satellite Beach.

As this is loading up, Satellite Beach is a small community of 10,000-11,000 people in Brevard County down on the east coast. Our

population is about 25, 20 percent is 65 and older, and our current projections is that we will be probably closer to 30 percent 65 and older in the next ten yeas.

I bring this up and, again, as the slides get ready to come up, or was I supposed to do that, Mr. Wizard?

SPEAKER: Mr. Wizard.

(Laughter).

MR. HUGHES: Well, I'm fighting with him on the mouse, I think. So anyways, just quickly about us is the challenge for that population group, that demographic that is expanding is because even though it is a small demographic within my community, it makes up well over 60 percent of our 911 calls.

So just looking at the community getting older not because more people are moving in, just the aging of the community, I can anticipate an exponential increase in 911 calls for us. That puts us in a dilemma for resource allocation. That puts us in a dilemma to begin planning for

the future and to put resources to meet all of the 911 needs when they come with price tags that have got a few zeroes behind them.

So recognizing that tax base is not an infinite set of numbers. It in our city, it is a very finite set of numbers. I actively have to compete with the Recreation Department for Fire Department programs, but that's how local government works and it means nothing other that. But I had to think of something differently.

And so kind of go through here. And as I said, the background for our community, we are 10,500 and the zip code area where our primary service area is about 29,000.

Percent of that population is 65 and older. I am just absolutely a standard community fire department. I'm not anything great. One of my community medics is hiding around the corner somewhere and I kind of bring this out. But we're an agency that we use key performance indicators to make sure that we're providing the quality services to our constituents that we serve.

When you look at me and you look at my fire department structure and we look at any organizational chart, I am absolutely a traditional fire department. Ladder companies, rescue companies, water rescue, marine rescue, all those things, EMS, all of that, but on the far right-hand side here I put in red here, there is a position here that is atypical in public safety.

We are one of the few departments in the state and one of the leaders in the country that has established what we're calling the Community Health Paramedic. A first time that we have a full-time paramedic dedicated not to responding to 911 calls, but dedicated to provide care to those 65 and older who have multiple chronic conditions and are well sick enough but not sick enough to qualify for home health care. They are self-managed individuals.

And when we began looking at this demographic, it's not my 65 and older group that I'm worried about. It is my 75 and 80-plus group that I'm worried about. Three percent of my

population is over 90 years of age. These are the most critical, the most fragile of our citizens that we take care of.

And so we decided to make a change. We had a budgetary opportunity that took, and for those who work in government, you never pass up a budgetary opportunity. And so we took an opportunity, put his position in place, and it kind of spun off of some other things that we'd been doing since 2008.

We launched a fall prevention program for seniors in 2008. And to this day, Ken Peach who is in the room and is aware of some of the stuff that we do, we reduced fractured hips in our community by 40 percent. I mean, when you just look at that -- but one of the things that we found was that the reason people fell was not necessarily that they tripped over a rug. But when we talk about trips and falls in health care, we say we have to change their environmental issues. We gotta remove the trip hazard.

Folks, they didn't trip over the rug.

They didn't slip in the shower. They fell because they stood up too quickly. They take 43 different medicines, 12 of them are blood pressures prescribed by six different doctors and filled by two different pharmacies.

And that's maybe an overstatement, but I think anybody who has an elder member of your family, I think you can understand the analogy is that the system sometimes is complicated.

And so we realized that if we wanted to fix this issue involved, we needed to quit looking at rugs and we now needed to start looking at people and looking at the health care side of it.

So as we moved forward and we put this in, let's talk just a little bit what this program is doing here. We talked about the senior fall prevention and the community health medic program here. What we provide is that we give the opportunity for clients is the term we sometimes use, occasionally we'll call them patients, people in our community that we know that are fragile.

We find them through a variety of

reasons. Repetitive 911 calls. These are the people who feel like we are Delta Airlines and it is a royalty awards program for them. So, yeah, but not the reward you wanted. Repetitive 911s. That is one way that we've identified.

We have identified patients just because maybe we only ran on them on one time, one time, but we knew that their issue was preventable. They got into an acute stage not because something happened overnight, but because it happened over weeks. It was a slow change in their environment. And the patient didn't realize it, the family didn't realize it, and since they hadn't been to their PCP, their medical care provider didn't realize it.

So we said, wait a second. If I want to fix something, I don't need to be treating the acute side of it. I need to keep them from getting to the acute phase. So our community health paramedics, they make scheduled appointments in the home. The work with the patient, the client, the family. They work with

the primary health care provider. We do not complete with home health. We actually say we are complimentary to it because we actually take the time to sit with these patients and say, hey, you need more than what you've got right now. Let's get you partnered with the right home health care provider today.

And we are now able to walk in and say and here's the data for the last two months. All of a sudden now it becomes easier for that patient to be enrolled into home health care. We don't just walk away when home health care stays in. We still keep in touch on that patient because we know there may be a time that that patient is going to exit the home health system.

So again, just things to consider. And things that we do on a paramedic side, this is our normal skill set, 12 lead EKGs, vital signs, glucometer, all those various aspects, but we also take those paramedic skills that we have and we apply them in the non emergent side of it. And we also look at nutrition compliance. Make sure that

their nutrition is good, that we have the right things for them, to makes sure they have transportation, and to make sure that their medications are aligned properly for what they're being treated for.

We've got some expansions of the program here, and this is probably where I got pulled into the mix here, is on the telehealth, telemed, whatever term that we want put with this. So we said to ourselves, self, how do we maximize our personnel? How do we reach more people with less resources, Because, as I said, my budget is fixed.

I certainly have ten times more need in my community than I can even touch. So we said, well, why don't we do two things. One, and somebody in the previous panel said this, why don't we turn around and start implementing some of this telehealth stuff that is out there?

So I had the opportunity to attend some national conferences on community paramedicine which has got a good movement over the last year, and I'm there, and I'm with vendors, and there's

all these telehealth products that are there. And without me mentioning the name, I talked to one company, blood pressure, glucometer, all these things to be provided to that, to our in-home patient that we have, but my licensing fee was $20,000 and the cost of the products was certainly a lot more than I could afford.

And so I got home that day kind of frustrated, and I had to go and get a jump drive. And so I go to Best Buy. And I'm walking down the aisle and I go, holy, cow, look at that. There is a wireless blood pressure cuff, glucometer, scales, pulse oximeter, none of it more than $50. As a matter of fact, most of it was in the $20 range.

And I go, huh, what if? So we took this off-the- shelf product, looked at it, logged it in, figured out that it had a dashboard component that you could, that person could share their data with somebody else. And me being a cheap guy, according to my wife, the app was free, the storage was free, the interface was free. Oh,

wow, that's (inaudible)

SPEAKER: (inaudible) You know, I mean, listen. So we implemented it, and we began putting this out there with all of our clients. And I will tell you, it's almost a mandatory component. If you're going to be in our system, you at least have to do the wireless blood pressure cuff that's Blue Tooth enabled, that connects to the device that uploads.

And our rationale behind this was, you know, I think part of the problem is patients are not in the driver's seat. They're sitting in the back seat and they're just waiting for the bus to take them where they're going.

And what if we empower that elder person to have them take control and be part of the solution instead of just waiting to see what happens? That was the thought we had. So we implemented it. And all the things that we were told, well, you're not going to get a 93-year-old person to be able to do this. This is technology out of their skill set. Wrong. Wrong.

They text. The way they want to talk to their grandkids and great-grandkids. They had the skills. So we went through and as we implemented this, we had to look at some challenges. And one of our challenges, and we are no, I will say it's not a wealthy community but it's a very strong middle class community, the financial aspects of it. Very low Medicaid enrollment that's there.

But what we said and realized is that, well, that 93-year-old cat, the cell phone, he does have his flip phone. It's not a smart phone. And we realized that, you know, we need to give them some stuff. So we just asked our community. And we said to the community, look, we've got a problem here. This is a community issue. This health care crisis that we're dealing with our senior citizens, at the end of the day, it's a community issue and I need a community solution.

And we were just blessed enough to have a community to donate $10,000 over the last six months just for us to buy iPads with celluar data and the equipment for these people who cannot do

it on their own.

And this was just an example. It was not a tax dollar-based thing. It was the community recognizing that, look, we have an issue and, you know what, that may be me five years from now. I want to have this ability.

So as we began doing this and implementing it, I hit the wrong button here, I apologize here, our participant ranges from 74 years of age to 93 years of age. Everyday are 25 to 30 participants. They upload their data to the Cloud-based dashboard. Our community health paramedic that day will log in and look at all the participants that day. We've been able to note trends with patients. And, yes, we realize that this device was designed for home use, for fitness not necessarily in this genre where we're working it. But we realized that it was enough data to give us that first touch and recognize when somebody is getting themselves in crisis.

We take the opportunity and talk about a lady name Ms. Dixie. Ms. Dixie is, one of her

vulnerabilities is diabetes. And she is 83 years old. Very engaged in her health care. She knew how to text so we said we got a good person here.

Everyday, Ms. Dixie would take her blood sugar on our device and would upload. And one day we looked at it and Ms. Dixie's blood sugar was 380, 400. Our community health medic says, Ms. Dixie, what's going on? I ate cake last night and forgot to take my insulin. Okay.

Well, you know, behavior wise, this is probably, you know, you need to keep your sugars in line here. Couple days later, Ms. Dixie's blood sugar is 50. Ms. Dixie, what's going on? Oh, I took my insulin but forgot to eat my cake.

Then the next day, we're not calling Ms. Dixie. Ms. Dixie is calling our community health paramedic and says, I know, I know, I know. Don't yell at me again. Ms. Dixie's A1C dropped from 13 to 7.5 in three months. She was now empowered. She understood, you know.

(Applause)

MR. HUGHES: So, again, we looked at

this, you know. And then we started moving this a little bit further here and recognizing, we (inaudible) from a Medicaid standpoint, and I've got to make sure my right slides come up here. We started recognizing another trend that we wanted to get in front of, and that was the readmission rates back into the hospital. And the reason why is because, hey, we were there at that house on a 911 call five days ago. They were admitted in the hospital. They'd been discharged. Why are they dialing 911 again? There has to be an inherent issue that's going on.

So we began looking at this and saying, look, we need -- that 911 call was most likely preventable. Now, we can all agree in the health care side we have a lot of things to look at in hospital readmission rates after discharge and a lot of players that are at the table to make the system work.

We created what was called the Satellite Beach Senior Care Network and what do we do with our clients that are in there? We're actually

doing a monthly status. We do a case management review of all of our clients. The people that we have at the table are local home health care agencies, hospice agencies. We have two churches represented at the table. We have Department of Transportation represented at the table. We have pharmacies represented at the table. We have civil groups that like to do services for seniors represented at the table.

And as we do our case management review, we go through it and we go through and we say, all right, what is their unmet need. And that unmet need, somebody at the table says we can fill that need. We can take care of it. Again, a community-based component that's there.

And I'll just kind of close out here, and I'll just give you some short data here that's been working, I think, in our favor a little bit. We started looking at our patients and start talking about discharge. And one of the things that we do with our patients that have been discharged from the hospital, we try to make sure

that the community health paramedic has, one, has already seen them in the hospital during their admission. And number two is working with the case manager on discharge so that the community health medic can be in that patient's home within 12 hours of discharge. Because we know that even though they may be discharged with home health care, it might be a day or two before that gets in place.

So we said, look, I've got a standing resource. I have the ability to do this. Since we've been doing this, and I'll just kind of lay this out here. Over the last 120 days, of our patients that we had that were admitted and discharged, we've only had a.08 percent readmission rate. The statewide average in Florida is running around that 17 to 20 percent readmission rate. And we are hitting that.

(Applause)

MR. HUGHES: And I thank you, and I wish that, she must be working on, we're bringing a gentleman up on video here, Melanie Drake. And

when she pops back in that's actually the person that needs the applause because she's been the steam engine behind this project all together.

So Mr. Wizard, are we ready to bring A.J. up?

SPEAKER: On you.

MR. HUGHES: What do you want me to do? Hey, Mr. A.J.? This is Don Hughes. Can you hear me?

MR. A.J.: Yes.

MR. HUGHES: How are you doing today?

MR. A.J.: I'm doing --

MR. HUGHES: Good. So, Mr. A.J., you know Melanie is your community health paramedic. Let me ask you a couple of questions. And by the way, this is completely unscripted. I didn't know I was really doing this.

So let me ask you, you've been in our program about three to four months now. How do you feel about your health right now?

MR. A.J.: Doing great.

MR. HUGHES: Yeah? One of the

challenges that I remember you having was that you had a hard time getting to your primary care provider, your doctor, Dr. Ireland, because your son would have to take off work in order just to get you to the doctor's appointment. And we were able to get you lined up with some transportation. Has that worked out for you?

MR. A.J.: Yes, it did.

MR. HUGHES: Good. And real quick here, for the audience that's here, you're using the electronic blood pressure cuff and you're 93 or 94?

MR. A.J.: 92. Okay, I am so sorry.

(Laughter and applause)

MR. HUGHES: So how do you feel about getting up everyday and taking your blood pressure and knowing how your vital signs are? How does that make you feel?

MR. A.J.: Well, it gives me, it gives me peace --

MR. HUGHES: If I heard you right, says it gives you peace knowing what your blood

pressure is?

MR. A.J.: Yes, it does.

MR. HUGHES: Very good. Our audio is getting broken up just a little bit there. So, Mr. A.J., is there anything you'd like to tell the audience? There's about 50 people here. I told you you were going to be aTV star. Anything you want to say about the program and how it has helped you out?

MR. A.J.: Well, not really.

(Laughter)

MR. HUGHES: Okay. You should have been a stand-up comedian. Well, Mr. A.J., thank you so much and I appreciate you doing this for us.

MR. A.J.: Well, thank you, sir.

MR. HUGHES: All right, sir. Bye bye.

(Applause).

MR. HUGHES: Mr. A.J., World War II veteran, Korean War veteran. The only reason he wasn't in Vietnam is too old. And this is a gentleman that is basically homebound, minimal mobility, low socialization. His son who lives

with him I think is in his low sixties. And the issue that we were dealing with Mr. A.J. that his son would have to a day off from work without pay to take his father five blocks down the road to see a physician.

And that spawned a conversation with us and so our last piece that we're working on is we're working on that telemed piece and we actually have his primary care provider signed on that if we need to, we will video link with his primary care provider. And that's the goal that we're going to.

Now as I've said in the challenges I've gone into and maybe as this progresses out throughout today, one of our challenges we've run into is equipment cost. And then I asked myself the question why. Why? Why can't it just be the iPhone? Why can't it just be a iPad. And I have people telling me, well, you know, we're worried about the HIPPA thing.

Well, for doctors that tell me that, then what I need to ask them is when are they

going to soundproof the walls between their examiners. You know, really? And so that's my challenge to everybody is that we have to really rethink the way that we do business.

And I've got a slide up here I want to bring up here just real quick here as we close out here. This is a bridge over a river in Honduras. And when Hurricane Mitch came in in 1989, this bridge was ten years in the making. And after Hurricane Mitch came through, the storm surge and everything rerouted the river. So now we have a bridge covering nothing.

And I think about this in the context of health care. I think about this in the context of the fire service. Is that we have spent lots of money building a structure, but we're unprepared for the storm of change that happens. In this case, this was a overnight change, but, folks, we have got a change that's happening and it's slow. But the change is happening.

So for us, I have to look at it from public safety. I know we're a fire department

that puts the wet stuff on the red stuff. That's what I'm supposed to do. But I've got to go back and say I've got another emergency going on and I need to restructure my organization so that I've got a bridge that covers everybody. Thank you.

(Applause)

MS. BREWER: Thank you. On our agenda we have Candice King, but due to circumstances beyond her control, she couldn't be here today. So next we have Dr. Kendra Siler-Marsiglio, President of WellFlorida and a Director, Rural Health Partnership, Community Health IT. Okay.

MS. BREWER: Do I pull out the slides here?

SPEAKER: It's The Wizard. The Wizard.

MS. BREWER: Oh, I see. Thank you so much. Okay. And we probably have about ten minutes for all of our speakers now.

MS. SILER-MARSIGLIO: All right. So I'd like to thank FCC first for actually hosting this event in Florida and really helping us kind of shift our paradigm of how we do health care and

I'm just really honored to be on such a dynamic panel with such dedicated individuals.

So today I'm going to talk a little bit about our health information exchange that we have, and, also, our broadband programs that we have here in Florida and Georgia.

Just a little bit of background. I'm the Director of Rural Health Partnership. It's a federally-designated rural health network we started in 1996. We are actually in the Florida statutes to coordinate the exchange of patient health information. And that's kind of how we had this foray into community data exchange.

And really what we are looking at is how do we strengthen that connection between the rural areas, providers in the rural areas, and patients, and for urban areas because, of course, the patients have to go into the, back then patients had to go into the urban areas to get to specialty care and get to hospitals and things like that. So we started looking at how do we stay on the right side of the digital divide in these rural

areas.

We got together about 50 of our regional stakeholders and experts and started working on the problem as a community. It was made up of economic developers, lending institutions, the VA, of course, traditional medical care, behavioral health, pretty much any group that was represented in the community to start doing this work.

Before I talk a little bit about that, I wanted to show you just a snapshot of what broadband looks like in the state of Florida. As you can see, these red areas have very poor access. The FCC was talking a little bit earlier about what their definition of broadband is so that's 25 down and 3 up. And as you can see, these folks don't have that.

Seventeen counties. These particular communities also have higher mortality rates, poor health, and lower incomes. And it's not really an issue about demand by rural residents for broadband. It's more about supply.

So if you have broadband in these

particular areas, then the uptake is going to be the same as the urban areas. We're going to use it the same. So really we need a lot of help in these rural areas to get broadband here.

So, I was talking a little bit earlier about how we got together as really a region to look at community data exchange and shifting that paradigm of how health care is done. Really making a new platform where everybody is in the same sandbox sharing information amongst patients, amongst providers, amongst any type of care entity in the communities to make sure that patients had that relevant health care anytime that it was needed. And we really found that we wanted to make sure that we were addressing anything that was going to slow the barriers to health information technology adoption.

So that was the creation of Community Health IT, and I'm the president of that particular organization. It's really kind of made up of these three parts. The foundation, as you can see is making sure that everybody has

high-speed internet connectivity. We use FCC and also the Health Care Fund Program that is run by USAC, which the FCC has them actually administer that fund. That helps us get money back for rural medical facilities and also emergency departments that expend money on broadband to telecom.

And again, it's really to make sure the rural residents can have access to and the same quality of care as their urban counterparts in Florida.

We also assist with electronic health record implementation. So we work with either free or low-cost resources and get those folks into the medical facilities to make sure that providers are able to use their electronic health records the way that the federal government wants them to so they can get reimbursements from CMS.

And then the top of that pyramid is the activated community health information exchange. And what's unique about that is that our model actually has the patient portals. It's a shared portal for all patients on the same platform as

the health information exchange that's used by providers and also used by case managers and other health resources in the community. And I'll just about that a little bit more in a moment.

As you can see, there's like a little VA puzzle piece there. We are appointed by the Department of Health and Human Services. We're actually only one of two health information exchanges nationally that are able to do this electronically, but it bridges the gap between the VA health care system and ours.

What the VA staff actually does is it trains their veterans, especially rural veterans, on how to download their information from the VA's personal health record and upload it onto My Health Story which is the name of our health information exchange so all the civilian providers can see that, access that information to take care of them in realtime right on the spot.

And then if you look at those double arrows where it takes you to the Florida Health Information Exchange, we are actually a node on

the Florida Health Information Exchange so if one of our residents is down in Miami and they break their arm or they have some other emergency issue, then Miami, the hospital there, can access data from anyone who is on My Health Story.

And I'm going the wrong way again. I'm sorry everyone. All right. So real quick, Community Health IT we are an official FCC consortium where we can help get money back for broadband and telecom for eligible medical facilities. Our HIE has been operational since 2011. We're also part of the One Florida consortium. I was appointed to that through (inaudible) that represents over 50 percent of patients in the state of Florida, and what we do there is community engagement research. So it's all of the major academic institutions in the state and also large health care systems.

We happen to represent rural providers and ambulatory providers, especially in the state of Florida, and we help with doing research where patients are in their communities not with

somebody in a lab telling them, okay, now it's time for you to take this particular pharmaceutical and let's see it works. We look at how everything works in realtime so we can improve patient care.

We also have that Florida HIE. We partner with the Florida Hospital Association. They help us with getting hospitals to increase funding with the FCC program for broadband, and also getting on our health information exchange. And then we connect residents to their community health resources, their medical providers, and behavioral health in any given community that we're in.

And that's what's really powerful about this particular health information exchange. It's not just that connection between a patient and their traditional medical provider but has all the information on that patient in the community with patient consents, of course.

Okay. So real quick I wanted to talk a little bit about a model that our CMIO and I had

developed in 2012. It's called Health Ready Connectivity. And really it was looking at broadband as the kind of network infrastructure that's required for connected health care to make sure the health care deliver is connected. So we look at broadband and really data exchange as two kind of interwoven pieces that allows us to improve community care, coordination, and also patient safety.

So this particular model, it's really, it's pretty simple. In its simplest parts it's that health care places large demands on reliable (inaudible) broadband. Remember, there's 17 counties in red. We need broadband there. And also health care professionals have to be able to handle the health information technology at the point of care. So they have to have up-to-date information there.

So really the dependence on connectivity and broadband, you can look at having a connected community really when there's a community health information exchange and then population

management tools that are mixed with the broadband when you have the ample broadband.

And then the advantages of that particular model is that it provides the meaningful use of broadband capabilities for health care. That means that broadband in a tangible way can see that you are improving patients' lives, improving the quality and longevity of their health care. It also spurs job creation. Saves a lot of money.

And really, again, it's about that partnership between broadband and the health care information technology and especially data exchange.

A full vision of that and, really, for it to reach the full value is that for patients wherever they may live or work, connecting broadband and health care delivery has to be allowed to expand throughout rural and urban areas, and it has to cover the entire health care delivery system.

So again, it comes down to

interoperability. Really, the technology that we chose for our health information exchange. It's already the platform for the Department of Defense for all servicemen and women globally for them to get their health information. Again, we work with the VA. Tricare beneficiaries use it. And then within our communities, we cannot only just connect the medical facilities and the residents in the communities, but also health care resources, including faith-based organizations and case managers and community health workers.

And really, why do we involve patients? If you look at, I'm not sure if you can read that all that well, but if you look at the clinical care on there, that's only at 20 percent. So a patient's longevity and the quality of their heath care, their clinical care only accounts for 20 percent. So outside of that 15 minutes that they're going to be in an office visit, what are they doing? Have to make sure that they're engaged in a healthy lifestyle because health behaviors account for 30 percent. So that's their

tobacco use, exercise, alcohol use, things like that. And if you have a proper health information exchange and you have communities that are using that as a tool, so community health workers or health ministry, kind of overseers, folks like that, helping with that, then you will be able to do that shift with health behaviors in a given community just like what Don Hughes was talking about there a moment ago.

And this is really necessary to prepare for what our health care future is. Already, we can see future payment models when you look at accountable care organizations, patient-centered medical homes, anything like it's going from provider-centric episodic care where you get a fee for that service to patient-centered community-based health. You have to show positive health outcomes to start getting paid.

Really without having connected communities where it's not just the providers but the whole community that's working together to make sure that people's health care outcomes are

improving, you're not going to get to savings those dollars and getting paid in that way.

So a health information exchange outside of just patients and physicians, it connects all these different types of groups that are important for community care. You see some that you recognize here. Hospitals, EMS, behavioral health. We also connect home health, you have businesses connected with population wellness, public health, community health workers, and even ancillary type therapies and nutritionists for the patients.

So I'm going to end on a quick patient study. This comes out of our VA initiative. It is actually in the same county as one of our CDC grants that we have where we're connecting the whole community which is Marion County. It's kind of smack dab in the middle of the state.

One of our veterans was an 83-year-old African- American male. It was his first visit to a civilian primary care provider. And his daughter came with him, and she would, she's his

primary caregiver. She wasn't a health care professions, but certainly somebody who cares about her dad. He had at least six VA providers. He had a lot of problems. Lung cancer, one kidney, anemia, and he was unsure of his medicines.

So in a typical situation, if a veteran walks into a civilian primary care doctor's office and, you know, sometimes they may have like papers that they get from the VA and they're all kind of wrinkled and they have coffee stains on them and things like that, but either the provider doesn't have time to go through all of them, or they may come in with nothing.

So this particular patient came in with nothing. But the provider was able to enroll him into a health information exchange within one to two minutes. From there he uploaded the continuity of care document from the VA which included the patient's diagnoses, his medicines, his allergies, things like that. There was 16 pages of it. And he had 25 encounters in the past

four months. So that's a lot. 27 medications and 33 problems. So with that information because the way it goes into our health information exchange into discrete data fields not just a PDF that the provider has to go through, that provider was immediately presented with a complete picture of the patient's condition. He was able to adjust his medications immediately and then arrange follow-up treatments. And they were done, the follow-up treatments were arranged that day, not delayed.

So then that medical information from that veteran is then available on our My Health Story Help Information Exchange for any other provider visits, emergencies that he has in the civilian space for anyone to see as long as, again, there's patient consent.

All those consents are electronic. There's also a full audit trail for the providers, as well as for patients. So anytime that somebody looks at the patient's information, the patient can see who and when that information was

accessed. The patient is also empowered by being able to put in their own notes. If they think that maybe a medication is wrong or they're no longer taking a medication, or they have any questions about things, there's also secure messaging. So it's a full communication system that we use.

And that is it for me. Thanks very much.

(Applause)

MS. BREWER: Thank you. All right, now Dr. Sean McCoy from the Veterans Health Administration.

DR. McCOY: Thank you everybody. So briefly, I just want to start off with a few things that you've heard mentioned, but we're going to expand on those. We're a little tight on time so I talk pretty fast. I'm originally from New Jersey.

So we're going to talk about empowerment. We heard about patient empowerment. We want to talk about adherence. We've also heard

about outcomes, access, and then disease management protocols are a few of the things that we'll be going over during this presentation.

And I'd like to preface it as I start with, we try to do the right care, in the right place, at the right time for all of our nation's veterans. So I'm just going to talk about, we talked a little bit about disability. We talked a little about access.

We have individuals with multiple sclerosis and ALS. They may be in an urban area. We heard they're five blocks from their primary care provider. But they're not going to get there. They're not going to get see those visits.

So these are my opinions and not the U.S. Government but we'll be presenting a few slides because sometimes I tend to go a little bit off track.

So as you can see here, we have our VA MS patients on the left noted by dots. This is a GIS mapping of all the patients. And then we have other patients that are non VA patients that are

self-reported to the North Florida National MS study.

So we saw with Kendra, we saw the areas where there is no broadband, there is no connectivity. There really is a paucity of MS-specific neurologist. And we talk about specialty care. How do we get specialty care to these MS and ALS veterans because they have different care needs at the primary care level and, specifically, the specialty care level as we look to address their ongoing disability.

So what we did, we have a little hub and spoke model here at the VA, and as you see from Gainesville and this northernmost hospital is our Lake City Hospital which is actually one of the only rural designated hospitals in the VA system.

And we do clinical care out to each of these CBOCs which is community-based clinics, and it allows the primary care provider or the special care provider to work with a nurse practitioner, an LPN, or we have what have the health technician, so our hand's at the other end. But

they help do the triage that we've seen and heard about all throughout the day to allow us to do the visits.

And then look at to ALS, this is the exiting broadband coverage for our patients here up in, I do the eastern regions, so from Maine to Florida, U.S., Puerto Rico, Virgin Islands, but we never get to travel with the federal restrictions to any of the fun places, so when you get to come up to Maine in the middle of the winter, we're trying to work with these ALS veterans.

And you see the little snakes and rivulets. That's sort of how these individuals would drive to get to those hospitals. But, again, for ALS as it progresses, most of the time it's not just the veteran that's coming. It's the veteran and all of his equipment in the car and his caregiver that we just heard, you know, the son has to take the time off from work.

So if we're able to extend care into the home for the right place and at the right time and the right type of care, we can move this care into

the home and we are saving two or more individuals this travel time distance and the VA also reimburses for travel expenses. So it's an additional expense.

So we've seen a bunch of videos, but here's one of our veterans, and we have trained the nurse at the other end. She's eliciting reflexes for a remote teleneurological exam. And you see them smiling and laughing and things in the still photo because we have over 95 percent satisfaction. They can be 80 years, 90 years old, they can be 40 years old, they can be at the later stages of ALS. They all appreciate being be seen at home or an area that's more proximal to their primary residence.

And what we didn't really anticipate is the impact on the caregiver because when it's closer and it's less stressful, they're not focused on, well, I need to hurry up and make sure that he eats because he already went to the clinic and it has been four hours since he ate and he has his wheelchair and we're parked in the one zone

and we're going to have move our car.

They come in. They're more relaxed. They actually ask the questions that they have in their mind. Every time we've gone to a doctor's visit, you come out and you go, I forgot to ask him about my bunions.

And, you know, they have the ability to address these issues in their fashion. And, actually, with a majority of our patients, what they like better, and you may have seen this in your own clinics and things, is now we have everybody that enters everything electronically, so your PA, your nurse practitioner, or your physician, lots of time it's ask you a question, super spin around, type on the computer, ask you questions, or half the time they presenting their back. You have people, you know, auditory issues, hearing issues. They actually read lips most of the time to find out what you're doing. And every time the physician turns and talks and types into the record, they're really not actually hearing what you're saying.

When we did the direct eye contact face-to-face, and a lot of our veterans are in wheelchairs with MS and ALS, you're actually looking at them basically eye level although the physician is not standing over and above them talking to their belts or their waist, so they perceive it as much more acceptable.

So what we have moved here to is doing clinical video telehealth so we do this both to the clinic and to the home. So video quality doesn't have to be so discrete that we can see the eye movement. It's basically, hey, we want you to basically move and abduct your arms, move them up. We're going to do arm circles. Lateral resistor bands at the home because you have a progressive or degenerative or neurological condition where we feel rehabilitation and ongoing wellness and exercise is going to delay your entry into wheelchair dependence. We're going to be able to enhance mobility which increases your social integration and community integration, adding to your complete quality of life.

If you're doing the physical therapy visit and we're in the clinic, this is Dr. Paul Hoffman and Dr. Chiarra. The veteran had a concern that was outside the scope of phyical therapy. The physician finishes up an appointment. He walks across the hallway. Basically, have a specialty neurology visit all at the same time. Two providers, one time.

For an ALS Clinic, we can bring four or five providers. We have a social worker, a dietician, speech language pathologist, a nurse, primary care provider, a neurologist. They can all sit at the same table, basically do a team visit to address that individual's concerns and needs all at one visit saving everybody's time.

All right, this is from one of our pilot studies for telerehab and MS outcomes with about 40 patients. We say our patients are rural. It's really far to get to a specialist. When you see them at their home or the clinic, we saved over 46,000 travels last year with the reimbursable expense of about $24,000 and 95 percent

satisfaction, and the hours that are associated with that car travel.

One of the things that we don't think about is you and I think about driving on the highway, and we addressed this earlier, 60 percent of our veterans travel on secondary roads. They don't travel I-10, I-75, I-95. They drive on 27, 19. There's ten stoplights because they know they need to go to the bathrooms. There's deli stops, you know, food, things like that. So their visits we found out because we said, oh, well, you know, it's probably going to take you about two hours to get back. Be careful of the rain. They're like, oh, no, it takes me six hours. You do the math in your head, you're like how does it take six hours? It's because they don't travel on the highway. That's one of the concerns that we don't really look at with our patients.

So, additionally, you've seen Lumosity and these other tradename things as individuals with ALS and MS also have cognitive issues so we're working on doing virtual cognitive rehab.

If a person is having moderate cognitive issues and they're having troubles with memory and other executive functions, do you want them driving to a clinical appointment? You may or may not. That's why we, the caregivers are usually driving them. But now we can administer the cognitive rehab directly into the home. And there's a little YouTube video of one of the things that we're piloting.

So we do clinical demonstration projects. We look at feasibility. Why do we want to do this? We have barriers like people (inaudible) have been addressed. Physicians aren't always the early adopters of technology. Physicians sometimes are also pretty resistant to change. But the thing is what we found is when we do our directed educational and learning experience, the physicians recognize the utility of it, and when they see the satisfaction on the veteran's face or the patient's face, we generally get a lot, we get a high rate of conversion.

And the caregiver supports, and what

we're looking at is even addition is setting up caregiver networks so that the caregivers for the National MS Society, the caregivers can talk to each other about issues that they're experiencing that may not necessarily be medically related. So the virtual travel times, we do the clinical video teleconference to the home.

We're moving now into when I talked to you about adherence. The medications for MS are in the tens of thousands and thousands of dollars per month. We want to delay disease, the disease modifying therapies.

Patients don't usually take them. When you're directed into the home and monitoring in the home in realtime, you know whether or not they're taking these expensive medications. You can identify relapses and things through video in the home. You can look at decline and physical functioning, or the caregiver relates to you other things that the veteran or patient does usually give to you.

We're looking at exercise games because

we want them to be empowered. We want them to do their things. And everybody says, oh, you're not going to have somebody that's 60 years plus that's going to use the Microsoft Connect system, and they're not going to play a game where they're using the arm to move a fish around. But they do it.

And one of the other things I'll point you to, we don't have time to display the website here, how would you like to interact with the Mayo Clinic or your hospital, the entire hospital system from your laptop?

This is the VA virtual medical center. It's basically like a simulated society. You can put on whatever kind of clothes you want, how tall you are. You can add hair if you don't have any currently but previously did. You can change the color of it, the length, ball caps. You're able to walk throughout the facility, and you can just get medical information. There is a library where you can learn about your disease. You can do disease management. There's a fitness facility

which I'll show you guys in just a second. So you can go there and you can get your health care needs addressed. You can have consults. You can do televideo, all of that.

So one of the projects that I work on is the fitness center. So how many people here exercise as much as they should? Nobody usually raises their hand. Okay. One of the reasons why you don't go to the gym all the time is, one, is cost. Again, we go back to access. Two, there's lots of places where there's no gym within 40 or 60 miles of your house if you live in a rural area. And three is you always are trying to make the time. But if the gym's right there online, you can go in there. The things that you've done. You want to find about should I add things. You can change treatment plans. All of this is available in a virtual society. You can hop on the treadmill (inaudible) how much aerobic activity you had. You can do weight management, nutritional counseling.

So what are we going to do? So right

now we've been using the Microsoft Connect camera because we talked about outcomes. So it's okay if I say your arm goes to 90 degrees. I write it in the chart. Everybody believes me. You go back and do it.

But what does it really do? So with the Connect system and these other advanced system, the machine quantifies exactly what's going on in the home. So nobody likes to say the "F" word, but you can detect if there's any type of fraudulent activities when you're looking at the community. And people say, how are we going to pay for this thing? If we eliminate fraud in home-based care, that cost savings is going to be enough to help promote and establish telehealth nationwide.

So we're able to quantify the exact goings on of the treatment plan. We're able to move patients forward. We can look at medication adherence. Whether or not they did everything. We can look at adverse events. We can look at their blood pressure, heart rate, pulse ox,

barometry, all these things at the home that are determined by their medical needs.

For congestive heart failure, we can look at their weights. Are their weights progressively increasing? And how are we going to make this person do a lifelong commitment to health and wellness from their home for hypokinetic disease, neurologic and neurodegenerative conditions.

So basically, the interface is like we've seen on the other ones it's back and forth. This one you're allowed to see an integrated video. This is the game where you have a 60-year-old that's playing a fish game for upper extremity post-stroke tele-rehab, one of our programs so they're using it to follow it around. Then you can track how fast they move their arm, how well they do it. So they did 75 percent. But we're going to keep progressing a move faster. It gives your digital display through the camera. It reads the person. It tells you if you stood up and down five times. You can do your functional

outcomes related to your programs.

If you want to meet with other physicians, or we all wanted to meet, we could all be at our house and meet in a virtual conference room in the VA Virtual Medical Center. You can speak in there. You can raise your hand. Has all the types of functionality.

And again, thank you for the time to present to you today. Thank you for all of our veterans and their service.

(Applause)

MS. BREWER: All right. And last but certainly not least, we have Mr. Austin White, who is President and COO of MDHealth Rx Solutions.

MR. WHITE: Well, good afternoon. We got just before lunch and everybody's just about to fade out. Get you carbed up. That's probably better than just after lunch where everybody is already asleep.

I would like to thank you and thank Commissioner Clyburn for inviting me to this presentation. And I didn't come from the medical

realm. Just briefly, I came from the business world. I had bought and started four different businesses of my own. I also worked for about eight years, almost nine years at a very large corporation. We had about 2,800 employees across the country. Had about 17 different manufacturing facilities.

The reason I share this with you is because I had a steeped background in working with health benefits. A very unique opportunity to understand the problems that we have in health care today, and everybody here is well aware of some of the numbers that are staggering. $3.2 trillion a year in this country spent on health care. Expected to go to $4.5 trillion by 2025 with not a lot of end in sight to help stem it or turn the tide and go the other way.

Some of the unique opportunities that I've seen in here today alone are very exciting. People thinking outside the box. How are we going to start taking care of our health care, moving it from a physician-centric or an insurance

company-centric into a patient-centric, all the critical things that we're talking about. It does take this team that's out here today and so many others like us to be able to pull this together.

Some other numbers that are very unique as we start moving into the Affordable Care Act. We moved the barometer for entry into Medicaid from 100 percent of the federal poverty level to 138 percent of the federal poverty level. It's staggering because it meant that we had about 19 million more people that were coming into a system that was already fractured beyond help in many circumstances.

We have this group that uses -- 40 percent of Medicaid enrollees use the ERs in this country four or more times a year just on average. Four or more times a year in an ER. Why? Because it takes four to six weeks to get to a primary care physician. They're sick today. Their child is sick tonight.

And when they go, typically, it's transportation involved that's publicly provided,

and it's a family event in many cases. Someone goes there, they have three children, they have no care for the children. So the children that were not sick wind up in the ER for four to six hours. If they didn't have anything when they went in, they sure as heck are going to have something in about a week or so when they come out.

It's changing the paradigms on the three major problems that we have in health care today. And there's millions of tentacles, but they really kind of uniquely slide into three big buckets, and that's the access to care, the quality of the care you're receiving, and the cost of the care and managing it.

What I'd like to do at this juncture is plug up a quick video. This is about five-and-half minutes. It'll tell you a little bit more about what we're doing with MDHealth RX and ONMED. (Video plays) Typing on screen says: Despite wondrous advances in medical and technology, health care regularly fails at the fundamental job of any business: To reliably

deliver what its' customers need.

Fixing health care will require a radical transformation.

SPEAKER ON VIDEO: A transformation of health care starts with technology. A creative fusion of current and proven technologies in concert with centralized medical teams provide a platform where many of the largest issues in health care can effectively be handled. Years of research, programming, and practical testing has led to the public announcement and launch of the ONMED Station.

ONMED's proprietary technologies connect patients via realtime, secure connections to teams of medical assistants, nurses, doctors, and pharmacists, completing the visit with prescription dispensing from over 1,000 prescriptions stored within the ONMED Pharmacy vault. This lifesize encounter allows patients 24-hour health care access as never before.

Privacy is essential. ONMED's double-pane glass features switchable privacy film

that becomes opaque during the consultation and remains clear and inviting when the unit is available.

Conversations between the patient and doctor are rendered indistinguishable from outside the consultation area using several (inaudible) absorbing and dampening technologies.

ADA compliant, the ONMED consultation area is nearly 36 square feet, and has a ceiling of almost eight feet in height. The area has independent air circulation that replaces and filters the air every 60 seconds, and includes hand sanitizers for everyone's use.

ONMED's dedication to a clean experience begins during the manufacturing process. Antimicrobial additives are blended during the powder-coating process to create a layer of protection throughout.

EPA registered antimicrobial copper alloys are used to create the door push plates and pull handles focusing on the most interactive services.

Also, integrated and remote operated, each consult area boasts three high-output UVC bulbs to eliminate pathogens on surfaces, as well as decontaminate the air.

And lastly, ONMED technicians frequently clean, service, calibrate, and restart the units.

The need for ONMED is obvious. Overcrowding, physician shortages, cost of care, and many other reasons have led to ONMED's first placements within overburdened hospital emergency departments.

NEWS REPORTER: The physician doesn't spend as much time with the patient as he or she used to.

DIFFERENT NEWS REPORTER: That shortage of emergency room doctors is impacting the entire nation.

SPEAKER ON VIDEO: Approximately 70 percent of emergency department visitors that are triaged currently could be handled using the ONMED station. At present, these patients are turned away, referred out, or admitted for care at

ER-level pricing.

Many insurances, including Medicare, will reimburse for an ONMED visit. ONMED also accepts many other forms of payment typically much less than even a walk-in clinic.

Government acceptance on a state level is allowing ONMED to service Medicaid recipients. With a fixed price per month, the state can see realized savings and conform to budgets, and more importantly, provide statewide access even in the most rural of areas.

Other immediate placement, including college campuses for students and staff, private employers, especially for the self-insured, and public locations both domestic and international. Current negotiations have determined other obvious deployment options for ONMED stations.

ONMED's catalog of technologies and intellectual properties are poised for global expansion. We invite you to join our journey in health.

ROWLAND HANSON: (On video) We know for

a fact, and this is just undisputed, the health care system in this country is broken. It's a mess. We have an opportunity to be a significant part of solving the problem. Many people end up in an emergency room that really don't need to be. They simply need an answer to their question.

LEONARD SOLIE: (On video) We're there 24/7 when your doctor is not available. We set that higher standard when it comes to concierge-style medicine. We're there to provide that service, but more importantly provide it at an affordable cost for everybody.

MR. WHITE: If Mr. Wizard would pause that and go to the other short video. It's about a minute-and-a-half. It'll answer some of the questions --

(Video plays)

SPEAKER ON VIDEO: Welcome to ONMED. ONMED provides instant medical access for nonemergency medical needs.

Affordable and convenient, ONMED accepts many different forms of payment. To insure

privacy, the ONMED glass doors and windows fog and become opaque during the consultation. You may also hear a small hum or a background noise. This helps further protect your privacy.

ONMED's integrated scale, thermal imaging camera, and blood pressure monitor will gather some of the basic vitals. Then a medical history and current complaints will be gathered for review by an ONMED physician. ONMED physicians are board qualified or board certified in a diversity of backgrounds and specialties, including pediatrics.

After the consultation, a prescription may be written that can be dispensed remotely by an ONMED pharmacist. The pharmacist will review the medication, answer any questions. Then using a triple verification system safely release the medication.

ONMED stations are equipped with hand sanitizers for everyone's use. Other features include filtered ventilation, ultraviolet surface sanitizing, and built-in antimicrobial surfaces.

You're just a touch away from better health. To begin, just tap, "Let's Get Started."

ONMED. Instant medical solutions.

(End of video))

MR. WHITE: We are preparing to deploy our initial units into the marketplace in the December/January time frame in the University of Mississippi Medical Center. We'll had a fortunate opportunity to meet Commissioner Clyburn at a presentation last year.

We also have pilot programs scheduled. I'll be happy to share that with others. New York. There's some that we're looking for right now in Texas, as well.

We're excited about the opportunity to take a portion of this health care package which is non life- threatening urgent care and move it into a proper environment. I think Sean said (inaudible) that were very telling. To (inaudible) the right patient with the right health at the right place at the right time.

These are available and will be open

24/7/365, and we will work in conjunction with not only our own medical staffing and cyber centers, but with others such as UMC and other clinics around the country.

I thank you for your time today, and I'll be available for any questions later. Thank you.

(Applause)

MS. BREWER: Thank you. All right. I know. I know. We're over. But when you put mikes on six passionate people with a story, what do you expect?

Okay, we'll save questions. We won't do any now. But please come up to these individuals and chat with them and do your questions one-on-one.

DR. GIBBONS: Please join me in thanking our panelists.

(Applause)

DR. GIBBONS: So it's lunchtime. We're a little off track so we're going to make a couple of quick changes to help us get back on track.

We're going to break now ask folks to get their lunch, it's right there in the back, as quickly as possible, including the panelists, and come back to your seats and the panelists come back to the table, all right, and eat at the table.

During lunch while you're eating, anybody who wishes to ask some questions can ask them of the panelists. And then after a few minutes, our luncheon keynote speaker will come speak.

Is that all right? All right. Bon appetite.

(Applause)

COMMISSIONER CLYBURN: We want to be consistent and give you an opportunity to continue to engage with these awesome panelists. So if there were any questions that were lingering before we took a break for lunch. You've got the mics. We've got two mics. Please, we will excuse -- don't bring your potato chips up to the mic. But anything else we'll forgive. I think it's

kind of soft food. Please feel free to come up. We want to dispense with the formalities if you would. I think our host will forgive us for that, and if you have any questions that these awesome panelists -- We lost doctor -- Dr. Barrett had a patient. We'll forgive him for that. Because we keep talking about care -- the availability of care. So we would feel real guilty if we had prevented him from doing that, correct? But we've got other presenters here that are more than willing to take any questions. So, like I said, please, if you have any questions, raise your hand, and we can bring the mike to you. How about that? I like this inner Oprah. I've got this Oprah fixation. Really I think it's just fixation with her money, but I love a chance to walk around so I can work up more of an appetite. But then Roger took that away from me. So sorry about that. If you have any questions? Live from the Carolinas. Oh it's Georgia. I wish you were Carolinas, but from Georgia.

MS. GUY: Sean?

MR. MCCOY: Yes.

MS. GUY: We've been buddies for a long time. And I appreciate so much your efforts really to expand telemedicine everywhere and try to include the VA, but we still feel that there are barriers working with the VA. I feel strongly that -- say, for example, in Georgia we have 600, 700 clinics, telemedicine clinics. And there are some telemedicine in a few VA clinics. We actually have a VA clinic in Waycross that has telemedicine that connects back to Lake City. But still the opportunity for the local telemedicine clinics are something like a network in Georgia that could make it easier for veterans to go and see their specialist or whoever in the -- instead of having to even drive to a telemedicine clinic that may be 2 hours away. Is there any hope? I know a lot of it is red tape. It's a lot of trying to figure out how to make sure that everything is compliant with the federal government. But we've been talking about this for about four or five years. It would be awesome

because we have veterans in our local communities where there are telemedicine clinics that could just easily get mental health services or specialty services. So where do you see that going?

MR. MCCOY: So we're working on it, and the person sitting to my right is always working on one of the legs of that. It's how do we exchange the information from the EHR because we don't want to do visits that are going to rehash and reevaluate old things. We want to deal what it is there, but be able to look at the history for guidance and information. We are working on a community-based medication reconciliation program, enVisionOne that has a greater inroad to the community providers in allowing them to interface again only with the VA providers, but going over medication reconciliation. As the speakers, multiple have said, we have one patient that has 12 blood pressure medications, and you're wondering why they're feeling ill or they're feeling fatigued is because they have one

community provider and one VA provider, and those two sides of the house don't seem to talk to each other. So we are working on that and through telehealth, through the Office of Telehealth Services and OINT Information Technology, as we're moving together, and there will be a merger soon of the Office of Telehealth Services with Connected Health, which will further sort of shrink some of those barriers down because we'll be moving in one general direction with everybody marching to the beat of a slightly similar drummer. So that's starting today. They're going to start that merger in this fiscal year, so I'm hopeful that we'll see some additional progress this year. The technology that I displayed using the ConnectCamera. We're also looking at different off-the-shelf technologies being accepted by the VA, which will allow -- there are still firewall and security concerns, but at least using somewhat similar devices than what are occurring in the private sector that allow for more interoperability from our standpoint. So

this fiscal year there are going to be some changes. One thing that's going on that you'll see an announcement about probably by the end of the second quarter is we're actually working to take all of the VA training through telehealth, and a working group that I'm on -- All the VA telehealth trainings, we're going to be providing that to the community. It's through a platform called TRAIN, and that's scheduled to launch by the end of the second quarter this year that the first trainings will be out and available. There will be some additional guidance with CEUs, CMEs, and things for that. But we've been doing telehealth for a long time. All the things that we've learned we're going to try to provide that information to the community at large, to the payers, to the providers. So everybody starts with the same set of rules moving forward.

MR. WHITE: Anybody else?

MR. GOLDBLATT: You're both so polite.

MR. PEACH: Ken Peach, the Health Council of East Central Florida. First, I wanted

to share something, that is in Osceola County, we have brought together the entire provider community to look at how do we progress with telehealth in that community using some standards in terms of whether that be equipment or operating procedures, so that all of our providers in the community have some backup. So, for example, if there's a failure of equipment or something and someone else has a similar unit or software or something else they can share and move in there, and so they can talk amongst each other, but part of that brings up my question.

We had a dermatology group with 10 locations that we were talking to about a year ago, and when we asked for quotes on the software connections and things to put them in place to do a pilot of 4 locations of those 10, we came back with a $60,000 price tag for a pilot. And so as a result we saw most of the problem was in the connections, not so much in the software that sits on each of the devices. So I don't whether that's come down drastically or where we are in terms of

also making the connections affordable as well as capable with broadband.

MR. MCCOY: I guess I'll talk on that one. So as part of the Rural Health Resource Center for the Office of Rural Health, we do clinical demonstration projects where we field test multiple off-the-shelf devices. So there are a few units now that are in testing and going to be released and basically it's about the size of a deck of cards, and it actually will integrate directly with your television. As we were discussing, yes, you can see your provider on this phone, but people over the age of 40 usually look at their phone like this. So what we have seen for the home is that the integration with an HDMI cable into your TV that you buy every year to watch the Super Bowl actually can provide a bigger screen and provide the layers of all that software, and that price point and the support for multiple providers through that is quite low. I can't probably tell you the GSA pricing on it, but it's -- each of those units is cheap. So we're

looking at that being able as a way to really expand access. I mean my personal viewpoint is that I think every family -- from my side -- for the veteran -- every veteran should basically have a tablet. There should be no reason that they don't have an access point, whether it's for disease management protocols, whether it's for connecting with a provider, whether it's for being part of a disease-based support group for any of their conditions, or simple things as connecting for directions or any of these other apps that are cognitively based for training that they are going to do their own self-empowerment and self-enhancement. Because you can do lots of things with people. You can do lots of things for people. It's until they start doing things for themselves that you're really going to have a permanent and persistent change. So again you want to think that people that are over the age of 25 wouldn't want to really play a game on a connect system, but there is a high adoption rate. They love to do it. They get invested in the

rehab and actually see their progress on the screen versus if you have to come to the clinic, you're going to drive 40 -- how many of you want to drive 45 minutes each way to the gym three times a week? You don't want to do it. So we're asking veterans and patients we're saying, well this is the physical therapist in the community that accepts your insurance, or this is the one that had an opening, or this is the one that specializes in knee, shoulder, hip, ankle, whichever your problem is. But you're going to drive 45 minutes, and they're pretty booked for appointments. It's only at two o'clock, and we know that you're working. So this is the thing. We can provide all that in home and then just do periodic in-person assessments to look at different things. You can't do everything at home. I can't stretch you with a computer, but we can try to teach you to stretch yourself, and we can -- if you have a care provider or a caregiver that's at the home, we can sort of give them some of the general principles to guide you and some of

those additional passive or active range of motion exercises. So we can truly center the care around the home. We can deliver the care into the home, and we can see how well you're doing, and the price points are just only going -- the volume like anything is going to bring the price down. So as we get individuals to jump on board, the price is going to be smaller for everybody that's involved, and for the FCC plug is if we can decide from what I hear from the community, is if there's going to be a technology fee like Medicaid, Medicare for CMS, what's the technology fee that's going to be associated with these visits, like we have to support the technology. If we kind of come up with a little bit of a guidance range, it would make people be able to forecast and make some little better decisions for down the road.

SPEAKER: That couldn't have been a better segue for me. You kind of answered my question, which was how do you begin -- first of all, it strikes me that for the telecommunications providers that density is going to be a critical

issue as they figure out how to deploy the broadband capabilities that are going to be needed to travel over these networks. So it's going to be very helpful for the providers, and I'm with a project now that's doing a deployment. So it's very helpful to figure out what those densities are and how they're going to come together. It strikes me that the organizations such as yourself will be very key -- the map that you had up there was incredibly informative for providers to want to look at to figure out how do you deploy the kinds of networks, fiber, wireless, or whatever to handle those transitions.

So let me get to the question, then I will project. It strikes me that there may be some price point that will be more than what a patient is paying now. So they're going to have to make a decision. Okay, I want this higher priced connection, and what's the sales point for them? How do we make that clear to them that there are going to be health outcomes that are going to make that worthwhile?

MS. SILER-MARSIGLIO: So in the case of CommunityHealth IT, we've tried to make all of it free for the patient, everything that we do, and then wherever we can, we save money for the providers, and then a lot of those regions where you saw the red, where there is low access, we're able to put in applications for them, for what they think that they need in terms of broadband access, and we have experts that come in and help them decide what they need to actually be outfitted with electronic health records and information exchange and all that intellihealth and any item that they think that they need there. And we actually get funding for them to enact those technologies, to get the broadband that they need, and we work with the broadband providers as well and new technologies that are coming out to kind of help with ensuring that what they do get out in those regions is reliable and also affordable. So we do try to keep the cost down as much as possible. We actually try to increase their cash flow instead of increasing a price and

spreading it across by -- like we would work with -- like I said, we work with the Florida Hospital Association, so part of what we do there is we work with really large hospital corporations and see what their needs are, and then we do group purchasing as well with that particular piece. So it's really all about being resourceful, working together as a group, understanding that, yes, we're all here to compete. Each one of these healthcare facilities, it's a business. Yes, they do have customers that come in, and they want their patients to get well, but at the end of the day, it's still a business, and that's how we treat it, but we still want to make sure that everybody's data is exchanged, so patients are safe, patients are improving with their healthcare, and they're looking more at that preventative, proactive model that Commissioner Clyburn was talking about earlier, but still able to compete in a healthy way in these communities. Does that answer your question? Okay, great.

MR. MCCOY: I would just add to that is

everyone looks at these devices as being expendable and that when you issue them, it may be that it is slightly different from the veteran population, but if we send somebody on a 12- or 16-week telerehab program, we get the devices back. We do use a Microsoft-based Windows platform versus iPhone and Android. If they've been in the workforce in the last 20 years and had to move out because of disability, they've probably had some Windows-based experience. The interfaces, they're easy to navigate. They're sort of familiar with some of the icons. So we've moved to that versus some of the other platforms. And we've seen some success with that, but you can recover these devices. I mean if the person has a short-term need, you can issue it and then bring it back, and as reusable medical equipment, you just have to have standard operating procedures for hygiene, cleanliness, and wiping the device, all the data things that we always go through. But I hear all the time from people, well, that's going to cost me $1000 per patient, and then it's

a loss. Well, we've heard that some people go to the ER four times a month. That's a much greater cost. We hear for aspiration pneumonia what the costs are, and some of things are preventable with some modifications and just meeting with a speech-language pathologist that you may not have at your facility, but we can sort of beam one right into your home, and they can go over food and consistency and thickeners, and they can send that stuff for FedEx to your house. We can send Resistabands. We can send you a gym to your house in a FedEx package that weighs less than 2 pounds, and you can have Resistabands to progressively increase what you're doing with your muscles to try to enhance your mobility and delay disability. And keeping people out of wheelchairs is a personal goal of mine. I think it is a community-based goal. And when it comes to cost, those chairs are $30,000 or greater. The scooters are a few thousand dollars. The manual wheelchairs are a few hundred dollars. So if you say a thousand dollars is a large expense, I just

look at the three to five years down the road and the increase in cost and the decrease in their quality of life and that impact as sort of a counterbalance to that.

MR. GOLDBLATT: Any other questions? Okay, finish your lunch. We have cookies at this table too. I don't know if you saw it -- fresh baked.

DR. GIBBONS: Our keynote speaker will be here in just 2 minutes, so maybe grab a dessert, and we'll get back in just a second.

Luncheon Keynote:

COMMISSIONER CLYBURN: It is my distinct pleasure to introduce a very good friend of mine. I always struggle with this because I don't really consider Texas the south, but they think they are. But you are about to meet a Texas native, a long-time friend and colleague in the form of Meredith Atwell Baker. She is the President and CEO of CTIA, which is the wireless association, the trade association for the providers that we talked so much about today. Meredith brings an

extensive amount of experience when it comes to spectrum issues and wireless policy, and she has a uniquely keen understanding of how government and business must work together in order to drive innovation. I say that about her background because prior to joining CTIA, she served as Senior Vice President of Government Affairs at Comcast, NBCUniversal. She also served as my colleague for a couple of years as an FCC commissioner. Prior to that, she was the Assistant Secretary of Commerce, of Communications and Information, as well as the Acting Administrator for the National Telecommunications and Information Administration. That's NTIA, which is the White House's expert link to communications policy. Sometimes the expert communications policy, we have a little tug of war, but it's all out of -- well, it's mostly love. But for today's purposes, I would like for you to give Meredith your attention, and she will be able to hopefully entertain some questions because she has been really speaking in compelling

ways about the vision of this future when we talk about mobility. How all of that will improve and inform practically every facet of our lives. We've been talking about that all day as it relates to health. But of course, education, transportation, and smart cities, we tee that up too. She calls this more than anyone else I know in this space -- and it's appropriate for setting -- Connected Life. That is a phrase in which she is socializing in this ecosystem, and she is working very hard to make all of this a reality. She's leading a bipartisan push. We don't hear that word often enough -- bipartisan push -- something else we need to work on -- for more spectrum licenses in order to meet the needs for this Connected Life. Meredith is a powerhouse. She is one of the easiest persons on whatever side of aisle you want to speak about to work with. She is one of the friendliest -- yes, there are friendly people in Washington, D.C. -- and she is serving as our keynote speaker, so please show Meredith how much we appreciate her. She did not

have the flight that is most ideal. As you know, the weather patterns are making travel very interesting, and I'll experience that in a few I supposed. But I want to thank Meredith for even with that challenge of keeping her word and sharing her wisdom and her perspectives with us. So my friend and soon to be yours, if she is not already, Meredith Atwell Baker. (Applause)

MS. BAKER: Well, thank you for those awesome and kind words, Commissioner. I think if you guys have not given her a round of applause for putting this together, let's just do it really quickly. (Applause)

She is my friend, and I am so proud of her, and just really thrilled that she's keeping the focus on the power of mobility to improve lives, and this is just one in her series of events that are really drawing attention to this, and I think it's -- she's a champion, and she has a national commitment to mHealth, and we all should just be really, really appreciative, so thank you, and thank you for having me. I also

want to applaud Chairman Wheeler's emphasis on the positive role of mobility on this world. And I want to thank the Mayo Clinic. I've never actually been here, so this is a real thrill. We should thank Michele Ellison and the FCC Task Force for putting this all together. So enough of the thanks, but I am very grateful.

So my very first exposure to mHealth was in Alaska many, many years ago. In those harsh and remote conditions, they really require innovations. Even when the technology wasn't quite ready, the Alaskan bush villages were already pushing ahead in mHealth. And if you live in a town that is connected by a single flight once a week then -- I'm not talking about the little plane that brought me here today -- something even smaller. When you need a doctor, the telehealth really has to work. But I think that the challenges are just as real in places like Union and Putnam Counties here in Florida. Because as we were just talking about, an hour drive to see the right doctor can feel like a

once-a-week flight for the elderly, for the poor, for those maybe who aren't feeling so well, or for the struggling mom. So thankfully, I think the mobile platform has advanced leaps and bounds since my first Alaska trip, and that's why we are all here today.

Healthcare is big business, and it is also very personal, and mHealth addresses both of these things. I am blown away by the innovative services that are bringing new management and monitoring tools to you. The University of Texas has partnered with AT&T on some groundbreaking remote monitoring systems that are connecting patients and providers on AT&T's highly secure network. And speaking of Texas because I do that because I'm from there, I always come back to my 80-year-old dad, and he looks at his smartphone. It used to be a challenge for him, but he now looks at his smartphone in a very different light now that he got his new hearing aids because they allow him, of course, to change the settings in real-time through an app. He's getting so hip.

He can turn it up in a loud restaurant, or he can turn it down when I'm talking about CTIA and the exciting wireless industry. But it's also about control over health, and as we age, it becomes more and more important. My dad is one of the lucky ones. When we talk about mHealth, we're really talking about improving access and expanding opportunity and democratizing the delivery of healthcare, especially for the world communities and the underserved. The Connected Life will empower all of us. So I'm going to avoid telling a room full of medical professionals what is happening in your space, but one stat that really jumped out at me while I was preparing for this is that 50 percent of patients, 50, don't take their pills, and if connected health can better track medications, we can save billions in avoidable medical treatments. So what I do want to talk about is the role of wireless.

So first of all, who is CTIA. We represent the wireless industry, and by that, I mean the phone and the network and the people who

make these things, increasingly the apps, and hopefully the connected pill bottles. When we look at our future, it's about partnering with the health industry, as well as with every other industry. Our platform is the platform for the future innovation as Microsoft described earlier today. CTIA members are fostering healthcare innovation through accelerators and partnerships here in Florida and across the country. Because we see how an entrepreneurial spirit combined with wireless technologies generate remarkable advances. Eighty- one percent of us have our phones with us all the time. So 19 percent don't, and I don't know who they are. But the ubiquity of mobile devices means that medical research can aggregate the health data on a scale like never before. I think our remember Apple's ResearchKit is a terrific example. It lets researchers create apps that use the iPhone to gather data we generate every day. One more example, and one that CTIA has a strong connection with, is PulsePoint, the PulsePoint app. When someone is

suffering from cardiac arrest, the PulsePoint app alerts CPR-trained individuals who are nearby, and our wireless foundation is helping roll this lifesaving functionality out across the country.

So I just want to share three observations with you today: (1) MHealth is just beginning and is here to stay; (2) We need to be better partners and collaborators; and (3) We need to design new health and mobile systems like 5G with each other in mind. So Spectrum is an important issue for all of us to get our heads around. First, and I don't need to tell anyone here this, but mHealth is not a fad, and it's not just the latest medical trend. All of us need a mobile strategy, whether a sole practitioner, a patient, or the Mayo Clinic. When I talked to Martin Cooper, who as Commissioner Clyburn knows, is the man who created the cellphone in the '80s, he says -- he's really cute. He's just like this little elf, and he's like, we're the Model T phase of the mobile phone, the model T phase. So if we're the Model T age for wireless, coming from

him, that's really something, but I do think that the Connected Life is just starting, and the benefits of mHealth are just beginning. There are over 165,000 mHealth apps available today. Five years ago, there were only 166,000 total apps in the whole world. So this really does reflect what's happening. The most remarkable statistic to me is that 10 percent of health apps now connect to a device or a sensor. They are already part of the Internet of things, and soon our wearables are going to have wearables. They're going to be tens of billions of beacons, and so I hope one day that I have one that's tracking my dad's heart and his steps and maybe his glasses and his keys as well. So all of this is controlled and directed by your smartphone, and it's powered by mobile networks. One of the big themes that was coming out of our Super Mobility Trade Show that we just had last month in Las Vegas was mHealth. So we had 26,000 people, and the focus was not on phones. It was on what's next. And so increasingly our show is a show for

people like you in this room. We had sessions and exhibitors on mHealth. Our startup program featured mHealth companies that were offering treatment options for conditions from tinnitus to autism. One of my favorite announcements was AT&T's unveiling of this amazing connected wheelchair that they developed at their foundry. The chair unlocks huge opportunities to monitor and control this vital equipment. Under Armour's Chief Digital Office gave a keynote on how wireless technologies are transforming his company. He said they've gone from an apparel manufacturer to a mobile company. He stressed that wireless is all about connectivity and data, and it's all dependent on mobility, and I think this message certainly resonates with equal force to those in this room, which brings me to my second point.

To succeed we need a common vocabulary. Sitting in rooms like this I think helps, and it helps build an understanding to each other's needs. One of my first trips when I joined CTIA

was out to San Diego where I met with the leaders from Scripps and from CryaCom and others charting a mobile and health future. The entire San Diego area is cutting down barriers and finding ways to collaborate. We have representatives from my team here, as well as Microsoft and others, and this is very important to me. I think we need to help convene and demystify. Our industries, wireless and healthcare, are really just beginning to collaborate in powerful ways. Sometimes we forget our wireless world is so acronym heavy, and so -- don't even get me started on your world -- but just as your industry is designing a new service from value-based medicine to focus on preventative care, the wireless industry is too, and there are debates on acronyms in our world that matter to you. LTEU is one, and that is actually just really a fancy way of saying wireless services using unlicensed spectrum. Your T-Mobile, your Verizon phone, or any of your other many carriers traditionally uses licensed airwaves, and they buy them for billions of dollars from the FCC when

they auction them off, and they deliver a secure and reliable LTE service. Many of our devices and services also use unlicensed technologies like Bluetooth and Wi-Fi, and they complement the mobile network. And I think we need them both. And we think that combining the security and the reliability of LTE and the unlicensed bands can unlock new value for the healthcare industry. LTEU sounds complicated, but it's actually quite simple, which leads me to my third point, which is designing our future together starting with 5G.

So, first a little context: What's a G? So travel back with me five years. The U.S. Wireless networks were still in their 3G stage. That's third generation stage. So 3G was the wireless technology that took us beyond voice and text. So that gave us mobile access to the Internet for the first time. It gave us enough networking power to create the smart phone, but this point doesn't get enough attention. In less than half a decade, U.S. carriers now have blanketed our country with entirely new 4G LTE

networks. To put this in your terms, the first 4G network was flipped on nine months after the Affordable Care Act. These results speak for themselves. Today 308,000,000 Americans -- and that's more than 96 percent of our population -- have 4G coverage. 4G provides support for video and for full Internet experience on the go. Now let me assure you that launching a new wireless technology across a country this size is no easy task. But we've done it, and that's thanks in large part to $150,000,000,000 of investment over the last five years. Just last week PPI, Progressive Policy Institute, named two wireless companies the number one and number two investors in our nation. So it is our 4G global leadership that has helped unlock the promise of mobile health, and as an industry, we are now starting to plan for 5G. 4G gave us unparalleled coverage and speed. 5G will provide us more of both, but what is really transformational about 5G is the degree of connectivity it's going to allow. Two characteristics out of many stand out for mHealth.

The first is latency -- the time it takes the network to respond. It will be improved exponentially, unlocking new real-time applications. And second, scale. These networks are going to need to support tens of billions of devices and beacons controlling every facet of our lives. Tomorrow's 5G networks will connect everything: 99 percent of our physical world. The consumer and health applications are limited only by your imagination, which leads me to my key question for you, which is what do you need for the wireless industry to serve your patients more effectively? Is it network reliability? Do you need prioritization or guaranteed quality of service? More speed? Broader availability? Improved latency? Do you want to bundle free data with new apps or devices? In our world, that's called zero-rating. If you could snap your fingers, what would you wish for? We are building the standards and the systems now. We can design networks and products and services that fit your needs and the needs of your patients. Now, along

the way we may need your help with regulators to give us some of this flexibility, but I'm pretty sure my guess is that none of you are new to regulation. So please if you have a question or you need help making a connection in the wireless industry, I'm just a phone call away or an email or a text. And now my ask is that the wireless cannot predict the next connected health innovation, but as our Connected Life takes off from cars to retail to banking and energy, we do know one thing that more data will ride on our wireless networks. In fact, wireless data demand growth will be six-fold by 2020. And what do we need to handle that increase? To meet the growing demands of our 4G networks and to fulfill the promise of 5G, we need more spectrum. Your 5G wish list we just talked about will require more spectrum to support new services, functionalities, and apps. Yet there is no spectrum strategy beyond 2016, so my ask is this: Make your voice heard at the FCC and Congress. MHealth is what's next, and we need more spectrum to make that

happen. Together I am so optimistic. Our industries can give consumers simple but powerful tools to change their behavior and improve their health. Devices will harness wireless industries, and services will leverage the wireless platform. Continued leadership and innovation will require two key inputs: More spectrum and more collaboration. On behalf of the wireless industry, I look forward to working with you, with the shared goal of improving healthcare outcomes.

So thanks again for having me today, and please don't hesitate to reach out to me or to anyone at CTIA. So I'm happy to take a few questions if you want me to.

(Applause)

COMMISSIONER CLYBURN: So, again, when Meredith Baker -- and those of you who know me or have gotten to know me over the last few hours -- it really doesn't take long to really get to know me. I don't really give out compliments. I just don't. They're very rare. When she says that we're building systems now, and we want to hear

from you how best to tailor make those systems for a solution, she means it. Why? Not just because she's a nice person. She is that, but because she recognizes that for her industry to continue to thrive and make the investments to reap the economic benefits of the next greatest potential for exponential growth, which is what we've been speaking about today, that they have to be in lockstep with you, and it is easier, more efficient for her members and quicker for all of us to have designs at the front-end where things are more nascent. It is better to do it at this end when we can have a conversion and a person willing to listen who has the ear of those -- you mentioned the top two providers, which I think I know who they are, who are making the lion's share of the significant investment in this -- billions and billions of dollars in this nation. This is the person who has the ear of those companies. So if you have any questions, and I know Paula does. I'm just going to warn you about my southern neighbor from Georgia. I can't do a southern

accent anymore. I've been gone too long.

MS. GUY: Get yourself back to South Carolina.

COMMISSIONER CLYBURN: Oh my gosh. I'm headed back in a few hours.

MS. GUY: I know you are.

COMMISSIONER CLYBURN: Please feel free. I know honestly you've been a trooper. I know you're not at 100 percent. You can't tell, but she is willing to take some questions if you have any.

MS. BAKER: Sure, and I'm going to give you a quick anecdote, and then I'll take your question. But the quick anecdote was in our board meeting in May, we said, we really need to -- we're the world's leader in 4G, and everyone has built off our standards, which gives us a huge advantage and gives all of our companies and all the app developers -- it really -- the trickle-down effect is incredible. So I said we need to get a position on 5G, and Dan Mead who is the President of Verizon Wireless was like -- I

said we'll bring you something in our board meeting in September, and we'll vote for something final in December, and he raised his hand, and I knew because they're just so -- I though he was going to say, I think that's too fast. I think you're rushing it. It's going to take longer. He said, that's too slow. You need to have that position ready for us to vote on in September. And so this is moving. It's moving so much faster than I would have predicted in March, and now we're looking at Verizon announcing that they're going to do some 5G testing, and they'll have some networks up by 2017. The IT -- all of the standard bodies are starting to work on this. We don't know exactly where it is or how it's going to be developed, but the ship is sailing, and it's a global issue. You see Korea and Japan announcing that they're going to have 5G networks up coincidentally by the time of their Olympics, so it's almost like a global domination, a race -- we're winning the 4G race, and everyone's jealous, so they want to win the next race, but we're going

to win 5G too.

MS. KENDRA SILER-MARSIGLIO: Yeah, absolutely. This is really -- it's so important in terms of just like workforce and -- Oh, I'm sorry. My name is Kendra Siler- Marsiglio, Director of Rural Health Partnership. I'm also on the Board of Directors for the Florida Rural Health Association. So we want to help you. Most of the folks I know -- I know tons of people in Florida, providers, rural residents, administrators, but we're all used to using what you offer and not helping you design what you offer. So if you could maybe provide us some areas that you need help with like maybe like survey questions or something, I could get those out to folks for you and get responses back. It could even be free-text questions, but I think they need something to kind of help orient them to what it is that you would like their input on.

MS. BAKER: That would be great, and Jackie's in the back, so we can make sure we get your contact information from there. You know,

what we're really looking at is what are the use cases that are going to drive this because you don't invest $35,000,000,000 a year just for fun. You have to have something that is actually going to be the use case, and so what is going to drive us to build more, to invest more, to keep that investment level at that height. So it's really -- I think our guys can build it, but they need to know what the use case is, if that makes sense.

MR. PEACH: I'm Ken Peach with the Health Council of East Central Florida, and in full disclosure, I formerly built and owned radio stations. So I've been watching the bandwidth fight for years and years and years as cellular and wireless have required more and more of that. I think now having sat in hospital administration and other areas, I recognize the need for that expansion in order to enable what you were just talking about. The question is, is there good communication going on in D.C. between the broadcast industry and wireless to see if we can improve access for both?

MS. BAKER: That's a great question, and I will tell you that Gordon Smith, former senator Gordon Smith is head of the Broadcasters Association, and is one of my closer friends and somebody who I just think is doing a spectacular job. We work very closely with the broadcasters. Absolutely the locality of the broadcasters and the importance of what they give to our communities is really important. I do think the business model is evolving and changing. When I was at the FCC, I used to always say that there needs to be and there is room for both and that you need to have a one-to-one connection like the wireless in a one-to-many in the broadcast. I would tell you as these networks grow -- I mean there are new things every day. HD voice is coming to your cellphone. But one thing that is also coming is LTE broadcast, and that means that -- When they first trialed it, it took them a while to provision the line to broadcast, but they can now provision it dynamically, which means if there is some sort of manmade or other made

disaster, natural disaster, then we can provision a broadcast on the wireless networks just like they can on the broadcast networks. So I do think that there is a place. I think the broadcast model will probably evolve, but we absolutely are working together to see what the future holds.

COMMISSIONER CLYBURN: Thank you. Any other questions? Meredith, thank you so very much. Please again.

(Applause) So as we segue, you have been incredibly patient. You can join me as Dr. Chris gets up. There are some cookies left over here? Feel free to do that if you need to stretch your legs. I'm stretching my waistline over here, but again thank you so much, and Dr. Gibbons, please.

DR. GIBBONS: Thank you. You've been a fantastic audience today. We've talked about a lot of things, heavy things on our minds, and we're tired. We have one more session to go

through, and we're going to go there. But you know, innovation, what we've talked about, is really I think, what could be described as fundamentally two things: Overcoming challenges that have held us back before and allowing us to do new and more exciting things, right, at the end of the day. Those who are innovators are either innovating around trying to get over a problem we had and trying to help us do new things. And so we're going to do a little innovating today.

Let me give you two examples. We heard transportation was an issue for some patients and things today. But transportation costs for some are too high or nonfunctional, but one day an innovator came along and worked on trying to get over both of those challenges and do things better, and what did we come up with? Who can tell me? Uber. Fundamentally, that's what it is, right? More responsive transportation, lower cost. Another thing is as we go forward in life, we all are so busy. We have no time for anything. Some of us that have been involved in this have

been almost up 24/7 for days. You guys working are doing the same thing. We don't have time even for our own relationships, but yet we all want closer and tighter relationships. So one day somebody innovated, and what did we come up with? Putting together the challenge of not having enough time, but yet wanting closer relationships, and what did we come up with?

SPEAKER: Facebook.

DR. GIBBONS: Well, Facebook, yeah, sort of, sort off. Speed dating. (Laughter) All right. So today we have a challenge, and we're going to innovate to overcome an opportunity. The challenge is Kendra just brought up a very excellent point. She said, we work on the user side of this, but we don't work on the innovation side, so it's a little hard to think about how to answer these questions that Commissioner Baker said. We knew that was coming, and so we planned this event. And so the event is to help deal with that, help us all be more responsive to that side. But we have a challenge. We're tired. It's a

little longer. So we're going to innovate and put those two things together, and what are we going to come up with? SpeedNovation, Speed Innovation. The session that we have designed for you now: We're going to cut it a little shorter and change the format just a bit. But I think it fits in exactly with what we're talking about here. Intentionally we'll have to move a bit faster than we had originally identified, but we will still try to accomplish what we were going to do. So we have a number of people who have agreed to function as facilitators. There are about eight or nine people here. There are probably about 40 or 50 people in the room. So we're going to divide everybody up into four groups, so there should be about six or eight people in each group, okay? And we'll do that in one second. We're going to have two facilitators at each group. The job of one facilitator will be to lead the group. The job of the second facilitator will be to take notes. Because we're going to be moving fast, but we want to capture these images and capture what

you do so that we can all learn from it. Then we're going to give you a problem -- the start of a problem. For example, an elderly senior with multiple medical problems who lives alone. Each group will have one of those. And then you take 5 minutes in your group to develop a persona or profile. What is this? This is just an idea. This might be an 87-year-old Hispanic man who lives in X, and his adult children live somewhere. You develop it in whatever way your group wants to, 5 minutes, really quick, right? Once you have the persona, then collectively you come together and say, what is a broadband- based solution that can help that person overcome those problems? You can use any of the vendors that we talked about today or any vendors that were not here that you knew about or you can even make them up? How many of you have ever said, if I just had X, I could do this better? We've all said it. So if you think about it -- because again, innovation starts with an idea. Maybe you have an idea about something that would help somebody in the healthcare realm,

but it hasn't been developed yet. You can use that today. Then we're going to take 15 minutes to design a solution for the person you just developed, all right? Collectively. And then after that, we're going to report out and hear what we've gotten and see where it takes us. All right? Does that make sense? Speed Innovation is what we're going to do today. So we have -- Roger, are you going to say something?

MR. GOLDBLATT: (off mic).

DR. GIBBONS: So we're going to have one group at this table up front here. Table two in the back where those two individuals are. There you go. That's table two right there. Table three will be the corner table back there. And table four will be this table in front right up here.

Okay, first thing, at your table, number yourselves from one to four all the way around. So somebody's one, two, three, four. Just do that right now. All done? Okay, all the ones, stand up and go to this table over here. I know, you

can't stay with your friends.

SPEAKER: (off mic).

DR. GIBBONS: That's right. That's right. All the ones at this table over here. All the twos at the table in the far back there. Threes over here. And fours right here. So we've got two is in the far back corner under the clock. There we go. Two is under the clock. Roger raise your hand. Roger, raise your hand. That's where three is right there. That table. And four is up here. I'll come around and give you your use prompts right now.

(Pause)

DR. GIBBONS: Let's all bring our sessions to a close now. Let's report out and see what we've designed, what we've developed. It's always interesting to hear what we come up with. So any volunteer for a group who wants to go first?

What we're going to do is have a reporter come here, because we are still streaming, and it facilitates the cameras if they

come here. So, all right, Group 3 is going to be number one. Let's give them a hand. (Applause) You guys can support him in any way you want.

SPEAKER: Preferably up on the stage.

DR. GIBBONS: All right. He wants Group 3 to come up with him. Come on Group 3.

SPEAKER: Let's go, come on. Come on, let's go. Everybody gets a little piece of this fame and fortune, come on.

All right. So our scenario basically was an elderly adult caregiver of a spouse with a cognitive disability. So basically, the scenario we came up with was elderly couple, a spouse with dementia. Of course, there's a lot of barriers there that could have been brought out, one, of course, being transportation.

I mean our scenario, and I guess the ideal situation, would be to have a -- and I think we've kind of heard a little bit of it today, to have that one turnkey solution to where we could -- that would allow that family, that spouse, the caregiver to be able to connect in from one

station, as we kind of talked about, that would be as hands- off as possible, because as we began to have discussions we realized very quickly that when you're dealing with multiple pieces of equipment, anybody who has dealt with this before, things get unplugged. Things don't get turned on. Batteries run dead. So we said, ideally, it would be great to have a piece of equipment that maybe would be there to where they literally would not have to put hands on it, and be pushing buttons, and doing that.

And so our turnkey solution though, just for the sake of time, basically included everything that that couple would have to deal with on a regular basis. So from the intake assessment, which also we talked about, would include a care regiment for that spouse who's providing the care. The video aspect, from the consult to be able to connect in not just with the physician, but with nurses. We talked about even education, talking about dietary things such as that. Vitals, would be able to be taken. Here,

again, ideally, you would be able to do that maybe from a chair, or whether it's a device that, here again, is as hands-off as possible.

Of course, we know there are devices nowadays that can monitor vitals and can do that, upload them remotely, the whole nine yards.

And important piece, as we've talked about today, electronic health records, that would be a piece of that, as well.

Pharmacy, being able to get the medications that are necessary. And then health resources for those patients as well.

So the ideal situation would be that from my home, I would be able to have that turnkey solution where all the pieces, and I would have access to everyone who would providing care to me. But a lot of times what's left out, as well, is the assistance as we talked about for the one who's providing the care, as well. And so that person would be there, and that's where we're talking about the education, maybe support groups to go along with that.

We know that the technology exists to do all of these things. But I think one of the big issues we face in today's society comes down to having that in one location, one platform, one piece, and kind of that would be the ideal solution for us.

DR. GIBBONS: Did he get it right? Did he miss anything?

SPEAKER: Anything else from my group? Did I miss anything?

DR. GIBBONS: I'm hearing --

MS. SILER-MARSIGLIO: So we do have the platform in place. The platform that I talked about in my health story is in place. And we're heading toward this. So really what we would be asking this group is for the FCC and this group to help us kind of spread the word around Florida. Make sure that communities that want to be connected in this way know about the platform and they're accessing that.

So we have many communities connecting with us right now, with grants, federal grants,

and we hope to connect more across the state of Florida.

DR. GIBBONS: And we talking about a voice- activated smart home that does these things with smart chairs.

SPEAKER: Yeah.

DR. GIBBONS: Or are we talking about some sort of app that? Or what are we talking about?

MS. SILER-MARSIGLIO: So what we have today is a platform that all those items are able to bolt.

DR. GIBBONS: (inaudible)

MS. SILER-MARSIGLIO: Yes, it's up in the cloud. Providers can use it. Patients at home, home health, anybody that touches the patient is able to use that. What we would need to do, is make sure that we're working with the right technology companies that folks want to use to actually import this information into the system easily. So we have everything in one place.

But in terms of having that centralized turnkey solution where folks can put different things on that they need to, that is necessary for their particular medical conditions, we have that in place in Florida.

DR. GIBBONS: So it's customizable, smart home solution, voice-activated kind of thing?

MS. SILER-MARSIGLIO: Not voice-activated.

DR. GIBBONS: But that's why he said he wanted. That's the future. The --

MS. SILER-MARSIGLIO: That's the telephone piece.

DR. GIBBONS: Good.

MS. SILER-MARSIGLIO: That technology's available and, if people want to use that technology, they can use it for -- they can add that to our data exchange technology that can be shared with the care givers, as well as the patients and providers of those patients.

SPEAKER: But voice-activated would be

great from an equipment standpoint, yes.

DR. GIBBONS: Great. Fantastic. Any questions anybody have about that? All right let's give --

SPEAKER: (inaudible) three.

DR. GIBBONS: What's that?

SPEAKER: Give me a hand three.

(Applause)

DR. GIBBONS: Who's next? Who volunteers to go second? You guys? All right.

SPEAKER: Our firefighter.

(Laughter)

DR. GIBBONS: Actually, come on up front for us.

SPEAKER: Our group was tasked with a rural immigrant with limited English proficiency and an EMS problem, who lived in a rural area. Yes, it's redundant, but it's what's on the card.

(Laughter) We've identified this as a 50- to

60-year-old, Hispanic female, who is a great grandmother and watching children. The

mother is not in the house at the time. She does not speak English. She has not had primary care for about six months. She is insulin dependent diabetic. Her emergency's a rapid heartrate, lightheadedness, she's overweight.

Because of the condition, EMS is called. In our ideal world the solution is that this is an EMS unit that uses an electronic charting system. Those units that use electronic charting systems have Wi-Fi built into their rescue units that is capable of transmitting EKGs and their electronic record to the hospitals or to their services.

Tied into the back of this unit, mounted in the holder above the backdoor, facing door toward the stretcher is a tablet connected to that Wi-Fi. Also connected to that tablet is a Bluetooth headset that the paramedic wears.

The paramedic in this case, once he's done his on scene assessment, places the patient in the back of the rescue unit and connects to an academic hospital that could be 50 miles away, or it could be on the other side of the country, or

it could be in Europe for that matter.

The physician is able to assess the patient using communication through the paramedic in the headset. The reason for the headset is that the tablet does not have speakers sufficient enough to produce the voice of the physician for the paramedic to hear while the diesel engine's running. Because this patient only speaks Spanish the video platform being used allows multiple people to be in the virtual room. So a 24/7 translator that the hospital employs comes into the video conference and is able to translate the patient's information and the physician's information back to the patient.

We're assuming that this is a rapid heartbeat that can be stabilized. If not stabilized, then the patient is transported either by EMS or possibly because of rural setting maybe even an air transport unit to a medical facility.

This could have been avoided with the community paramedic system that I believe someone was speaking about earlier, that could use the

same communication software and connect this patient to a primary care person early on to maintain their highest level of health.

DR. GIBBONS: Fantastic. Did he miss anything? Anything else there?

SPEAKER: No. Only in the data telecare role though, realistically she's still got to come, her children become wards of the state, and then she'd be in a Medicaid pending nursing home. Pending for quite some time.

DR. GIBBONS: Right, right, really. So an EMS transport of the future. Great. Let's give them a round of applause. (Applause)

All right, three. All right let's go. Oh, I'm sorry.

SPEAKER: Our group looked at the case of an 83- year-old woman with diabetes and COPD, who is an ER frequent flyer, who calls 9-1-1 very often and is socially isolated.

The first thing we thought of was having broadband spectrum, free access for everyone. Just like when we had your old little bunny ears

on your TV, the TV antennas making it free for everyone to use and access.

Second thing was affordable and wearable devices, like undergarments or clothing that have embedded monitors on them. The third was smart sensors, anything from a smart toothbrush, to a smart toilet. Something that would monitor medication compliance and give personalized reminders. But really items that are already integrated into daily use for the senior.

Also all those devices would feed into alerts for local EMS systems, primary care physicians, other healthcare practitioners.

We looked at the Watkins Automated Medical Assistance, so having some kind of robotic capability in the house might be something of the future. Maybe an automated diagnosis. But we also recognized the need for human interaction in this.

We thought a mini homebased medical station, as a stand-alone, with connectivity might someday be part of future care, having virtual

home healthcare. Also it would be important to link the seniors to their family members virtually. This would help them to feel more at ease with technology. It would improve family interactions and health supports, and help to meet their socialization needs.

Engaging the community also important for rural patients. Perhaps having senior centers pick them out for care, or for social interaction.

We also looked at education and advertising, something along the lines of text for baby, but text for seniors and doing that either statewide or nationally. For example, the Federal Communications Commission can partner with HHS and roll that out to everyone using some of the more well-known networks, advertising in places like AARP. Looking at birthday messaging, disease state messaging, age- specific messaging through that either on a daily or less frequent basis.

And, also, finally engaging community volunteers. Using high school community service hours to sort of leverage what's needed and what's

being done already in the community to rope people in to a more invested community care. Shared services, groceries and transportation, really neighbors helping other neighbors. And looking at something, this is kind of out-of-the-box, too, but an Uber style help call. So you have geolocation and saying, "Hey, someone needs this type of assistance in the community, are you nearby?" And so really trying to have a more community- based mindset.

DR. GIBBONS: Great job. Did she miss anything?

(Applause) Anything else you want to add there? I'm sorry, I think it was fantastic. But I got to ask you what's a smart toilet?

(Laughter)

SPEAKER: Well, it's just a way where it measures the medications and anything else that might be, you know, going down the toilet where it measures that. So then it can say, "You're low in your medication. You must have missed your

medication yesterday. Don't forget to take it today." Or, "We found blood in your urine, you may want to go and take a trip to the doctor, or call the doctor." Or, "You need to change your diet," or something like that.

(Laughter)

DR. GIBBONS: I really like this one, too. Because it was a blend of technology and people in a couple of places, drawing on, I think you said kids from high school or college to come in, as well as this Uber, "We need some help. Are you in the area?" I think that's -- the future's not going to be all technology, or all people. It's going to be a blend. I really like that and the smart toilet. I'm going to remember that one.

SPEAKER: There's a company that has that already under development. Scanadura is the product. It's getting ready to go through FDA approval right now.

DR. GIBBONS: Wow. She said there's already a company out there that's doing that. I'm joking a little bit. But I know, as a

physician, we actually -- a paper came out a couple years ago advocating, this might gross some people out, but this is very, very true, fecal transplants. So you actually -- you've heard about it.

So this is really actually serious. I mean doesn't sound so serious, but it is. Thank you so much.

All right last group. Who didn't do it? Is it you guys? Yeah. Okay. Great. (Laughter) They've started already. That's great. That's great.

SPEAKER: All right. Let me introduce you to Gracie. Gracie is 76 years old. Just it's amazing. (Laughter) We had a plastic surgeon in here before, right. There you go. (Laughter) All right. She lives alone. She's a widow. She's been diabetic for 20 years in the onset, but you wouldn't know today, but it was due to weight. She lives in a rural area. And her daughter is her close connection, who unfortunately lives out of state. And also Gracie doesn't drive. So I'll

let Gracie share with you what our group developed in terms of ways to help her.

SPEAKER: Hello, and thank you. And, thank you, Dr. TerKonda. People tell me I don't look the age, thank you. (Laughter) I am 76 and I'm a widow. My daughter lives out of state and we communicate over the phone but she's very concerned about me and my health, because she knows I have an electric wheelchair, so I don't get out of the house very much.

I have supplies delivered to me. But sometimes, like Miss Dixie, I heard about earlier, I might have a little too much cake. And I might run out of my insulin a little bit sooner than I anticipated, because I used a little bit too much. But I actually have a drone like Amazon uses, and the drone can actually deliver an emergency supply to my house, if I need it.

Another thing that my daughter came up with, I was very hesitant at first, but she found a buddy share care program, and she will be a check-in buddy to someone in her area that she

lives close to. And someone from her area that has a relative in my area, I actually have someone that comes to check on me. So my daughter, Wanda, will check on this gentleman in her area, and this gentleman's grandson lives near me, and he'll come by to pay me a visit to see how I'm doing.

Now, at first I didn't like this gentleman. I didn't know who he was. I didn't like him coming in my house. And I was quite unsure about this whole thing. But my daughter, Wanda, actually came to visit me and introduced me to this gentleman. I got to know him a little bit. I got to know his grandfather that lives near my daughter. And we actually communicate online, so now this gentleman that comes to my house, not only do I know him very well, but I know his grandfather who lives near my daughter, and we communicate online, as well.

And I find out more from him about my own daughter sometimes. (Laughter) Because she doesn't tell me everything that's going on. But she tells him during her buddy share care visits,

and then he will tell me later on when we're talking that she's dating someone new. And I didn't know that. So it's been very helpful in ways I didn't anticipate.

I also have a MedWand where I can actually take my own vital signs and upload them, so that's very helpful when I don't have my buddy over but one or two times a week. I don't have any broadband access. I don't have internet in my home. But they've actually given me a tablet that works with a cell phone service, so I can communicate that way.

They give me all sorts of education regarding my diabetes and my diet, and what I should and shouldn't be doing. They give me little games where if I complete all of these little games and watch these videos, and read these little education they send me, I get points. And the goal is 100 points. So I'm getting really good. I haven't reached 100 yet, but I'm getting closer every day, so that's a good thing.

I get little text message reminders

sometimes that if it's time to take my medicine, or if it's time to check in, and I'll actually have somebody that will call me and see how I'm sleeping, how I'm eating. And they actually track me through this care network. And the way I understand it is that my providers were invited to be part of this online network, and my daughter, some other family members, and some providers in the community, and they kind of know if I'm in the hospital, or if I've just been recently discharged, or they know if I'm running through my supplies too quickly, because they call me and see what's going on. Why are you using too much insulin? And try to see if they need to do some intervention to help me.

I also have a HIPPA-compliant Skype application, so I can communicate over my own phone even when I can't get out to one of these local pharmacies that have the little med visits, I can actually do that from my phone. And I also have an app on this phone for a HIPPA-compliant e-mail exchange.

And as far as my nutrition, there is a senior hunger program that can provide emergency food packages to me, as well as the community based program that provides my routine service, and that's also tracked through the network. So they can see what I'm eating, and how much, and make sure that I'm getting the nutrition that I need.

And I appreciate everyone that's helping me through this process. Thank you.

(Applause)

DR. GIBBONS: Fantastic. Fantastic. Anything you guys want to add to that.

SPEAKER: Oh, she covered everything.

DR. GIBBONS: Oh good. I like the spinoff benefits about learning about her daughter's dating, technology has all benefits. Give yourselves a round of applause. This was fantastic. (Applause)

Dr. Terkanda is going to give us a few closing remarks.

DR. TERKANDA: Before I give some

remarks, one last housekeeping duty. In front of you, you have an evaluation form. Please fill that out for Mayo Clinic and FCC. We really appreciate your participation here.

First of all, it's wonderful to have the innovators, the leaders, the thinkers, the entrepreneurs here that are going to advance telemedicine to its next level. We're just scratching the surface. We have a long way to go. But we need to accelerate that pace.

I want to thank Commissioner Clyburn, Chairman Wheeler, and the FCC for providing us this opportunity to host this event. This is a wonderful event. And I hope this is one of many to come in the future. Thank you very much.

(Applause)

COMMISSIONER CLYBURN: There are a couple of other people. I really appreciate all of you, especially who stayed from beginning to end. I really hope that the experience reinforces to you just how serious, in terms of the FCC's involvement and engagement in this space, how

serious we are, and how committed we are to being your partners. None of this will work if we do not. I think if we were to look at what has evolved in terms of a visual artistic chronicling. What do we call it again? Visual notetaking?

VISUAL NOTETAKER: Graphic reporting. Content enhancement.

COMMISSIONER CLYBURN: Oh, all of those things. (Laughter) You know, honestly this really gives, to me, when I look at what we've done, because I've never experienced this to this degree, this level, seeing the creators stick with us the entire day, I think this is a part of the dynamic. And it's a beautiful challenging busy, three panel representation of, and snapshots of what we discussed today.

And, again, I look at this and I hope we leave here uplifted. Even with all of the busyness and the challenges that we know that we're up against. We talk about the regulatory, the legislative, all of the challenges. The upside and the investment that you're making, and

the commitment that you continue to give, will bring and deliver dividends. I want you to know that even, and I say this a lot at the FCC, but I sincerely mean it there and here, that the investment that you're making along this path, you're planting seeds for incredibly fertile dividends for people that you will never meet.

All of this is a part of a phenomenal network and -- I'm from the South, so part of that quilt, it's a panel in that quilt, that we are sewing together. Again, we will realize the benefits in our lifetime. We will. And we already are. But we will be able to see the fruits of our labor, and I am so grateful to all of you. So grateful for the team. So grateful to Mayo. And so grateful to you from academia from all levels, entrepreneurs, that we know that literally it's going to a village for us to realize the outcomes that our citizens, all of them, no matter how much money they make. No matter how old they are. No matter where they live, that they all deserve to take a part on this

healthcare revolution, the evolution of health technology. I'm excited. Please, you remain excited and involved, and thank you so very, very much from the bottom of my heart. I appreciate it. God speed. (Applause)

(Whereupon, the PROCEEDINGS were adjourned.)

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CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Carleton J. Anderson, III
(Signature and Seal on File)
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