TRANSCRIPT OF PROCEEDINGS

FEDERAL COMMUNICATIONS COMMISSION

CONNECT2HEALTHFCC TASK FORCE BROADBAND HEALTH TECHNOLOGY ROUNDTABLE:	)
Leveraging the Power of Broadband to Shape the Future of Health and Care In Cleveland and Beyond...	)

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Leveraging the Power of Broadband to Shape the Future of Health and Care In Cleveland and Beyond...	)

HIMSS Main Conference Room
Global Center for
Health Innovation
1 St. Clair Avenue, N.E.
Cleveland, Ohio

Monday,
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P R O C E E D I N G S

(10:35 a.m.)

MR. BARTOLOME: Good morning, everyone. We're still waiting for a few more folks, but we should probably just get started, and hopefully they can join us in a couple of minutes. My name is Ben Bartolome. I'm Special Counsel for the FCC's Connect2Health Task Force. On behalf of the FCC, the Cleveland Clinic, and HIMSS Innovation and its Innovation Center, welcome to this Broadband Health Technology Roundtable. We're so appreciative of your time and are delighted that all of you were able to make it today. Can folks hear me just fine? Okay.

And I think what we want to do first, or at least what I want to do, is to provide you with just a little bit of information about the purpose of this roundtable and a little bit about the Task Force itself.

For this roundtable, we're here to try to gather information and data about the status of broadband adoption in Cleveland and, also, specifically, about broadband health adoption in the area to learn about urban health disparity issues and also to learn about innovation and entrepreneurship in the city.

So we're excited to be here together. A

variety of different types of information. And we hope to use that information in potentially updating one of the chapters in the National Broadband Plan, as well as in any future recommendations for policy and regulatory actions to the full Commission.

Now, about the Connect2Health Task Force, I think we've provided some of you with some information about what the Task Force is all about through our calls with some of you, in trying to secure ideal participants for this roundtable. And it was in 2009 when Congress directed the Commission to develop a national strategy for broadband. And in 2010, the Commission issued the National Broadband Plan. Within that plan, the Commission recognized that health makes a compelling use case for broadband adoption. And it's because of that, the Chairman last year created the FCC's Connect2Health Task Force. And that is to find ways to further encourage and facilitate the adoption of broadband in the health space.

And I think all of you, or it would be most of you at least, would agree, and we certainly know from experts that we've dealt with, that broadband has become -- or broadband-enabled health technologies have become an integral part of our health care system. We see it in the form of, you know, electronic health records, personal health records,

with telehealth, telemedicine, in mHealth devices, mobile devices, wireless sensors, remote monitoring sensors. So it's pretty, you know, fully available as part of our health care system.

And that's why it's really important, at least from the FCC's perspective, to make sure that the benefits of these technologies are fully available to everyone, not only from folks in rural areas, people living on Tribal lands, and urban cities, just like in Detroit, and particularly the underserved communities -- not, I'm sorry, Detroit. In Cleveland. I'm a day ahead. We're going to Detroit tomorrow. Particularly the underserved communities of major cities like Cleveland and certainly the vulnerable populations living in the city.

And so the Commission recognizes that this is an important goal really as in terms of integrating technology with our health care system. When you consider the variety of different issues facing our system, that's in terms of the physician shortage issues, which some are predicting will be short by 90,000 just by 2025; the increasing population in the country from 318 million currently to over 400 million in just a few decades; the increasing cost of health care; and, also, the increasing demands for health care. And we're certainly seeing that. You know,

with the increasing demands of health care, we're certainly seeing that. You know, with the increases in the chronic disease side issues facing us. And those sorts of issues. And that's why the FCC thinks it's important to ensure, again, that the benefits of these technologies are fully available to everyone.

So that in a nutshell is again sort of the purpose that we have for this roundtable and also in terms of providing you some information about the Task Force. And you can actually find additional information about us on the FCC's website, on FCC.gov/health, and you can follow our ongoing activities there.

In terms of this morning's format, we want to ensure that it's actually a robust discussion on the variety of issues that we've set out in the program. And so we're going to have several presentations from different folks. And you're welcome to ask questions. And certainly the one thing that I would ask is, you know, please be cognizant of our limited amount of time. So no disrespect if we have to sort of control the number of questions for each segment.

And for right now, I think it might be helpful if we can just go around the table, if folks can introduce themselves by name, title,

affiliation/organization. And if you represent a non-profit, if you can just give us a few words about what your organization is about. We sent the biographies in advance to kind of save a little bit of time, so we're dispensing with formal introductions of folks. But, certainly, those biographies are also available in your program. And if we can start around the table with Sarah on this end?

MS. SHICK: Hi. I'm Sarah Shick. I'm with Case Western Reserve University and MetroHealth Center for Health Care Research and Policy. And I'm a Research Associate and a doctoral student at Case Western's program in Medical Sociology.

DR. PERZYNSKI: I'm Adam Perzynski and I'm also in the Center for Health Care Research and Policy at MetroHealth. I am an Assistant Professor of Medicine in the School of Medicine at Case Western. I wear a few different hats that way. I have another hat, I'm co-founder of a small health IT software start-up called Global Health Metrics. And I'm really excited to be here with you folks.

MR. CALLAHAN: I'm Bill Callahan and I'm the Director of something called Connect Your Community 2.0, which is a collaborative of organizations in Cleveland and Detroit which have worked together over the last number of years on low income community

digital inclusion work.

MS. DAVIS: And I'm Wanda Davis with the Ashbury Senior Computer Community Center. And I've been the Director for over 13 years now. And our goal, of course, is to bridge the digital divide through training and access.

MS. BURNETT: Evelyn Burnett. I lead the Economic Opportunity Team at Cleveland Neighborhood Progress. We're a community development intermediary.

MR. EPSTEIN: I'm Jeff Epstein. I'm Director of the Cleveland Health-Tech Corridor. I'll be speaking in a few minutes. We're a collaborative effort to grow the health-tech and high-tech economy in Cleveland.

MR. GONICK: Hi. I'm Lev Gonick from OneCommunity. Our mission is to grow the digital economy and quality of life in the region.

DR. SHEON: I'm Amy Sheon. I direct the Urban Health Initiative at Case Western School of Medicine and also healthdatamatters.org, an open data platform. And I conceived of this event today in conjunction with some work I was doing with OneCommunity to get the Commission out here. So thank you for being here.

DR. GIBBONS: Hi, I'm Chris Gibbons. I am the Chief Health Innovation Officer with the Task

Force at the FCC. I'm a physician by training and spent my career the last 23 years at Johns Hopkins.

COMMISSIONER CLYBURN: I am Mignon Clyburn. I'm a Commissioner at the FCC. And the reason why we have accepted your most gracious invitation is because we know that any type of regulation in a vacuum is not good regulation. Thank you.

DIRECTOR PARRILLA: Good morning. My name is Toinette Parrilla. I'm the Director for the Cleveland Department of Public Health. A little over 20 years of health care experience and I'm excited to be here working with all of you in this great cause. Thank you.

COMMISSIONER BENNETT: Hi. I'm Myron Bennett. I'm the Commissioner of Health for the City of Cleveland Department of Public Health.

MR. PAGANINI: I'm John Paganini. I'm with the HIMSS Innovation Center. I manage the day-to-day operations here. Honored to be here.

DR. GRAHAM: As am I. And thanks for coming, everybody. I'm Tom Graham, Chief Innovation Officer at Cleveland Clinic.

MR. SHARP: I'm John Sharp. I'm Senior Manager for Consumer Health IT with HIMSS. If you're not familiar with HIMSS, it's the largest health IT organization probably in the world: about 60,000

members. And welcome to our Innovation Center.

MS. BLONSKY: I'm Heather Blonsky. I'm a Systems Analyst at Cleveland Clinic. And I'm here to present our hackathon project.

MR. IOSUB: John Iosub, Lead Systems Analyst working for the Cleveland Clinic in Care Management Care Coordination Division. And, again, here with Heather, we're thrilled to be able to present our humble idea.

MS. SUNDARAM: Hi, I'm Vino Sundaram and I am an Epidemiologist for the Cleveland Department of Public Health. And I will also be presenting a Cleveland hackathon idea today.

DR. SHAIKH: My name is Yahya Shaikh. I'm a physician on the Connect2Health Task Force as well. I'm a Senior Policy Advisor.

MS. KLEIN: Deborah Klein, Special Counsel with the Task Force.

MR. BARTOLOME: Well, what an impressive panel we have. As you can see, we're very fortunate to have assembled a really impressive panel of experts and senior leaders. And, speaking of which, we wanted to begin the -- also begin as part of the early part of the program, invite some of our distinguished participants to provide any opening and welcoming remarks, beginning with Dr. Graham, the Chief

Innovation Officer of the Cleveland Clinic.

DR. GRAHAM: I appreciate that. Can you all hear me if I just stay here? Is it being broadcast? Great. And, again, I'll apologize ahead of time. I have a little get-together for 2,000 to host downstairs. And I'll be leaving you early. Thank you very much. I appreciate it.

We're really humbled to have you here. And we hope that you are both enjoying your time in our city here at the new jewel of our downtown. It's really indicative of Cleveland's renaissance. You know, we were certainly a strong agrarian economy, became an industrial titan, fourth largest city in the country to mid century. But that has changed. We're a knowledge-based economy now. And we're very proud of the things that we've contributed, certainly especially because the nucleus of health care is so important to us and, maybe, really represents our identity to a great extent outside this region.

You know, any interdependent organism, whether it's a family, a business, a community, and certainly a country or planet, relies on communication to advance itself, to get its work done. And communication relies on connection. And that's really what I think today is all about. And if we can contribute ideas and allow innovation to prosper and

blossom, because it frankly happens best at the intersection of knowledge domains. And around this table, and in the constituents we have downstairs, we have so many interesting perspectives and resources and relationships. And so the more interaction that we can foster by giving platforms like this really allows this to go forward. I really credit the FCC with understanding how important and how demonstrative health can be as one of the platforms as connection. I mean it's the one thing that we all strive for, you know.

Usually when I describe innovation, I have a preamble to it, it's mission driven. Mission driven innovation simply means that we're trying to improve and extend human life. And pretty much everything we do revolves around that. And it's one of the things that I believe that can only be furthered by facilitating and making sustainable communication available to us.

So, again, I apologize for having to leave early, because I really would like to hear a lot more. And my team is here, and shall. And Commissioner Clyburn is delivering a very important discussion later on and I hope you can attend that. But if we can do anything to facilitate your time here, I thank the HIMSS colleagues for having us here, and all of

you for sharing your time with us. Thank you.

MR. BARTOLOME: And John Paganini with HIMSS.

MR. PAGANINI: Hello. Welcome, everybody. I'm just going to speak for about five minutes on what's happening here at the HIMSS Innovation Center. Later on you're going to hear a bigger picture, that will be Fred DeGrandis, who will really be talking about the Global Center, what that vision is like.

So welcome to the HIMSS Innovation Center. I know some of you have been here before. Some of you have actually slept here, like myself, during the hackathon. As you can see, there's a lot going on here. We've had some very exciting meetings. This weekend we had the Solve Sleep with Health Excel. They spent two days working on sleep problems and doing some really creative thinking along those lines. There's just many different events and, you know, moving Cleveland towards the forefront of really creative and innovative technologies in health care in the industry.

So what this floor is, is the health care IT floor. So as you traverse the building, you'll see patients and care givers. And then you move up, you'll see infrastructure. And when you get to this floor, it's all about IT. So how does IT transform

health care? So it's really relevant that, you know, we're all sitting here in this room talking about broadband, for example, and how that moves things forward. A very important piece of it, especially when John Sharp talks about connected health and all the different devices.

So as you traverse this floor, you'll learn about privacy and security and you can do a deep dive in that area. You'll learn about interoperability. Interoperability, for example, is something we do as HIMSS for a living. And that's really a good part of my background, the integration. And you can bring your systems here. So if you're a radiology information system, you can bring your system here and find out what it takes to send your data to an electronic medical record or to another system. What's the format? How does patient name in one system match up to the other system so that when they connect, they can actually make sense of that data? So you can imagine in a system and, you know, just bring up the Cleveland Clinic or MetroHealth, any of those systems, that have thousands of different systems with millions of transactions going on at the same time, in real time. And so those systems all have to connect to each other. So there's a challenge.

So once you say, oh, my gosh, I found this new disruptive technology. I want to bring it into my enterprise which is running smoothly already. With standards, that challenge gets much easier, because they can integrate nicely using the standards. And that really is the key of the importance of that. So imagine those challenges internally, and then when you want to share it with providers or the retail drugstore, or you move to Asia and you want to share your records with Asia, so, imagine that. So it's really all about the, you know, continuity of care and then interoperability plays a big piece on that.

And we also here talk about analytics. We also talk about business solutions and, you know, knowing the cost of your procedure before you have it, for example. So there's a lot of really interesting information up here that is -- that is -- really caters to the perspective of maybe the vendor, the health care consumer, and, of course, the health care industry, our people itself. And we have this nice technology showcase. And there's a lot of interesting vendors up here to look at as well. So it's a really interesting environment and kind of great to be part of the Global Center in that sense. So we're doing a lot of things. So when we have meetings like this, it really moves our whole vision forward. So thank you

for coming. And thank you for the time to say hello.

MR. BARTOLOME: Thank you, John. Now I'd like to invite Director Parrilla to provide any opening and welcoming remarks on behalf of the City and the Cleveland Department of Public Health.

DIRECTOR PARRILLA: Hi. Good morning. Excited to be here today on behalf of Mayor Frank Jackson and the Cleveland Department of Public Health. This is a very important opportunity for us to have this very intense, in-depth discussion about how we really connect all of our data, really bridge the innovation with institutional knowledge. We see a lot of opportunity within the Cleveland Department of Public Health from linking with the Cleveland Metropolitan School District, linking up with the federally qualified health centers, linking up with our data, population health data, and integrating that somehow and some important platform with the health care systems data.

So there's a lot of interesting discussion that we're going to have over the course of today. And I'm excited to share some of those different ideas that we have within our EPI Department and some of our hackathon ideas. So I look forward to working with all of you. Thank you.

MR. BARTOLOME: Thank you, Director. And

now it's my pleasure to introduce one of the Commissioners of the FCC, my favorite Commissioner, Commissioner Mignon Clyburn.

COMMISSIONER CLYBURN: Good morning. He's just saying that because he thinks I had to fill out his evaluation form. But good morning, again, everyone. It is such a pleasure for me to be back in Cleveland, truly to be back in Cleveland. And this morning is especially exciting for me because very seldom, and it's too seldom, do I get an opportunity to have a robust discussion with some incredible policymakers and doers in this nation about how we can best leverage the power of broadband to shape the future of health and care in Cleveland, Ohio and the rest of the nation.

Please allow me, as I thank all of you for participating, to especially point out Dr. Graham. Thank you. I know you have to leave us. Two thousand people versus us. We'll forgive you on that. And Dr. Sheon, for having the vision and the foresight for bringing us all together. You've met Mr. Paganini and Ms. Parrilla. All of you are integral as we shape policies and enact regulation. And as I mentioned before, if we were to do so, staying within the beltway of Washington D.C., we would not be the best public servants we can be.

So there have been a few discoveries, from where I sit, in advancements in human history that have shaped our evolution and trajectory. But our ability to transmit information and connect nearly instantaneously across vast spaces, for me, has been among the most transformative. These enabling technologies, in the world they call it ICTs, are addressing some of the most vexing and longstanding challenges. Social isolation, especially when you're talking about aging and place. Meeting these critical needs with those of limited resources. And Cleveland knows painfully well of the challenges they're addressing. Addressing capacity shortages when it comes to health care professionals. We know what the numbers are. I don't have to tell them to you. There are fewer and fewer of us with the responsibility of maintaining the health and wellness of 320 plus million -- the number is so big. Hundreds of millions of our fellow Americans. Three hundred and twenty-two or something million, to be exact. They can be used. These capacities and these ICTs can be used to bring by or forth opportunity for entrepreneurship, as well as health care and wellness.

So it's very seldom when you can find a platform that innovation and technology, and all other things we will tee up today, that can help in the

delivery of care, health care and wellness, but also can create opportunities in our nation. We are at an exciting time in our lives. We've got a group of people here that are going to help us get there. And when we talk about particularly, as I said, seniors and those with different abilities -- some people call them those with disabilities, but those with varied abilities -- we've got the opportunity to leapfrog and do some things that once we thought were impossible with ICT and with all of the creative thinking around this room.

So I want to thank you for the opportunity to take part in this. I will give Ben a glowing report. And I look forward to the exchanges that are about to take place. Thank you.

MR. BARTOLOME: Thank you, Commissioner. If you look at the agenda, we've laid out sort of the sequence of today's events. And the first discussion section, or session, is about charting the broadband future for Northeast Ohio. And it's such a privilege for us to have both Lev Gonick and also Jeff Epstein to sort of discuss some of those issues.

So for the first part of our discussion, what we would like to learn about and to discuss is about the current broadband structure in Cleveland, what the remaining infrastructure needs are, to what

extent traditionally underserved neighborhoods are connected or not connected, and the impact that broadband has had in the provision of health and care in Cleveland. And so now I'm going to invite Lev to give his presentation.

MR. GONICK: Good morning, everybody. Thank you, Commissioner Clyburn for being here. Thank you to the entire team for being here. Five years ago when the National Broadband Plan was formally published it was on the basis of about a year and a half's worth of research. When it came to innovation and community access, a lot of that research activity actually came from Cleveland, Ohio. Because, in fact, OneCommunity, the organization that I have the privilege of leading, has been working with the community in developing broadband infrastructure for 12 years. And we were early on associating digital economy with the national purposes, including the health care story along the way. And I'm here really this morning to provide a bit of a level set, because you will hear all of the detail going forward.

So as much as we want to actually have all kinds of advanced applications and services, it turns out, and the National Broadband Plan got this right, America needed a broadband upgrade. That's the fundamental underlying pity of why we were the only

OECD country not to have a national broadband plan in 2009, 2010.

So over the last 12 years, OneCommunity has actually put together, in the Northeastern Ohio footprint, about 2,400 miles of fiber-only infrastructure, connecting all -- about, again, over 2,000 community anchor institutions, a term that was actually coined by the National Broadband Plan based on work that had been going on actually in Cleveland. We called it community anchor institutions. Almost all of the health care institutions. Not only the large players, but also the smaller players. Museums, libraries, schools, universities all connected to a non-profit. This is not run by any city hall. This is not run by any corporation. This was run by our community together and many of our friends and colleagues were there along the way.

Of course there's a lot of blinking lights that actually make all this happen. We're going to forego that deep dive this morning. But the truth of the matter is it's not trivial. And as much as we want to aspire to all kinds of connected health care records and better community wellness, it turns out you actually have to put in the time and the investment. And across the country billions of dollars and in Northeast Ohio just under $100 million

spent on actually building of this infrastructure.

So we're oftentimes asked what's some of the secret sauce? What's the formula of things that actually sort of led to our success along the way? And, again, I think it comes down to a series of pillar commitments that we, at OneCommunity -- again the mission, growing the digital economy, but not as a service provider alone, it's an and/both statement. It's growing the digital economy and trying to contribute to the quality of life in this region, which is why we're a non-profit rather than any other kind of agency or organization. So engaged partnership and celebration is what we try our best to do. And we're best when we do that. Again, it's not trivial to build up this network, but trying to stay focused on the prize.

And we have developed over time a series of pillars of activities that mirror significantly the National Broadband Plan strategy. Of course, very appropriately, today we're going to focus in on some of the underserved activities tied directly into education and especially health care related education. I'll give you some quick examples. And, of course, other activities that were highlighted in the National Broadband Plan along the way.

I want to just start with a quick little

video clip if I can here, to give you a sense of some of the connectivity between broadband and education related to health care. I am going to try to get the sound. Anybody, locally, got audio?

(Video is shown.)

MR. GONICK: So that project really began to -- that project really made possible the idea that broadband was not just for sending email. Broadband was not just for web surfing. Broadband was actually about turning young people onto the idea of discovery of what their own futures might actually involve. In fact, it's also very relevant, I think most people in the room will know, that one out of every three women in the city of Cleveland has type 2 diabetes. We have a huge challenge. Just under 40 percent of our kids are graduating from high school. Getting kids interested in education so that they graduate, if it's tied to a specific, intimate, compelling reason about helping their moms, their aunties, or their sisters, or their grandparents makes all the difference in the world.

So we have set up a series of connected collaboration activities that connects not only kids to health care professionals but hit kids to each other. A project -- this particular project is done at John Hay High School here in the city of Cleveland

and it connects both to faculty at Case Western Reserve University. Again, this is a project, this is actually a biology class that focuses in on important things like diabetes and things of that sort. They're not only talking to health care professionals, they're also, in this particular case, talking to other students. These students are actually in Akron, Ohio. Talking to each other about health care related science, but in the context of a real compelling personal and, we think, quite important activity set.

Some of you may have watched last night on the National Geographics the live brain surgery. That's here in Cleveland. The company that actually makes it possible is a broadband start-up here in Cleveland, Ohio called Surgical Theater. Again, you saw last night the idea of deep stimulation. Right. But these folks actually have developed an apparatus that supports both education of medical students as well as surgeons, importantly, to see Dr. Selman, who was the actual chair of the program and actually the original scientist involved in the creation of Surgical Theater, actually collaborating across the country using the broadband together on those high risk cases. Not so much for the functional -- not so much for the stimulation, but when they have to actually tackle an aneurysm problem and actually

focusing in on the hundred plus clips they have to deal with, being able to do as we saw last night live on National Geographic, being able to figure out how to go into the brain and choose the clip. Doing those in advance. That rehearsal is a broadband application that only works nationally when you have ultra high speed broadband. Gigabit plus services that are out there. Because the fidelity and the quality of the HD video is paramount for not making a mistake in choosing the clip that could have absolutely catastrophic implications.

Another quick demonstration of the community based opportunities that are possible. This is a two-part one.

(Video is shown.)

MR. GONICK: This is a live demonstration that took place some years ago. So I just wanted to share with you that these demonstrations of community based -- again this was a project that was done in partnership with a large number of vendors and community partners. Thanks to Wanda Davis and her community for helping us out in this demonstration here. Really, that was based on sitting on a porch interacting -- real time interactively with Dr. Sadler who was providing, along with a whole bunch of devices that were actually doing real time telemetry,

basically of vitals, out on her porch, being able to get the real time feedback. And, most importantly, not really seen in the little video, is that actually her grandkids and the nephew were actually part of a science class at John Hay High School, sitting there working with an auntie, basically, to make this demonstration work along the way.

The second was a much more intimate conversation that is again made possible through high definition video collaboration between a woman with type 2 diabetes, who chose not to be on screen, but with her doctor, really talking about the things that then don't have to explode into a full sledge crisis because they're talking all the time to each other along the way.

We've been involved in working with the community in a range of ways including those that I've shared with you this morning. We've engaged with cities to try to deepen, because the question of the day is how do we deepen broadband access into the community. The funds that are available for an organization like ours. Essentially connect those anchor institutions to get them deeper into the community. To take cities, cities all around our region -- we have 58 cities just in our county alone -- to begin to make their own investments into

deepening the connectivity into the environment. We've actually put our money where our mouth is by putting dollars on the table to encourage cities as part of our big challenge to actually invest themselves in driving connectivity into the community.

We've had a series of issues, you're going to hear in just a second from Jeff, to partner with the City of Cleveland and, again, a wide range of folks in creating the Health-Tech Corridor, a place that is not just about innovation, but significantly about innovation, but also serving the community around, a partnership that includes all kinds of folks across the community interested in supporting the health and wellness connected to the broadband economy, as Jeff will share with you. Really, well, in the National Broadband Plan we aspire to one gigabit as a kind of goal. Jeff will share with you that exponential growth in the connectivity coming to Cleveland.

Our goal is to actually make it possible that other cities across the country -- we have a proposal that we're looking to fund with a number of other cities across the country to replicate what Cleveland is doing, but by sharing classroom-to-classroom, community-to-community activities in a project to support telelearning across the country.

We hear a lot of conversations across our community on major things that they want to see next. What next do we want to see? This is the conversation that we'll be having throughout the day. But fundamentally focused in on the quality of life of our community by using data, by using community engagement strategies and the like, that's certainly what our mission is all about. We are focused in, in hackathons and other activities that are going on here, on the internet of things. We don't talk about that in the National Broadband Plan, because it wasn't invented. And in five years time, we'll have thoughts of other things. But right now we have to think about IOT for public benefit, not just for all the things that are going to be sold to us about why we need to have IOT in our homes or in our businesses along the way. That's our mission to work with our community along that. And we've had great partnerships along the way.

And, likewise, in the area of additive manufacturing, which is still the underlying growth part of our economy -- 34 percent of our GDP in this region comes from manufacturing -- is to really figure out how we can actually support a service focus to grow the digital economy of our region. We call it the RIOTs. Those are realizing the internet of things

here in Cleveland along the way. It's a much different and better kind of riot than others that we've experienced.

So that's it for right now. I hope that that was helpful by way of a level set and invite my colleague Jeff Epstein from Health-Tech Corridor to tell a bit deeper the story. Thank you.

MR. EPSTEIN: When I think about all the gigabit stuff we're putting in, I hate to see those little spinning circles. Right? We shouldn't have those here in Cleveland.

Good morning, everyone, and Commissioner Clyburn. Thanks to everyone for being here. This is great for the city and exposure and hopefully moving forward a lot of the initiatives that we have.

So, as Lev mentioned, I'm the Director of the Cleveland Health-Tech Corridor. I'm going to tell you a little bit about the corridor and kind of what we do and the impact that we're trying to have in terms of centering innovation in Cleveland and revitalizing urban neighborhoods and kind of how the broadband and infrastructure fits into the strategy, as well as how that can touch as we evolve public health.

So the corridor is a collaboration between the City and several non-profits to really grow the

health tech economy in Cleveland. It's an asset based strategy and we're building geographically in a 1,600 acre area around these core assets. We've got within the corridor Case Western Reserve, Cleveland Institute of Art, Tri-C, and Cleveland State University. We have major medical systems in St. Vincent, The Clinic, UH and the VA. We have a massive investment in public transit in the HealthLine that runs through the corridor, it is fiber network, and a bunch of entrepreneurial support organizations.

So the corridor is really an effort to link University Circle, which is the big bubble you see on the east here, and downtown to the west. There's about four miles in between. That four mile stretch runs through some of the poorer neighborhoods in Cleveland. And the idea was really to revitalize those neighborhoods in the commercial cores by leveraging all of our assets to develop innovative health tech and high tech businesses in the area, pouring a lot of dollars into revitalizing those neighborhoods. So this is just kind of an asset map that is similar to one Lev showed of the corridor and really focused on filling in the middle.

So where the strategy around multiple different types of companies, pharma, device, health IT and tech. Critical for the growth of those

companies is their access to broadband. And but for the foresight of OneCommunity in laying gigabit fiber networks through the city, we wouldn't have this kind of development today. The kind of companies that we see up here, Explorers for example, is a big data health IT, health analytics company, and they rely on the ability to connect to gigabit speeds to share data. And looking forward to the future when we have this hundred gig network, their ability to share not one, not 10, but hundreds or thousands of genomes over the broadband pipe to innovate, to effect public health outcomes, to measure population health is critical.

And we've got a whole host of other companies that are choosing to locate in this area and stay in the city because of the connection to broadband. Right now about 140 health tech or high tech businesses in the corridor and growing. We've got an array of entrepreneurial support organizations in the city to help those groups. We have BioEnterprise which helps on the health side. We have Jump Start which helps on the tech side. We have Magnet which helps on the advanced manufacturing side. And that's all a critical piece of the mix here and growing.

So what we do in the corridor, we evangelize

the corridor and try to sell all the benefits of being here. We try to attract business. We work to stimulate real estate development. We work to connect businesses to resources, as well as to broadband. We leverage our assets and we convene and kind of build this community of growing businesses in the corridor.

So success so far. Along the corridor in the 1,600 acre area in the last eight years, we've seen $4 billion dollars of investment. Another billion dollars is planned. Really led by the anchor institutions. We've seen heavy involvement by the Clinic, by Case, by UH. And this HealthLine investment, which I'll talk about in a minute, has really stimulated growth.

The public sector has taken a lead role here. The City has put $70 million dollars into the corridor over the last six years to stimulate development, to clean up brownfields, and to really set the table for business to move into the area. So just a few of the photos of what we've seen along the corridor. By the numbers, we talked about the real estate investment. We're seeing a lot of private investment by businesses. We've got these students and health technology workers that are fueling the growth as well. That City investment has leveraged a half a million square feet of new or renovated office

and lab space. We've created 2,600 jobs. And, substantially, we're now seeing outside investments starting to come in. We've had four businesses that are in the corridor, health tech businesses that have been acquired in the last year. A lot of capital coming into the area, which is going to continue to help growth.

So the two pieces that I want to focus on, and we've talked a little bit about broadband, the other piece in terms of infrastructure. And these are really core pieces to the growth. The HealthLine which was a bus rapid transit investment that went along Euclid and connects downtown to University Circle. Without that, none of this would have happened. And that was a huge investment by the City, by the State, by the Federal Government to bring in a HealthLine. And Lev mentioned the hundred gigabit project. Working with OneCommunity and the City and Case Western Reserve and Ideastream, we've secured a $700,000 EDA grant to put in a hundred gigabit fiber network through the corridor. And this is really future infrastructure. You know, we think about broadband as infrastructure and the hundred gig project is going to enable us to have the connectivity for whatever that next generation of App that is going to demand that kind of connectivity, for business, to

be able to attract business innovation. So we're really excited about that project and its ability to kind of continue to grow the corridor.

So as we think about fiber and health care, there were just a couple of pieces that I thought I would point out. One is through the efforts of OneCommunity in laying this broadband pipeline, all the hospitals are now able to connect at speeds -- I think, UH is what, at 30 gig? Forty gig right now. So the ability of hospitals to connect to their satellite offices at that speed lowers costs, improves the ability to target health care.

We're also seeing, you know, what's happened in terms of the investments in the corridor. We're now seeing health systems moving further into the corridor. UH is making a big investment in an urban health clinic right in the center of the corridor. And they're doing that because of all the growth around in the area. They are able to kind of leapfrog out of University Circle and connect in closer to their community.

We're attracting talent. The hackathon, which you'll hear more about today, unbelievable array of talent that was coming here. And, again, it's in part because of the energy around health innovation that's happened in Cleveland. And Big Data Analytics

Explorers is one. There's several other health IT companies that are leveraging the power of broadband networks, that are leveraging the talent that's coming out of the universities here to really approach population health management. Explorers, in particular, has, I think, 16 percent of the patient records in the United States. And their technology enables them to look across a whole system, multiple platforms, and assess the overall population health.

So these are some exciting innovative things that are happening in the corridor because of broadband. And we work every day to kind of continue to attract and grow momentum, to tell the stories of all this innovation that's going on in the area. And, ultimately, the benefit of all that is jobs, it's better health care, and it's improved health outcomes in the communities that surround the corridor.

So, thank you. And I think Lev and I probably have a few minutes for questions.

DR. GIBBONS: So, really, thank you so much for those presentations. You guys are really doing some fabulous things here. One of the things that we're interested in is, at the FCC, we hear from people that health care is important, you know, I need to connect to my doctor, also. But patients rely on more than doctors, nurses, and hospitals to be

healthy. They have a bump in the night or they're isolated from their family members and other things going on. And I heard less about that, you know, connecting people to all of the things they need to be healthy. And not that I'm downplaying. I'm a physician, so I get it, right. But there's another side to the coin that, that's why Dr. Google is so popular these days.

So could you talk about that? Are there efforts to connect people to other, say, social service agencies or social services, community based organizations that provide, you know, more socially oriented care around socially -- social determinants involved?

MR. GONICK: There are a number of experts. I think -- Myron, I don't know if you want to speak first?

COMMISSIONER BENNETT: Sure. So one of the things I'm working on right now is -- there is -- our United Way services organization here has the 211 program. And it usually -- people usually can access that via telephone. But what we're trying to do is make certain that we have that access out in the community. And so a lot of our health centers, we're putting in --

DR. GIBBONS: Just to be clear, 211 in this

city is what?

COMMISSIONER BENNETT: It is the information line through the United Way for social services. Basically, those supportive services that you were talking about.

And so what we're trying to do right now is that we're putting kiosks in our health centers. And so what happens is that as patients register, they can also register for other types of services, social services. And so when they initially register, there will be a couple of questions that may lead them to another resource. And then while they're waiting, they're going to have tablets where they can surf for information related to that.

In addition, we are starting to look at -- because most of our clinics, at least when it comes to adults, our clinics are geared toward sexual health. That's because of our funding through Title 10. But what we're doing now also is identifying those other types of issues that people may have that may impact their overall health and, specifically, their sexual health. So when the referrals are made again, the referrals will be made back through 211 and people can access that information so they can understand where they can get those other services or receive those other services.

MR. GONICK: There are lots of other examples of, again, interesting combinations of community anchor institutions. Libraries, for example, in this town, in this county, are trusted by the public at large, including for health education. Reference, if you go to the reference desk, you're not looking for the book. You actually can now, in the series of demonstration projects that we've been involved with, use the resources in the library setting. It's actually either live, as we were doing, and/or programs where both the Clinic and UH and Metro are actually in. Metro has -- again, Metro has a program directly into our Cleveland Metropolitan School District, direct engagement. So not waiting for people to take on the clinical model, but using, you know, both broadband and just good human networks to engage in.

There are lots of interesting innovation work efforts as well. Commissioner Clyburn referred to the aging in place challenge, which is a huge issue that we face in this particular region of the country. And we have a series of projects with skilled nursing facilities, where we're using broadband to not only connect back to the health care systems, but to their children on coasts and other activities.

So those are the kinds that I would say in

creative partnerships that sort of blends the best of the understanding that all the health care systems of the imperative to get out into the community. But not just the health care systems. We have, again, libraries in particular are a leading institution in this community, as well as some very, very creative, and experimental right now, skilled nursing projects.

COMMISSIONER CLYBURN: So I'm going to bring up something that's politically incorrect that might upset everybody in the room. So let me -- you're not supposed to start off saying something about apologizing, so let me apologize for whom I -- you know, whoever I am about to offend.

So when you talked about, I think Jeff -- and I am for this -- you know, how this infrastructure is helping to revitalize. You know, how we're using the transportation as well as other, you know, technological foundations to really, you know, improve it and give that much needed jump start to these -- some of these communities that have honestly been stuck on the wrong side of the economic divide.

How are -- can I be reassured that this revitalization doesn't mean displacement?

MR. EPSTEIN: You know, I think a big focus of a lot of the entrepreneurial support groups in Cleveland are around inclusiveness in our innovation.

And so we're seeing more and more trying to connect into the community with entrepreneurship opportunities that are not necessarily technology entrepreneurship opportunities. We're seeing a lot of efforts in terms of workforce development and training. The hospitals and the anchor institutions at University Circle, for example, have been focused on an effort to measure and understand how many people they are hiring from the neighborhoods around University Circle and try to step up that effort. And, in fact, there are formal programs now with both hospital systems to try to train people from the neighborhoods around the area to go work for the hospital systems.

There also is a pot of funding that's been put together to encourage people who work for the institutions to settle in around the neighborhoods of the institutions. And in a way it's not about displacement, it's about creating mixed income neighborhoods right around the institutions. And, in the corridor, we're focused as well on kind of programming and opportunities. We're going to be opening up a big co-working space in the center of the corridor. And we've got funding through a partner organization from the SBA to do some neighborhood based entrepreneurship support.

So we're trying. The goal here, and I think

everybody is on board, is to both leverage the economic development that's going on in the anchor institutions to support the neighborhoods as well as to leverage the innovation that is coming out of it and kind of connect people into it.

MR. GONICK: Just to try to be responsive, I'm going to invite my colleague Evelyn to speak.

MR. EPSTEIN: Evelyn should speak. Yeah.

MR. GONICK: Because we've been working both just as friends and colleagues. One of the things that's challenging for us in the way you framed the question is fiber optics just is one very important high skill -- high paying, not that high skilled work force issue is to get the community to realize that while traditional paths to economic sustainability, whether those have been in the world of mechanics, and other kinds of traditional -- those kinds of opportunities are probably still relevant, but probably less relevant. More relevant are these emerging opportunities. So we've proposed, multiple times, that as fiber optic is dropped throughout this region, and we haven't spoken this morning about the largest of the opportunities that are out there, the Opportunity Corridor project, which is forthcoming, $350 million dollar opportunity. We've proposed together that the community actually get trained up

now to actually know how to terminate fiber optics, to actually place fiber, because we know from the fiber providers in this town, they're looking for skilled certified workers. We work with the community colleges, Tri-C in particular, and the Communication Workers of America, and the local employers in these -- to literally say together if it were available, could we actually? Now, having stated that that's the policy objective, the reality is a lot closer to the way you framed the question. That is to say, you know, again, I invite Evelyn to perhaps be a little bit more politically correct than I would be. You know, we've got a long way to go. How about that?

COMMISSIONER CLYBURN: I hated to put it out that soon.

MR. GONICK: And we're going to come back to it.

COMMISSIONER CLYBURN: Yeah. And the reason why I did is just, you know, when we talk about not thinking about things in isolation, we need to think about the entire because the community may be a bit more resistant if they think that this, you know, what we are planting, the seeds that we are planting and what we're expanding could mean uprooting of, you know, in some instances, a few things that they hold dear. So I just wanted to put that --

MR. GONICK: And just one other little data point. There's a lot of conversation this morning going to be about the big data -- the data projects that have been going on, the mash-ups, and those kind of things. Critically important. But one of the things we know in this community and across the nation is that while we have some open data policies, a lot of our data is not machine readable. And there are opportunities for entry level jobs to take open data policies that are today in a PDF form or on paper and actually train people for skills that are relevant to the 21st century, which is, essentially, transposing PDF documents into electronics so they can be used for, whether those are start-up activities or community hackathons. It's a critical skill set.

Part of this though is a fundamental orientation to the opportunities that are there. And I think there is a healthy dialogue in the community about what those are.

MR. BARTOLOME: Just to keep our segments going. Since we touched on community issues, let's move on to the second discussion segment, which is about really trying to understand the impacts of broadband as well as the needs, the broadband needs, in terms of its connection to health and care at the community level, particularly, traditionally

underserved communities and wherever our vulnerable populations are living within the city.

If I could first just throw or ask an initial question to Director Parrilla and Commissioner Bennett in terms of just providing us a little bit of a level set in terms of what the major health issues are in Cleveland. And maybe if you can sort of discuss some of the initiatives the City has, in terms of digital initiatives related to health. And I've been informed by the audio folks that when you speak, if you can just say your first name or your last name so that way they can keep track of who is speaking.

COMMISSIONER BENNETT: Okay, so, you know, one of the things you asked was, what are we doing related to, you know, kind of bridging the digital divide. Again, as I was sharing earlier, one of the things we're trying to do is make certain that, at least through our health centers, that individuals have access to not only health information, but also information related to social determinants of health.

But, you know, in addition, you know, we're trying to really develop these robust relationships with organizations that we know can push information out to the community. The United Way services is one organization. I think a lot of times we think of creating something new instead of looking at what we

have in our own backyard.

But one of the things that we really noted is that access is a critical issue from a point of when you need access. And so it's easy to say that we can have people go to our health centers and gain access. It's easy to say that people can call 211. But a lot of people nowadays receive access to vital information through devices. And one of the things that we noted is that some of the devices that people that we serve have -- you know, everybody thinks, oh, we see all these kids with these smart phones and, you know, with all these nice toys. How do they get them? Guess what? A lot of them aren't even connected. A lot of them don't have data plans. They're just flash.

And so, you know, don't assume that people have access because they look like they have access. I doubt that anyone in this room here does not have access at this moment. But I also doubt that most people that we serve have no access at this moment, in the middle of the night. And so when someone shows up in your emergency room and says my kid has a cough, and you're sitting there thinking, why did you come to the emergency room. They don't have access. And they don't have the kind of ready access that we know now is something that's just a privilege to us.

So that's one of the critical issues that I think we really need to kind of address as we develop these great corridors, is that the hot spots that we really need to have should not be the hot spot that I sit and look up whether I can go to a play tonight. It should be a hot spot that someone should say, I've got something that's bothering me right now. I need to access health care information. We access information that keeps us from having to access the system. The system is the end product. The system is at the end. We need to make certain that we have information to people at the time that they have the questions, the needs. It helps them frame some of their questions that they need to prepare for their health care providers because their health care providers are not really spending a lot of time with them. So a lot of us are prepared when we go in to talk to our health care providers. And that's the kind of access we need to give people, information in advance so they know what kind of questions to ask.

DIRECTOR PARRILLA: Thank you, Commissioner. What we currently know about the access within the city of Cleveland is that it's prominent, as you're aware, in libraries. At Cuyahoga Metropolitan Housing they have community -- computer centers. The Cleveland Metropolitan School District provide that

connectivity. Hospitals, restaurants, there are public hot spots at other universities.

What we're finding, where the huge opportunity is, is really within the Cleveland Metropolitan School District. Starting very young. We have an awareness that it's the students that are really educating their families due to the low health literacy rate here in our city. We are also aware of the low graduation rate as well. That is nothing new. We believe that this is where the huge opportunity is.

When we're looking at the need for connectivity during emergent situations or just general health information, where are they going to get that access? Some of the internal discussions we have within the Cleveland Department of Public Health is we really need to go to where the kids are. We need to go to where the families are. And where is that? Well, it's at the barber shops, that's at the beauty shops. That's where their trusted locations are, right. Unfortunately they're not always going to be at the Panera Bread. We have to go to them. And we have a responsibility to not only give them this capability, but we also have to educate utilization, the functionality of it, the purpose to ensure that there is proficiency, not just access.

What is broadband? I mean we really need to start at the fundamental level. We need to really provide that messaging piece. Right. What is the purpose? What is our intent? What is the outcome we're trying to achieve? There's a lot of collaboration and coordination and so many different resources around this discussion, around these tables. How do we link up and leverage all of our resources? I know that there's a lot of discussions about this. Even with the 211. I'm trying to tie into 211 with my health centers. How do we really create that referral system so that there's true continuum of services? That it's not fragmented.

Commissioner Clyburn really made a good point. You know, we don't want anyone to feel displaced. They don't need to leave their communities to get the access that they need. That's going to be critical. And in our urban areas, community to community, they're very, very different, the culture, the tone, the needs. I mean we can speak generally with poverty and education. However, how we engage them, how we engage them and go into their communities to give them what they need, we need to be very sensitive to that. So I just really want to point that out.

There's also, you know, the question, what

are the solutions? Well, you know, obviously we want to expand our community-wide access. I think again we need to focus on what does that look like in each neighborhood. What are the right locations within each neighborhood? I think a blanket approach, we need to be very careful with. We need to think about information access through the utilization of even text messaging, phone and internet. But, also, we cannot assume all have that capability, right. The training component has to be there.

We also need to consider campaigns to inform the community. How do we collectively work together to create this unified message, this unified campaign to say, hey, we want to assist you in gaining access to health and other asset information. We want to explain to you why it's important to have this access. We also want to provide you with the best information available to improve your health, from a promotion, health promotion, prevention perspective. And then what to do with the information.

How do we create that interaction with the community? So we're meeting them where they're at. That was an amazing video where the grandma was sitting on the porch and they're having that conversation in the comfort of their own home. I think that is an exemplary example of where we need to

be. Right? We need to be grandma on her stoop, with her grandkids, in the comfort of her own home. And how do we provide that? Wow. That's huge. That is innovation and institutional knowledge at its finest. I think that that's the perfect example in where we need to work towards. So thank you for that.

The data linkages to the social and community services assets can ultimately address the non medical aspects of health improvement and maintenance in our community. These linkages can help people understand not only their social, but their behavioral determinants of health and assist to them where they're at in identifying the tools that they need, the education they need, and any other services they need to improve their own health. What is really important here is that we're empowering them to take responsibility and accountability for their own health. It's taking us more upstream, I believe, than it is more being in that reactionary state. Right? Giving them the tools they need to really look within. And look at, you know, individual, family, community. I think that this is really a great start for that.

A critical issue that we're finding is trust. Trust. Right? Our citizens need to trust us. And they trust different organizations and institutions and different locations. So how do we

collectively address that trust component? How do they trust the data? How do they trust that what they input, wherever they input the data, there isn't going to be a privacy issue? Right? They put their Social Security Number in. They put their date of birth. They put their name. How do we really address that privacy issue and that there aren't going to be any breaches? I mean if Chase Bank can be breached, how do we really provide that level of confidence to the community that we can protect them and their health information?

So I think that this comes to a point where we need to really look at our data infrastructure. Here at Public Health we have a lot of opportunity and a lot of data, a lot of data. I've been working very closely with Dr. Sheon on giving her direct access to our data. But we have real time information. How do I share that with all of you? How do you connect with us? What is that right platform? And I think this is a good question to the FCC.

What I would like to propose is, please come out to our organizations. Look at the amazing information that we do have that we're having challenges at this time linking up. Okay. Linking up and sharing vital information that can give us real time population health information.

If I may give you an example. The Cleveland Metropolitan School System, they have identifiers for all of their children in their school system. I would love to link up and/or improve their enrollment process. What do I mean by that? I think that we can do better by screening our students. Most of our students, that we're aware, have violence or are living with violence, are abused, are traumatized. They need intervention, social service assistance, immediately, at school. How do we connect with the school system? How do we safely gather that information so we're providing proactive interventions and treatments so that we can make our justification for maybe crisis intervention specialists at the schools, linking them up to a hospital system or a QHC? How do we really give them these services up front? We're looking. We don't know how to do that yet.

How do we link up with the health centers? You know, maybe do they get to use those identifiers, you know, since the privacy's already been addressed? They're de-identified so that we're seeing the admissions to hospitals. You know, we have a high increase of childhood obesity, youth violence, hypertension, heart disease. I mean in the age of -- I mean they're getting younger and younger. Right?

We have all these epidemics in our city. How do we link our data so that the data really matters to us. Right?

We need our analyst. We need our business intelligence model. We need somebody to look at all these infrastructures and all these organizations and help us decide what makes the most sense to really reach our community. This would just be one more added thing without really getting to the root and creating something substantial that's going to take us long term, build us into the future.

So thank you. I hope this was a helpful overview. And I don't know if you have anything else to add, Commissioner?

COMMISSIONER BENNETT: Just quickly. The question, initially, was what are some of the health issues we're seeing? In this city, because of the aging housing stock, it's lead poisoning in our children. And the thing that's real interesting is if you look at a lot of the maps back at the turn of the century as it relates to redlining, which was, you know, racial exclusion of loans, home loans, you can overlay all of the health disparities that we have right now, and you're looking at the same map.

And so it's all in the same neighborhoods that were redlined. So it's lead poisoning. We have

the highest rate of infant mortality in the country. Again, same neighborhoods. Diabetes was mentioned before, one in three women in this area, and then childhood obesity. And so, you know, a lot of these things are a function of access to not only health care, but access to healthy food, access to places to exercise. I mean this is -- there is such a much larger issue than just health care access.

So when we look at a lot of these things, there are models that work. For example, when we look at lead and diabetes, you look to telehealth. And I know that the federal government through DHHS had the rural health telehealth grant projects with very large grants. So we probably need an urban telehealth type of grant platform through DHHS. So, you know, those are some of the things.

COMMISSIONER CLYBURN: And, Commissioner, to add to that, you're right. Part of the reason why we're outside of the beltway, particularly in the cities, is just that our emphasis has been there. Historically, it's been shown that those have been the places with the vast infrastructure disparities. But even with some of the rural health, you know, the pilots that we have, keep in mind that the balance is 51/49 in terms of mandatory. Meaning, this, you know, if you're not already -- because I didn't check

through all of my homework to see whether or not you got a grant from the FCC, but you could be in Cleveland and as long as your footprint includes at least 51 percent of a rural, you know, your neighboring rural areas, there could be, you know, added compound, you know, benefit for all.

So I want us to keep that in mind, too, that both sectors where there are chronic divides would have the opportunity to benefit even in that same scenario with that rural emphasis, as long as it's 51 plus percent. It could be 49 point such and such, and we can still get some of the disconnects that you mentioned addressed.

MS. BURNETT: Okay. Just a couple quick thoughts from some of the things that I heard earlier. We have to put equity at the forefront of our conversation, not just equality. I think equality is critically important. But, you know, I think that some of us have seen the graphic representations of if you give a short person a step-stool and a tall person the same step-stool, you don't provide the same access. And so I think in community development, we're really trying to think about sometimes it feels like things like affirmative action, that I think folks, you know, have their opinions about, but certain groups need certain things that other groups

just don't. Right?

So I really appreciated your question. I also appreciated some of the things I heard from the City of Cleveland around safety, around thinking beyond just hospitals and practitioners, but who are the other folks in the community that can be providing service and increasing access. I also appreciated the conversation of the question around displacement. Organizations like mine in the community development industry at large are fighting displacement like hell. Right? Because it's happened too much already. We understand the impacts of gentrification. We know it's happening in Cleveland. We know that folks are trying to act like it's not happening in Cleveland. And we know that it is. And I think it extends from some of the things that you heard from the city of Cleveland.

Also, we don't have an affordable housing policy in the city of Cleveland. So you can put 600 units up in University Circle with no affordable -- there don't have to be any affordable units, that matters. Right? It matters when you have declining housing in all of the neighborhoods surrounding University Circle and not have an affordable housing policy on the books. So we're trying to think both from a practice level, right? Like what types of

programs and pilots are we implementing? But also from a policy and advocacy level. And I think that, particularly, a lot of practitioners, even like ourselves, we've spent a lot of time working really hard. I think the Midwest in general is a place of hard workers. But we've forgotten about policy and advocacy. So we're working up against bad policy almost as a workaround.

The other thing that I sort of wanted to lift up is that we often talk about the community as other way too much. Right? As a person that lives in the Glenville neighborhood, which is one of these neighborhoods that surrounds University Circle and all this incredible activity happening there, I don't see it as those folks in Hough and us folks over in Glenville. Right? It's all of us. And I think that we have not done a great job articulating the value proposition for all of us. Right? Like not how I'm helping you out because you somehow have less, but how these advancements impact all of us. And how you articulate that value matters.

Because I think that folks -- I spent most of my career in philanthropy and it amazed me when philanthropy would create something, take it to the community as an afterthought, and it was an afterthought, and then blame the community when the

community didn't adopt that solution. And then literally you would sit in meetings where you would hear folks say things like, I don't know why they didn't -- right? Like they had nothing to do with the creation of this. So they're not interested in the intervention. And so I think that when we talk to smart folks like Lev and Jennifer and Jeff we have to constantly be thinking about, like, how do we articulate the value of these investments to people. Lev brought up the Opportunity Corridor, which is a great example of a thing that all the community knows about right now is a $350 million road going through five low income communities. The end. Right? So I think that we're in our -- in these types of rooms we can start to imagine the possibilities on the Opportunity Corridor. That has not been articulated to people. Right? And so they don't feel positive about the opportunity on the corridor. They know road coming through my community.

And I think the last thing that I wanted to say, and this is something that we're working really hard with Jeff and Lev and others on, is this idea of, we know that there is tremendous impact -- or opportunity for workforce and economic development from these investments in broadband. Lev talks a lot about the, you know, big open data hub, which we know

we have to articulate to both ourselves and the community, what that means. It sounds cool. But for a lot of folks, it sounds like the Jetsons, right, like we have no idea what that means.

And so when we're thinking about work, particularly workforce opportunities, we have to move beyond the entry level opportunities to think about once I get you in the door, like what does the career path look like. Because I think that what we're really starting to see in the city of Cleveland, from our own efforts, is that we did -- we have done a pretty decent job creating the maintenance job, right, like the $8 to $10 an hour. And we're starting to see that though poor, and though disenfranchised, people are starting to opt out of those opportunities. Because it's almost better -- it begins to impact their lives in ways that I think we often don't understand. If I take you off of public benefits to give you the $8 an hour job, it doesn't really improve your quality of life. And so I think that that's what I appreciate about the work that Jeff and Lev and others are doing, also thinking about quality of life up front. If that's the entry point, what does the pathway look like?

MR. CALLAHAN: Well, so I'm going to talk about some very specific things having to do with

folks who are not part of that scene. One thing conceptually. I don't want to do a lot of conceptual stuff here. I actually want to run some numbers. But I do want to say that there's another kind of displacement going on, one which I think is considerably more politically incorrect to mention in this room than anything else somebody's mentioned, which is the degree to which people are being confronted with a world in which all the action is someplace they can't go. And I'm talking about employment. I'm talking about politics. I'm also talking about health care.

It isn't they couldn't go there if they knew how. It isn't that the path to there is completely inaccessible. But it is that people are gleefully moving all kinds of mainstream social activities and values basically on the other side of a wall, that it costs you at least, you know, a few hundred bucks and fifty bucks a month to transit to. And we pay very, very little attention to the social consequences or the equity consequences of gleefully moving things to the other side of that wall.

So let me talk about some of the numbers connected to what we call digital exclusion in the city. Because we have a lot of numbers. We have lots of data about this at this point. There is no reason

to have a vague discussion about this. Right? Fifty-four percent of all Cleveland households were without fixed broadband internet service in their homes in 2014. Fifty-four percent. That's the American Community Survey, most recent data. There are 42 percent of the households in this city make less than $20,000 a year. Of those households, 59 percent reported to the census that they have no home internet service of any kind, including mobile. Let me repeat that. Including mobile. Fifty-nine percent reported having no home internet service of any kind. That's of the 40 percent of our community which makes less than $20,000 a year. That's the ACS, right, most recent data.

OneCommunity, when a number of us were working there on a big broadband technology opportunity program, between 2010 and 2012, hired a couple of folks, Karen Mossberger, in fact, who I think the Commissioner may know, from Arizona State University, did a poll of the county for us. It was 1,261 adult Cuyahoga County residents. This was in October of 2012. So a little -- getting a little old, but not much. In that poll, what we found was that 50 percent of county residents, not city, county residents with household incomes below $20,000 said that they use the internet anywhere, anytime. Fifty-

seven percent, which is to say more than 40 percent of county residents, adults, never used the internet anywhere. All right?

Among Medicaid recipients, to get to the point of this discussion, right, only 42 percent had broadband internet at home, countywide. And of residents age 65 or older, again county residents, 61 percent of county residents said they use the internet anywhere.

So we're talking about very large cohorts of the local population who are simply not connected. Where do those people live? Well, the FCC provides us a lot of data about this now through the Form 477 data, which at some point somebody needs to tell me when the new ones are going to be released. And I just want to say that in this city, out of 175 census tracts, 118 were in the lowest two categories of connectivity in that Form 477 data, which is a complicated way of saying, had fewer than 40 percent of their households connected to DSL or cable. All right? Fixed broadband. So that's 118 out of 175. And if you look at what those 118 census tracts were, they are census tracts which are above 25 percent poverty. Period. Two of the low connection census tracts were not below -- above 25 percent poverty. This is about poor people, pure and simple. I'm

saying that so clearly because there's a lot of confusion about it. And I think the data begins to tell us that, really, there's no reason to be confused.

The third thing I want to share is this. There's a lot of question raised about the degree to which people understand the value of what's out there if they could just get to a connection to get to it. So I want to share a little story. In the project that's called Connect Your Community -- which is why we're called Connect Your Community 2.0 -- that OneCommunity sponsored with BTOP, that I was the manager of, Wanda was very much involved in, a lot of other folks in town were involved in, we trained about 8,000 people in this county over the course of two years. About 5,000 of them, we were able to verify, came out the other end as, quote, sustainable broadband adopters, meaning that they got connectivity at home. All right?

And then we did a poll of those guys. We did a survey, a sample of about 2,300 of those folks. Seventy-eight percent said they still had high-speed broadband in their house, you know, a year after they had gone through that. So we were very happy about that. But of those still connected individuals, 75 percent said that they had used the internet to find

health information. And 29 percent said that they had used their computers and internet connections to communicate with their hospitals or doctors. Those are new home broadband adopters. Right? People are not that oblivious to the value of this technology. They just can't afford this technology. That is a fact.

So those are -- that's the data that I wanted to share about the city. I do want to say that, since we haven't really talked about it, that the solutions to these things, aside from the engagement and training solutions, which I think we know a great deal about how to do, it's a high touch not high tech process, it involves trusted institutions. Wanda's going to talk about that. But I want to say that steps that the Commission has taken recently, or is in the process of taking, specifically with Commissioner Clyburn's leadership, can take us a long way in the direction of getting that right. Next summer if everything goes well, everybody in the city of Cleveland who's in the SNAP program is going to be able to get $10 a month broadband. Thank you, Commissioner Clyburn. Through AT&T, right? There's a lifeline proceeding now, which is looking at the same problem. All right? We are looking forward to maybe getting something similar out of the charter case.

But the point is, there are policy solutions that can address these cost issues. And at the same time, we've got to be thinking then, once those solutions are available, about how to get people in the community setting to learn how to use the technology and to make the most of it. And we believe that's a community solution. It's not complicated. It's not a mystery. It's not rocket science. It's people helping people.

MS. DAVIS: I'm Wanda Davis and I just want to actually add to what Bill has said as being one of the trainers, especially for seniors. Our target audience has always been seniors. But we do have an intergenerational component of our center. What we do know through the experience that we've had is that training is an intimate part of adoption. Without the training, all the infrastructure is there, we may even have some access. But the adoption won't take place unless folks are trained. And once that happens, then you have a complete program. You have access and then you have folks that know how to use it. So that's the main thing. And all this great innovation is fantastic, and we're doing all this for all of the population to be able to take advantage of, not just those that have an upper educational level.

And the folks we train, we know that they

have to have an entry level basic training and then be pushed on to the higher educational level. And that's one of the reasons why I continue to fight, and have a passion for it, and continue to remain in the community and keep training available. But the training can be there, and if they can't go home and access it, because the center is closed, or the library is closed, then the gap remains. So we have to make sure that we do get that access available to everybody.

I was fortunate enough to work with a project with Dr. Adam Perzynski, a MyChart program that he definitely is taking care of doing an analysis for. And we were able to go to Stephanie Tubbs Jones Cleveland Clinic Center and we were able to do a couple trainings on the West Side. And we also did trainings at the Ashbury Center. And we have a small cohort of about 50 folks that did not know how to use MyChart. They might have had -- even had chart numbers, but didn't access it because they were given the numbers, but they're not taught how to access and take advantage of it.

So we did have an opportunity to work with these 50 people. A couple had training. Some didn't. But after the training -- and this is about a four-hour training that we take them intensively through

the Cleveland Clinic portal and then the MetroHealth portal and we show them how to actually access the information and then if they have questions beyond what they have looked at, they can actually access other information that's available to help them understand what's going on with their health issue.

After the training -- before the training, no interest. I have it, but hadn't thought about it. After the training, we can say at least 80 percent of them said, yes, I want it. Yes, I want to use it. And can we do the training again so they can be more acclimated to using it. So training is a key part of everything that we do. We know that that training component has to be there. But we also know that we have to have access.

You know, we had -- I was fortunate enough to be part of the program with Mobile Citizen Beacon, which was CLEAR at the time in which we were losing that, and I was actually going to turn over to -- CLEAR has been bought by Sprint. And so we had almost unlimited access for our folks to go home and use so they wouldn't have to see the little buffering thing going around while they were trying to access the MyChart portal. That's a big problem. You know, they need to have access that's useable, not just a downgrade, watered down version of access, but access

that's useable. Because if they have -- and I do have testimonies from folks that have children at home. And the children tried to use the access for homework. But if you water it down, you got four kids at home, you got the parents at home, and everybody's trying to use the internet at one time. What's going to happen, in a watered down version of unlimited? So we have to keep in mind that as we accept companies coming in, and throwing us out a little something for our neighborhoods, we have to say that what they've given us needs to be useable. It needs to be accessible. If I have a kid, four kids trying to study math and science, and only one kid can get on line at a time, that's a big problem.

And then we have -- now we have folks that are actually losing their internet service because of this merger between Sprint and CLEAR, and so now they have to try and go to the library again where they did have access. They got four kids getting out of school at four different times and they have to try to go gather them all up to get to the library. Well, when they get to the library or a computer center there's not enough terminals available. So, you know, it goes on and on and on. So I want to say that what I'd like our Commissioner to think about is that as you're thinking about legislation, or what you can do to

improve things for us here, access is definitely one of the main things that we need to have. But it has to go hand in hand with training.

MR. PAGANINI: Can I just comment on that? That was awesome. One point about that is, not only are you training these people on how to use electronic medical records, that's what MyChart is, it's the patient portal. But you're teaching them that they can be empowered now to manage their own health care. And I think that's really the exciting aspect of what you're doing. So I just wanted to comment on that. It's a much bigger picture. I can control my own records. I can manage my own health and these are the tools, as you mentioned, that I need now.

MS. DAVIS: I'm glad you mentioned that. Because of the fact that that's one of the main reasons why they were excited once they did learn about the program, about MyChart portal, or the University portal is that the fact that they can go in and manage their health. You know? So I was -- we were fortunate enough when we worked with Adam. His team was actually there in our training and actually helped the individuals, you know, look at their medical information. And we were glad that they agreed to help us, because that's another whole area. You know, we can do the training, but we need the

experts to do the interpretation. And so they were there and they were able to help each and every one to actually work through the portal.

And it's just amazing how once they see that they can see their own information, and that they can help maintain a healthy lifestyle from there, is really important.

And one last thing about the health, with our own little program, is that we actually helped them learn how to use online health information also. They have a lot of things that you can use to track your weight, track your walking, track this and, you know, so they're able to actually access a lot of information that they wouldn't do without training.

MR. PAGANINI: One more comment on that is that we've had some sessions in here with the local community college where we had scavenger hunts. So we had students from inner city grammar schools, high school students, and they would come here and we set up all the computers and we gave them access to an EMR. And we said, okay, go find the patient name. Go find your doctor's name. And so it was a fun game, but they really got used to using an electronic medical record probably for the first time in their lives. And, so, interesting experiments.

DR. SHAIKH: I just want to say something.

I think it's really interesting -- oh, sorry. So I was going to suggest that in terms of adoption, there are three primary inhibitors of adoption, and it's digital literacy, the value proposition and cost. And it's interesting that you guys individually addressed all of these.

What we'd be curious in understanding is, are there models in which you see the community participating in coming up with a sustainable process within which the community benefits and also financially it's a sustainable proposition for the companies as well?

MR. CALLAHAN: Well, we're working on it. That's why Connect Your Community 2.0 exists is because we got used to having money to spend during the BTOP era. We like it and we'd like to be able to do some more of it.

But I have to say that the -- it's important to recognize that there is actually a return on investment, which is not being realized. I think probably Mrs. Davis has signed, what do you think, a couple thousand people up for AT&T?

MS. DAVIS: Yes.

MR. CALLAHAN: Maybe a couple thousand for Time Warner. Nobody has offered her any finder's fees. The average customer acquisition cost for those

companies is in the hundreds of dollars. They're simply realizing that. And, incidentally, BTOP did a lot of free prospecting for private companies. So there's that. But there's also the fact that hospitals who have meaningful use requirements that they need to meet for Medicaid users of MyChart and other PHRs, banks who are actually going to have some community reinvestment problems as they begin to move branches out of neighborhoods, various other entities actually have a really serious financial stake in having the digital divide overcome.

And I have to tell you as somebody who has been working in this for 20 years, the only time there's been any significant investment in this problem by anybody is the BTOP program. That's it. Right?

So we believe there's a reasonable basis for investment partnerships that are sustainable, because there's a lot of return on that investment, but it isn't happening yet.

MS. DAVIS: I agree with Bill. I don't know of any sustainable model yet. But I do know this, it can be created throughout with the partnerships of the health organizations and the financial institutions and even innovative projects like the corridor. The partnership would be for the low to moderate income

folks to actually have access at an affordable rate.

Now, we were able to provide through our Mobile Citizen, Mobile Beacon program $10 a month internet service. And they had to pay an up-front fee for their modem. And I would say of the more than 2,000 accounts that we were able to actually have access to, the folks had to pay $175 for their initial purchase, which actually paid for their internet service for a year. And we're hoping that that service does not, you know -- comes back, but right now it doesn't exist any more.

But that was affordable. I think the AT&T is going to be something similar, if they don't tack a lot of fees onto the $9.95 and then it winds up being $20 again.

COMMISSIONER CLYBURN: I think you'll be reasonably pleased, compared to what you just defined, what was committed to.

MS. DAVIS: Wonderful. That would be it, so. And with the training, if all the other organizations can come around and assist with the training, then we'll have a win project.

MR. BARTOLOME: Do you have anything else to add, Evelyn? Boy, there's quite a bit of information that we can certainly learn from all of you. And I just wanted to point out that we're likely to issue a

public notice in the next couple of weeks on a variety of issues. And we would like to encourage all of you to submit comments in response to that public notice, because a lot of the information we're gathering now is so important. Particularly a lot of the urban issues. Because I think there's some misunderstanding sometimes that a lot of these issues are more extent in rural areas, but we're hearing a lot of significant issues also in the urban environment. So we're hoping that you guys will contribute.

And I apologize that we're sort of running a bit behind. But why don't we go ahead and listen to the next two presentations, one from Dr. Sheon and the next one from Dr. Perzynski, about urban health issues, disparity issues, and the study that Dr. Perzynski recently did.

DR. SHEON: Thank you very much. And I'm going to skip around in my slides because I think there's a fair amount of material that has been covered already. But a lot of the innovation that has gone on in Cleveland has been related to health care. And so we've had a very large project that has over 70 percent of the primary care population who are in programs that are using data from electronic health records to look at the quality of care and then the care outcomes. And those practices report get

reported on the quality of care, and they compete against each other, but also learn from each other. And there's a sense that as a result of this, it's actually driving down disparities in the quality of care. The outcomes are much more difficult to achieve. There's been an innovative program with getting -- giving cell phones to the frequent flyers in emergency rooms so that they can -- before they go to an emergency room, they have somebody that they can call directly.

However, that is not really -- those kind of things aren't really going to move the needle. We have a 24 year difference in life expectancy across the eight miles of the area of Northeast Ohio that you see here. And health care, we know, only explains about 20 percent of differences in health outcomes. So we know that what we really need to focus on here is all those other things that can make a difference in health outcomes. So there have been many references to the medical hackathon that was held here a few weeks ago; it was Cleveland's first big hackathon. And when this was initially envisioned, the focus was on patient safety and identity management, deduplication, et cetera, and engaging patients.

My project, the Health Data Matters project,

had also been planning a hackathon. We joined forces with them and added a community health and wellness track to focus on the other 80 percent of things that are responsible for health care. And when you think about what makes an impact on people's health, we use the population health pyramid that says that counseling and education take the greatest amount of resources, but make the least impact. So this is a paradigm developed by the Director of the Centers for Disease Control, showing that clinical interventions then make more of an impact, long lasting protective interventions make a bigger impact. Changing the context, making it easier to live a healthy lifestyle, makes a much bigger difference. And the biggest difference we can make in health is around addressing socioeconomic factors. So what I've added over here are ways that technology can be used at each of these levels. So that was kind of what framed the hackathon that we held a few weeks ago.

And so we started with the Health Data Matters, which is our community health open data portal, where people can get access to the individual records of the half a million phone calls that have come into the United Way over the last two years. So we challenge the participants in the hackathon to say, how can you use that as data to then be possibly

predicting of where there might be outbreaks of violence or drug overdoses. We had data on 30,000 deaths that had been examined by the medical examiner. Plus, we had that information on broadband access at the census track level. So, for example, being able to know what's trending in the United Way phone calls, can we come up with predictive models that will let us know, well, if the weather conditions are such and such, we know that we're going to expect a lot of heatstroke among elderly people, so we need to open the shelters or what have you.

There was a remarkable, remarkable study a year or so ago that showed that the amount of negative language in tweets was a better predictor of cardiovascular mortality at the county level than is all of the traditional ways we use in public health to predict cardiovascular mortality. So can we be mining Twitter for, you know, again, predictions and understanding how are we doing as a community.

At the hackathon we had a company called Validic that came out from California. They aggregate data from all different activity tracking devices and remote patient monitoring devices. And, ordinarily, what they focus on is sending those data to electronic health records and the kind of things we've heard about today. But we challenged our participants at

the hackathon to consider how data from those devices can be used at a more policy and community level. So for governments to improve access to where are people recreating and where is there a need for more green space, for community organizations that could partner with people and using those devices. And then for research, to understand health disparities.

So I know I kind of moved into the second section, but I won't have to talk again after this. This was a sort of scene from our hackathon, and you'll hear from some of our wonderful participants. But you know what really came out of that is that there is not a business model whereby the public health and community organizations can foster this kind of innovation, and sustain the kind of wonderful inventions that were developed at the hackathon. So we published a piece in *The Plain Dealer* about that a couple weeks ago. And we've started a meet-up group on public health and innovation, so that we can keep the conversation going in between times.

MR. BARTOLOME: Dr. Perzynski.

DR. PERZYNSKI: All right. Well, I'm really humbled to be part of this outstanding group of experts. And I'm just going to tell you quickly about a project that we did at MetroHealth in cooperation with Bill and Connect Your Community. My

collaborators at Metro are Mary Jo Roach, another sociologist, and Doug Einstadter, an internist, Doug Gunzler, a biostatistician. The software MyChart was mentioned. We think of it as a personal health record or a patient portal. I'm going to use those synonymously. And there's some evidence that shows that the patient health record can improve the quality of care and actually improve outcomes. This study, by Lau and colleagues, found that people who used the patient portal were more likely to achieve an A1C of less than 7, which is an important benchmark. I mean, maybe, we'd like them to go even lower these days, but that's an important clinical benchmark.

There are several federal financial incentives for large systems, especially, but even smaller systems, to use PHRs. The most recent is part of the most recent set of meaningful use criteria which, in order to get this sort of lump sum incentive payment, 10 percent of all of your patients -- 10 percent of every provider's patients, so at the level of each provider, need to send a message to their provider via the personal health record or patient portal. So when you meet that -- there are other criteria, but it's a sort of all or nothing game, where if you don't meet that, well, you don't get the money.

And our hypothesis here was that differences in the uptake of PHRs could, in the long term, increase or exacerbate health disparities. But first we decided to look at MyChart. So this is my MyChart account. And I would just like to put this up here because not everyone has used one or has an idea. And there are some important things that you can do. So Wanda and Bill are familiar with this because they are training people how to use it. One of the novel things in here is I can schedule an appointment with my doctor. Right? And it is awesome, right? I don't have to call anybody. I can just go in there. I can see their whole schedule. I'm a busy guy, I've got three kids. You know, my wife has a job, too. We're, you know -- oh, look, right there. Friday, 2 p.m. I'm in. I click in there and I have an appointment.

In addition to all of the other things that you can do, like have correspondence with your doctor and view your test results, there are features in here that are enabling and empowering, as I think was mentioned earlier, that really are not accessible to individuals in other formats.

So Bill kind of covered the data aspects about the situation in Cleveland. I'm not going to belabor that. We really wanted to look at whether uptake of the PHR varied according to common

demographic characteristics: sex, race, ethnicity, age, insurance datas, and disability. And then also we wanted to look at whether access to the PHR differed by neighborhood.

So we looked at all of the patients at MetroHealth between January 2012 and May 2015. We took their demographic data out of our electronic medical record. And we used their addresses to geocode their census tracked of residence. And then we took the data from the FCC Form 477 on broadband coverage in the neighborhood as coded from their residence from the electronic record. And we defined uptake of the PHRs, did they log in once.

So in that period we had just over 300,000 patients who had one office visit. So we excluded -- you had to be a patient who came in and had a visit to make it into this sampling frame. These folks are relatively young, as compared to the county as a whole. The race ethnicity was about 48 percent white, a little less than 40 percent black, six and a half percent Hispanic, and another seven percent of other folks. MetroHealth is a public hospital. So almost half of our patients are on Medicaid and another 11 percent are uninsured. So we're not necessarily reflective of the nation in that way, but we're definitely reflective of urban areas serving

vulnerable populations.

So here's what we find when we look at everybody. We see that only about a quarter use MyChart, which is, for our peer institutions, we're actually doing great. We are. So for our peer public hospitals nationwide, we might be doing twice as good as most of the other places. If we look at that by age, we can see we do pretty poorly among the oldest old, and 65 to 79 year olds are at the average, but then younger folks, we do a little bit better. And for -- this one is actually a surprise to me -- where we find that men are less likely to use MyChart than women. We don't really have a clear explanation for this. They're also less likely to use health care. They put off using the doctor. We think there's probably some relationship there. By race and ethnicity we find that blacks and Hispanics have a dramatically lower rate of ever first time log in to MyChart. By insurance status we find that Medicaid and uninsured people have a dramatically lower rate than commercially insured folks. And the Medicare folks, it's still, it's also lower than the commercially insured folks. So that one is probably more reflective of age. But the other two are probably not age associated, because we know that those folks aren't old when they're on Medicaid.

This is sort of the most important slide in this deck. And it shows the percentage of people along the -- I guess to your left -- the Y axis there, who use or log -- and by use we mean they logged into MyChart once. And on the X axis are the 477 categories from zero to 20 percent use of internet at the neighborhood level, to 20 to 40 percent, 40 to 60, 60 to 80, 80 to 100. And this is a really dramatic difference. So that if you live in a neighborhood that, where most people do not have internet, then the vast majority of folks will -- in those neighborhoods, will also never use MyChart. And I think, you know, Myron raised a -- you know, brought up a historical pattern of redlining. And you can see certain neighborhoods. And Bill had -- in his handout, had a nice sort of a picture of that. I think this is really reflective of that.

My Center Director, Randy Cebul, when I first showed him this slide, he said this is the new redlining. And he felt like, you know -- and there's another constraint here on the provider end, which is that this also constrains our ability to be -- as a health care system at Metro, to be able to continue to meet meaningful use and incentive dollars. And it's sort of not just redlining individuals, it redlines our institution. Right? That data, because of this

constraint, that money from meaningful use incentives, we are constrained in our ability to do that. It is much harder for us if households don't have the ability to ever access MyChart, because they are in these communities that don't have internet. We really have an uphill climb to be able to reach that. And our patients are, in turn, sort of systematically denied the ability to do the easy thing like log in and click to select an appointment with your doctor. I mean, using the phone system to make an appointment is something that I never want to do again. So it is that much better. You know, being able to just go there and know that your test results are always there, as opposed to that after-visit summary, that who knows where you stuffed it, in your pocket when you were all stressed out, that had your lab results on it. You know, it's sort of always there. You don't have to call someone. You can go right back to it. I think that the -- they may seem a little smallish, the features of the PHR right now, but they are really transformative in terms of a person's use of their health -- use for health. So I'm not going to spend much time on that.

We also looked at -- I'll just mention briefly. We looked at across categories of demographic characteristics in addition to how much

people use the MyChart, once they have signed up. And we find similar barriers. So that folks across, so the same groups that were disadvantaged, older folks, racial and ethnic minorities, persons with Medicaid or who were uninsured, even when they do get signed up, they tend to use the PHR in all categories less than users in the other categories. So this to me is reflective of Wanda's point about training. So that in -- you can't just give somebody internet and sign them up. Give them the code and send them home. There needs to be, well, here's how you use this feature of the personal health record. And that's really all I've got. If you guys have questions, that would be great. I'd love to hear more of your thoughts and discussion. And I know everybody, like me, is anxious for a break.

MR. BARTOLOME: Yeah, exactly. That's what I was about to announce. If we could just hold off on the questions. Let's just take a few minutes. There's some coffee outside and use the facilities, of course. And just come back in a few minutes and then we'll start with the last segment.

(5 minute break)

MR. BARTOLOME: We can get seated and resume the last segment of our program. And there's going to be a presentation from John Sharp of HIMSS and then a

couple of the hackathon presentations.

MR. SHARP: Okay. I appreciate the networking that's going on, but I'll keep this brief so we can move on to the hackathon presentations. I'm just going to give a brief overview of some of the communication-based health and health care solutions that are going on today.

There are a lot of different ways of categorizing these: direct to consumer; devices and apps we've been talking about; clinical mobility, which is actually among health care providers; remote consults; and even telemedicine centers now being established within health care organizations. And there's a range of solutions. These are mostly the direct-to-patient or patient provider type solutions with an increasing level of complexity. Probably at the top is remote patient monitoring which requires really medical grade health monitoring devices, whereas a lot of consumer graded devices are being used out there, best known as the Fitbit and e-visits, and so on. And we mentioned patient portals, including secure messaging, as an important one.

But at the top, one of the simplest ones was briefly mentioned, is texting. And many underserved populations do have access to texting, but it's being underutilized. Again, at MetroHealth here in

Cleveland, there are some pilot projects to use texting as appointment reminders, particularly for vaccines, vaccinations.

Benefits to patients. We've been talking about a lot of these already: at-home care, convenience and time saving, as Adam mentioned. One that hasn't been mentioned, patients with disabilities, who have real challenges getting medical appointments, and it could improve their access. Early discharge and home monitoring of chronic illness, we're just beginning to see. Again, a lot of these things are in the pilot stage yet to really take off more broadly, but are being incentivized by value based reimbursement as opposed -- with that change, I think there are a lot of incentives and access for patients to multiple disciplinary care teams, which helps reduce time between referral and consultation.

And some other trends are an increase in adoption from our own survey of telemedicine. One example being remote patient monitoring after surgery. A recent study showed low complication rates and high satisfaction. Telehealth, just I heard recently an example from a Saudi hospital, where there's real reluctance for women to show their faces on video, actually saw video visits for stoma patients reduce ER visits by 70 percent. So I think there are a lot of

aspects of telemedicine yet to be tapped and used more broadly. Telemedicine and telepsychiatry are showing potential. And ER follow-up, we had our own case study from George Washington University Medical Center using telemedicine as a follow-up to emergency room visits to prevent future emergency room visits.

But as we've been talking about, a big part of this is disparities. And as was being discussed, it made me think, too, in terms of incentives. Under meaningful use stage 3, the incentives are actually reduced to do a lot of this and actually making exceptions for areas with low broadband access. So by doing that exceptions, some of the incentives are being reduced. But I think where the incentives are changing are, again, value based care and accountable care organizations where the reimbursement is made based on outcomes. And if you don't have a direct connection with your patients at home, you're not going to be able to be successful in population health, in my opinion.

A lot of these are more questions than answers. And one that we've been talking about are computers and libraries in community centers, adequate alternatives. I think in the short term, maybe. In the long term, probably not. Barriers include the last mile access and access to mobile devices.

Someone at -- I was recently at the ONC conference on Consumer Health IT in Washington and someone brought up the issue in high crime areas in poor neighborhoods, if someone is given a mobile device, or has one, a big concern is theft. You know, we don't think of it in our suburban minds about that issue. Successful -- there are good news, though, like successful pilots of Medicaid patients using texting to inform on vaccinations and appointments and other health reminders like Text to Baby. So there are some hopeful signs. But there's still some major barriers here.

And so I hope this is good lead-in to some of our hackathon winners. So we can move right on.

MR. BARTOLOME: And we are honored to have three teams from the recent Cleveland Medical Hackathon, who just came up with some really terrific potential connective solutions that the Commissioner and the Commission is interested in hearing about. We'll begin with the team from the Cleveland Clinic, followed by the team from MetroHealth Case Western, and then the Cleveland Public Health Department.

MR. IOSUB: Hi, this is John and Heather. Rob could not make it. He has a good excuse. He's presenting also here in this building in a different venue. So thank you for having us. We're very

hopeful to present our simple idea to you.

I think we have heard a lot about reduction of costs. Everybody understands the need. We're talking about Medicare, primarily lead, changing to a population based payment method system. And the only way to compete in the new world for the hospitals would be to reduce costs. So one way to do it is to, of course, engage in activities that would prevent, you know, unneeded hospitalizations, visits to the hospitals, to EDs, whether they're observation or in-patient.

One way to do that is to enhance the role of so-called peer supporters, which are present in the community. And they're already doing a phenomenal job. So what we're proposing here is a better way to cement this relationship which will lead to reduction in costs long term. Is there pay off? By all means. Again, population based payment or ACOs that are being piloted right now by Medicare throughout the country. There really -- there's no better way to say it. It is really a capitation of revenue. You're talking about a fixed revenue per patient per month or per year. So you really have to take action, you know, towards the well-being of the patient. And where hospitalizations are not necessary, you need to do the best you can to prevent those.

We cannot do these things without those peer supporters that were mentioned by many national studies. And that is one way to move forward. I believe that hospitals need to drive this because they have the most to lose, due to those costs. But everybody loses if we don't act appropriately and cement those relationships.

Just to give you a perspective. The 2009 spending per enrollee was about $10,000. I'm talking about Medicare patients. And Ohio closely matches the national average. And I think with people with disabilities, we have about 1.9 million beneficiaries in Ohio, I think without -- maybe it's closer to 1.5, give or take. So what are we talking about here? We're talking about the conversions of needs. So the hospitals, they need patients when they're discharged to go home. They need to understand their condition. They need to follow the discharge plan. They need to take their medications in time. Maybe they need ambulation. Whatever it is that was prescribed, they need to truly internalize that and change their -- possibly change their lifestyle in the case of chronic conditions so that they can learn how to manage their condition.

Now, the community resources, they're always available and always have been. However, they have

limited funding. They need to direct their help in ways that maximizes the funding that they have. But they definitely have the same goal. Ultimately, what we're talking about, our niche of patients, is that they need to feel safe. They have to feel that they're within reach of the loved ones, of the peer supporters. They -- ultimately, this is what is important for them. And at the confluence of all these needs, we have this patient well-being, which is the core component that will lead to -- ultimately, to reducing costs. Again, unnecessary costs.

So you've heard a little bit earlier about the digital divide and definitely there's -- we have quite good numbers that are from the Pew Research Center. They talk about adoption of, let's say, smart phone technology. We're looking at 18 percent for those that are 65 years or older. If you further break that down by income, you could go as low adoption as eight percent. And I apologize, I don't quite know what the true number is for the city of Cleveland. So we're really saying that maybe our elderly are not that tech savvy. In fact, if anecdotally conducting various conversations with people, some of them are technology averse. So all of these create issues. We're dealing with cognitive decline. Some of them are harder to reach. We

understand this need. Okay? How do we get them better connected with a hospital, with their peer supporters, and with their loved ones?

So if we think about it for a second, what we're proposing here is for those patients that are being discharged from the hospital, that are identified to fall within that need, that we would be able to give them a device, which is, in essence, a very low cost smart phone. It could be an Android. You can find those for less than $20 nowadays. And this would only have very simple preprogrammed contacts, a very simple interface. So the appearance would be very, very low tech. It will be inviting. It will be noninvasive. It will be noninvasive. And it would open the door for the patients to stay in touch with the peer supporters in the community, with the hospitals, the care coordination teams, nurse on call, and so forth, and their close ones. Of course, 911 should be there as an option.

Now, what we're also talking about, this is not just, let's preprogram some speed dials. This is not what it is about. We want this, on surface, low tech appearance has a lot of high tech behind the scenes. We're talking about collecting analytics from these patients in need by asking strategic questions that speak to their discharge plan from the hospital.

Things like: Have you taken your medication today? Or do you remember when? And then they would answer yes or no. And maybe in the first few days after discharge they would maybe answer three or four questions every day and then gradually less and less.

Now, we would collect on the back end the analytics. And depending on their answers, we can trigger actions that would say, look, let's redirect these care coordination efforts, or peer support efforts, from the community towards these patients that have answered no to most of these questions. Clearly they have a need. Either they discharged too fast, they did not pay attention, or simply they just were anxious to get back home and they do not quite yet understand what they need to do. Maybe they're real issues. Have you taken your medication? No. Well, we're in day 5. We don't want you to come back to the hospital. And if you don't take this medication, given your condition, you will be back in the hospital. So then you engage possibly a phone call from a care coordinator or a peer supporter. And they may identify further issues. Oh, they didn't take their medication because their neighbor helped him or her to go to CVS to get the medication. But the neighbor left and has now moved to Florida. So now you're looking at a social worker issue with

potential issues of neglect, and who knows what else is there.

So we're talking about capturing these things -- using analytics to capture these issues early on, because if we find out about them when they're back in the ED, it's too late. We've already incurred the cost. We're talking about adults that are possibly neglected, dehydrated, definitely behind their medication, in a much worse health situation. And there's really not much the hospital can do, other than just repeat whatever they've done the first time and then send them back home. We really need to make sure that some of these patients that deal with these literacy issues, or whatever other problems that prevent them from following the care that was prescribed, we need to capture them early on and stay with them doing that. And not all of them need it. Okay? Anyway, that was our idea for this minimalist type of a phone. We can call it phone, smart phone device.

There are several ways to deal with some of the privacy issues. I mean, can you sort of lock it down? Is it okay to call them directly? There's a lot of legal issues there, too. So those can be discussed at a later time probably. But there are ways to use analytics to go around those problems.

Again, the whole thing is, I mean I've looked at our visionaries here for 10 years, I mean, in amazement. They really want to help us all to get broadband and bring the future to us. And I think what we're trying to say is for some, with a certain portion of the population, probably we need to help them step into the future in more of a bottom-up approach, looking at their direct needs, and see if we can use high tech to satisfy those needs in the language that they understand and help them step into the new world. And we truly believe that -- we said elderly, but it's not just the elderly. You could have other impairments that would prevent you from using high tech.

But the belief is that, will it really make better, let's say grandma or grandpa, to put all those wearables and Fitbits, and measure their steps and heart monitors, and glucose monitors and -- you know, is it really going to make them feel better? And, frankly, I think that's going to make me feel better. But I'm going to feel that I've made my duty for them. But in reality, all they really need is to know that they are in touch very easily with the loved ones, with the care givers from the hospitals, their PCPs, and their peer supporters.

So if we can address that, then we can add

all the other wearables as well, one at a time. So just to really leading to the same thing, but coming from a different perspective. Thank you for your attention.

MR. BARTOLOME: Dr. Perzynski and Sarah.

MS. SHICK: So, to start off, I want to give you a real life example. This is me and my mom, two minority women. And we represent what this slide show and what this app is about.

The Healthy Mom Healthy Baby Health Risk Assessment was made for the Cleveland Medical Hackathon. In Cleveland -- well, in Ohio, we are 47th out of the 50 states in terms of infant mortality. That's death within the first year of life. And neighborhoods just a few miles from here have rates that are worse than Third World/developing countries. The national average, as you can see, is 6.1 deaths per thousand. Ohio is at 7.9. However, when you bring race into it, racial disparities into it, that's 16 deaths for African Americans in Ohio. And when you focus even more closely into Cleveland, that's 27 deaths per thousand.

Now, many efforts are focusing on already pregnant women, and we decided to try and help support efforts for all women of childbearing age. So we developed the Heathy Moms HRA (Health Risk Assessment)

App. And even a small reduction in the risk of things like smoking, alcohol use, family violence can bring down this infant mortality rate. The Healthy Moms HRA aligns with the goals of payment reform and community engagement. And one of the great strengths of this app is that it can be adapted to the needs of whatever group we're working with. If it's community outreach, we can tailor it to do neighborhood risk assessments before they go out for their outreach visit and be more focused on their efforts. Or for groups like MetroHealth Hospital, to focus when patients come in.

So our software structure, we have 29 questions that focus on critical health issues relating to increased risk of infant mortality: smoking, personal and family substance abuse, prenatal vitamins, diet, exercise, social support. We developed risk level appropriate educational messages for each answer choice within each question. And they're positive, supportive messages. Nobody likes to get yelled at. It shuts people down. So we're really trying to engage the patients. And our database is driven with data storage options for future analytics.

We devised our questionnaire and the appropriate messages from a variety of very well respected academic and scientific sources. And we

draw upon public and community data sources, from the Federal Communications Commission, from the U.S. Census. An amazing resource here in Cleveland, the NEO CANDO Database coming out of the Center -- Case Western Reserve Center on Urban Poverty and Community Development, as well as Cuyahoga County Invest in Children program. We have the investment and buy-in from key stakeholders, Cleveland Department of Public Health, nurses and physicians from throughout the Cleveland area, as well as experts in health disparities and health engagement and other local non-profits.

So how does it work? Well, we start off with asking women, do you plan on becoming pregnant? If so, when? A lot of women will say never, no, no babies. No, thank you. Well, we want to empower them and encourage them to take control over that, by utilizing long acting birth control, such as an IUD. Some women are concerned about fertility issues. Well, a lot of fertility issues, you may still become pregnant. And mental health is a risk factor for pregnancy problems and infant mortality. So we encourage women to reach out for counseling if they're dealing with infertility.

We also, again aligning with the scientificals in the literature, encourage women to

make a preconception pregnancy plan if they're thinking about becoming pregnant within a year. Now, it's important to note that we give the women the ability to toggle between answers so that they can educate themselves. Maybe they are taking a multivitamin, but want to know what would happen if they're not. So before they move forward, they can play with these answers and get the different feedback.

For women, even if you're not planning on becoming pregnant right now, almost half of pregnancies are unplanned. So we want to encourage women to just play it safe. Take your multivitamins so you have that folic acid. We also, again, give really positive excellent choice messages to keep women moving forward. Again, we address mental health, which is a key component. A lot of people think that only deals with themselves, but that can have negative impacts on pregnancy.

We connect women with a number of different educational resources. Myron Bennett mentioned the 211 first call for help. That is in a number of the different slides. We also here connect with the widely recognized 1-800-Quit-Now resource to help empower women to quit smoking. So none of us are perfect. We try and teach women also some alternative

solutions to outsmart their own bad habits. So if you know you're going to be using your phone, or you're likely to, we encourage you to set your music before you start driving, or put your phone in the backseat or even in the trunk, if you know you're likely to text and drive, or talk and drive. But also suggest sources like Uber if you've had too much to drink. Again, just to have it in their heads, and to set these patterns even before they become pregnant.

So in the end of the health risk assessment, we give women two reports. We give them a report on the pregnancy risk factors that can increase infant mortality: you know, healthy habits, driving, substance abuse, and other demographics. But we also provide a neighborhood risk assessment. And not included in this slide, that we are integrating in the current version of the health risk assessment, is also environmental pollution data from the EPA, which can increase the risk of certain birth complications and developmental and fetal disabilities. And we also consider the broadband access in this.

If a mother cannot access MyChart to make sure she is making it to her appointments, or to educate herself, that can have a negative impact on her pregnancy and also on the early childhood development. So this is our team and, again, the point

of doing this. Do you have any questions? No. Okay, thank you.

MS. SUNDARAM: Okay, so just to introduce myself again. My name is Vino Sundaram. I am an Epidemiologist with the Cleveland Health Department. And I must note that really I'm presenting not just on behalf of the Health Department, but really on behalf of the hackers that we worked with. We started with a very broad general idea. And these hackers listed here are -- I call them the hackers -- they really took our vision and ran with it and did a really fantastic job. And they did it all in one night. This was a started from scratch project, and they were up until three or four in the morning, you know, working on this. And we were very impressed. So I'm definitely honored to be able to present this idea to you all.

So the broad idea that we had was we wanted to look for an innovative and visual way to utilize social media -- social media analytics, excuse me -- to better understand health and illness trends and patterns in Cleveland. As an epidemiologist, I know I was very intrigued by this idea because I spend my days, and some evenings, doing lots of reports where there's a lot of words and numbers and charts and grafts, and that's all fine and dandy. But I don't

think the average person is looking through those reports.

I think the average person wants something that's visual that they can better grasp. So I definitely -- especially for this population in Cleveland, I was very intrigued and thrilled to present this idea.

And one of the other ideas that we had kind of to build off of that was to be able to use that visualization to better predict what was happening in Cleveland with different illnesses, using that social media analytics and the population health data that we had.

So the solution was a website platform where users can choose the health indicator that they might be interested in, the social media platform that they're interested in. So for example, Twitter, Facebook, Instagram, things like that, and the population health data that they might be interested in looking at as well. And so then after selecting all the variables, the interface would produce a map where the variables can all be added as various different layers in order to show the relationships between all these variables. And, again, you could just even just pick one variable if you want to look at one data point. You could just look at it

separately by itself on a map of Cleveland.

And so this was a slide that was entered in by one of the hackers. And so one of the things that they had to think about was the data visualization. The first question was to identify possible data sources. And the healthdatamatters.org website was really valuable with that. All of our data came from that website. And the hackers said that the data was very easy to work with, very easy to upload. So that's where they obtained a lot of the data to be able to do this.

A second step was to take a step back and look at the data pool. What data did we have? Did it have any use in our mission, our goals? What could it tell us? And this took a bulk of the time during the hackathon, just going through all the data sets and trying to figure out, okay, there's a million variables, but what are we really looking at, and what do we really want to do? That really took the bulk of the time. So after combing through the possibles, we refocused on our mission and used medical examiner death data to identify incidents in social media. So that's the Cuyahoga County Medical Examiner. They have a data set that's on healthdatamatters.org.

And through this, the important question develops. So we have data point X and data point Y.

Can they be overlaid? So the hackers utilized Google Maps API to do this. And so the technology, I will admit, I'm not a technology person. And, again, this was entered by the hackers. But I will just leave this up here. You guys can take a look and see. This is some of the technologies that they used to create this interface. And if you have any questions about that, I will have to give you their contact information, because I would not be able to answer that. I will be honest.

So this is -- I want to see if I can open this in Explorer. This is the interface. I can just take you through a really quick demo of it. And I should say this is very much in its infancy stage. Like I said, they worked on this just overnight. And what we're hoping to do is take this baseline of a project that we've developed so far and be able to hopefully obtain some funding. Hint, hint. Anybody? Some funding to be able to push this forward and really develop it out. Because like I said, right now, you see, it looks very, very basic. So let me take you through how this would work.

So for the hackathon, we decided to focus on the indicator of violence. At that time, there was just -- violence is a big, big topic here in Cleveland. So a user could go in, and let's say they

wanted to take a look at in a given time period the number of homicides, based on that medical examiner data. If you click on the homicides, you see a layer comes up. And basically the darker the color is, the higher the number of homicides in that area.

If you wanted to take a look at, during that same time period, how many United Way 211 calls came through pertaining to violence -- and that would be based on certain key words and things like that -- you click on that. It adds an additional layer, and you take a look at how those two interface.

Now, if you wanted to see, in that same time period, how many, let's say you're interested in Twitter specifically. You wanted to know how many tweets were pertaining to certain key words regarding violence. Click on that layer. And that would show you. Now, one of the glitches with this is that, you know, obviously, these Twitter users would have to have their locations public, which is a bit of a challenge. But, you know, in theory, we would hope, you know, as we push this forward, that this would maybe encompass all the different social media platforms, not just Twitter. So maybe there might be a little bit more social media data there.

And they had -- after the hackathon the hackers went in and added suicide data, probably from

the medical examiner's data as well, as another layer. So it would kind of look something like that. And, again, this definitely needs to get worked on to look a little bit more cleaner and have the layers be a little bit -- layer on top of each other a little bit more properly. But that's basically the idea. We want to provide a way for the public to go and visualize the data and take some control and initiative in the information that's out there.

Like I said, we have this all on reports and numbers. And all those things are great. But we think that the public might really actually enjoy something a little bit more interactive like this, in order to take a look at data. And they can have a better idea of what's actually going on in their communities as well. And we hope that in turn, this will spark a lot more community engagement and discussion and things of that nature.

So, like I said, this is very much in its infancy. But I know that Commissioner and Director both are very interested in trying to find ways that we can bring on some programmers, and get some funding, and really push this forward. And, actually, we have gotten some emails from some consulting firms after the hackathon that are very interested in helping us as well. So I think they're in the process

of maybe trying to see what they can do. But, again, you know, money's the key. Especially with being a Health Department, that's definitely always an issue for us. But it's an initiative that Director and Commissioner are very interested in.

And that was it for my presentation, actually. I can take any questions now or after the presentation. And, again, if you have any technology related questions, let me know and I can put you in touch with the hackers. Thank you, guys, so much.

MR. BARTOLOME: Does anyone have any last minute questions for the presenters? Okay. Well, thanks very much to Heather, John and Vino and Sarah. We'd be remiss in not recognizing that we're in a fantastic facility here, the Global Center for Health Innovation. And, certainly, just from the brief visit that we've had here, we've seen just some amazing things. And we wanted to acknowledge Fred DeGrandis, the Managing Director of the Global Center. Fred, do you want to say a few words about the Global Center before we break? That would be great.

MR. DeGRANDIS: Let me just, instead of going through so many pictures, be very quick with you and have you focus on -- let's see, I may open it up for one. There we go. Let me have you focus on just one element of what the Global Center is and what it

strives to be and, probably, much more importantly, how it connects to your effort.

All right. The Global Center is part of a large development project in Cleveland. When you put the whole development project together, which includes this Center, the Convention Center and the hotel next to us, you have an investment of nearly $750 million dollars in this community. Significant and large and designed around the principles of economic development and standing up, integrating, and collaborating a medical community that has grown very strong in silos. But has it grown strong enough in its interconnections? And so this Center is designed to be a place, a safe forum and a trusted forum where learning, collaboration, and innovation can take place to help our community, to help patients that are served, and to help care givers that support them.

So, over time, you can see the progression of where this Center was, originally as a showcase around the concept of a medical mart, in fact and close to the merchandise mart. But then over time moving to what you are today, convening dialogue. And we continue -- we offer that on a go-forward basis to convene dialogue around this topic and other topics that are important to the health care community and that can advance it.

We certainly want to look forward to more than what is here. And what is here is an amazing group of partners, in an amazing neighborhood, with an amazing showcase and display of what can happen when health care comes together in this kind of a forum. You are in the HIMSS Innovation Center, which is another remarkable part of this, that focuses on a couple very important things that John Paganini, I'm sure, can talk to you about. One of which is, how do we take the incredible data that's in health care software programs and assure that it goes across systems and processes. Something that's called interoperability, in a very complicated way, but in a way that says, you know, when my medical record is down the street and I happen to be going to another place, I would like my data available to my physician and my care givers. And what else do we care about? We care about it being available and we care about it being safe. And so that's what this Center focuses on: availability of the data and the safeness of the data and cyber security.

One really interesting piece of this, that is a go-forward part, is how does this Center, how does this great community asset, support the development of new companies that are standing themselves up in a process called incubation? And

then as we go forward, one other element that we are really ready to stand up, and that's relationships with universities, colleges, and others. Bringing the knowledge environment into this setting, not because of the physical attributes that are here, but because of the resources of the partners and the opportunity that that has to enhance content in education programs.

We will be very soon announcing a partnership with Case Western University, the Weatherhead School, which will be conducting many of its programs on this site and drawing from the talent that's here, to improve the content in the program.

And we know one thing: that by moving forward in the area of what is kind of a knowledge economy, we can also have the rest of the economy and the common good be served. What you struggle with, though, is a huge problem. What you're trying to -- you know, what I hear through the conversation that I've been privileged to listen to is the real difficulty in how do you make broadband capability available, accessible, and affordable? Which is really the challenge that the Commissioner has as one of the five people that serve on the Commission on our behalf. And it's the affordability part that I think is where the rub is. What's the role of us, who

represent our government, in advancing the common good of making broadband available and, yet, having the affordability and the business assets and all of the other issues around technology come together in a way that serve all of us?

And we offer really one thing. Not an answer to it. Because if you had it, you wouldn't be here. You're trying to figure it out. You're trying to figure out how important that is and how it can change not just statistics, but lives, and the lives of the people that are in this community and other communities. That's what you're trying to do. You're trying to improve that life. You're trying to help heal a patient, cure a patient, and help a family. It's a noble calling. Keep at it.

And how does this tool, broadband internet, support that? Is it in a kind of a -- you know, it becomes a commodity and a need and a requirement all at once. And that's really what I think you really are debating. So what we offer is a forum to convene all of you in that dialogue to continue to seek solutions and find answers.

We are going to have an opportunity to take the Commissioner around the Center. I know many of you know this place very well. I don't need to tell you about it. It is a great place. It is ours, this

community. It is our incredible asset that celebrates, you know, what is really great about health care in Cleveland and then how we've affected it around the globe. Because the partners that are here have local roots, but have international impact.

So I'm happy to answer any questions you have. I thank you for the work that you're doing. And I thank you for being in our facility, your home, which is the Global Center for Health Innovation, and an unbelievable Convention Center, and a hotel that's going to knock your socks off after it's, you know, kind of up and running. A 600 room, about 275 million or 250 million hotel. I think it's probably 240 is the budget, so they better stay there.

But, you know, all to do what? It's really not about anything else than growing the economics in our community that grows resources to address issues of the common good. And that's why all that we're part of, what has happened here, this incredible miracle that is lots of downtown Cleveland. Because I always say this, I said, who would have ever said this? Who would ever believe we could do this? A couple things. Number one, rebuild our Convention Center after years of staring at actually a really beautiful and stated Public Hall, but knowing it didn't meet our needs for convention business. And

then building a facility like this, with the neighbors who are here, which I think I have pretty easy for you, so you know who are they? My goodness, you know, they are these people all under one roof. All in the same neighborhood. All with the desire to collaborate. And then to be connected to what John's organization has brought in. Most recently you see Dell and Cerner coming in as collaborators. It's really an incredible neighborhood that we all put together. And now, you know, our duty as a community, is to continue to support it and use it the right way and make sure that this asset remains what it is, a trusted forum for the exchange of information and learning and collaboration. Thank you very much.

COMMISSIONER CLYBURN: Yes, so as Ben walks to the -- I want to thank you so very much for that. I can't think of an appropriate way to segue to, I'm sure, others going to other places throughout the building. And it's so interesting. Because I just left Chattanooga, Tennessee. And I was trying to figure out -- as people who are kind of forced to speak at breakfast at 7:30 in the morning, you try to figure out how to close a speech sometimes. I was sitting next to a minister and I said -- I was frantically writing and he said, what are you doing? I said, I'm trying to figure out how to say amen. And

when you said the thing you did, you're not going to believe that that was how I closed. It was the phrase that I saw on a briefing sheet for a company that laid gigabit fiber for Chattanooga under one roof.

And, you know, as we -- I don't know what Ben's instructions will be. But, you know, as we go forward in our various -- with our various charges, I think if we take that approach in mind, you know, that type of mind set, that we'll get it right. Because we can't afford to do things from a silo approach. We can't afford to dig more than once. We can't -- for all of these things we can't afford to do. And if we look at the entire, you know, Cleveland Metro area as being under one roof, we will take care -- it will reinforce the importance of taking care of every room in that house. And knowing every room is of a different size, has different, you know, requirements. Something might be a little weak here, or stronger here. But we know if we let one part of the infrastructure get deteriorated in one room, if we neglect it, then the entire structure will be at risk.

So I'm hopeful. This is how I am, you know, doing things. I think maybe it's how I always thought about it, just couldn't figure out how to message it. But if we were to be more conscious about it going forward, then I think some of the things that we think

are challenges now, be it economic, you know, different communities and how they process, all of these barriers will just slowly, but surely, go away. And we will recognize it, you know, if we pay attention to every square foot of that house, that we will have a powerful structure. So thank you so very much.

MR. BARTOLOME: Well, thank you all very much. It's been such a -- I think I can speak for the Commissioner, as well as my colleagues on the Task Force, that it's been such a privilege and an honor to be here in Cleveland and to listen to all of you and to learn from you. And we're certainly hoping that we'll continue to connect and engage and collaborate in future shared endeavors and policy approaches.

As I mentioned earlier, we're looking to issue a public comment, that we'll solicit public comment on a variety of issues, including the very issues that we discussed here. And we'll certainly make sure that you receive that. If not, just look out for it on the FCC's website. And we would invite you and encourage you to submit comments.

I understand there's lunch still available, you know, downstairs under the Exhibit Floor. I'm sure folks are very hungry. If you want to take advantage of that. But, again, thank you so much for

joining us. And we look forward to seeing you again in Cleveland or D.C.

(Whereupon, at 1:30 p.m., the roundtable concluded.)

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REPORTER'S CERTIFICATE

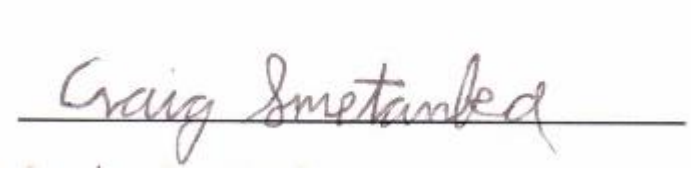
TITLE: Broadband Health Technology Roundtable

DATE: October 26, 2015

LOCATION: Cleveland, Ohio

I hereby certify that the proceedings are contained fully and accurately on the tapes and notes reported by me at the roundtable before the Connect2Health FCC Task Force.

Date: October 26, 2015



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