



Transcript

HEALTH INFORMATION TECHNOLOGY ADVISORY COMMITTEE (HITAC) PUBLIC HEALTH DATA SYSTEMS TASK FORCE 2021 MEETING

May 6, 2021, 10:30 a.m. – 12:00 p.m. ET

VIRTUAL



Speakers

Name	Organization	Role
Janet Hamilton	Council of State and Territorial Epidemiologists (CSTE)	Co-Chair
Carolyn Petersen	Individual	Co-Chair
Danielle Brooks	AmeriHealth Caritas	Member
Denise Chrysler	Network for Public Health Law	Member
Jim Daniel	Amazon Web Services	Member
Steven Eichner	Texas Department of State Health Services	Member
Ngozi Ezike	Illinois Department of Public Health	Member
Claudia Grossmann	Patient-Centered Outcomes Research Institute (PCORI)	Member
Steven Hinrichs	Individual	Member
Jim Jirjis	HCA Healthcare	Member
John Kansky	Indiana Health Information Exchange	Member
Bryant Thomas Karras	Washington State Department of Health	Member
Steven Lane	Sutter Health	Member
Nell Lapres	Epic	Member
Leslie Lenert	Medical University of South Carolina	Member
Denise Love	Individual	Member
Arien Malec	Change Healthcare	Member
Clem McDonald	National Library of Medicine	Member
Aaron Miri	The University of Texas at Austin, Dell Medical School and UT Health Austin	Member
Larry Mole	Department of Veterans Affairs	Member
Abby Sears	OCHIN	Member
Sheryl Turney	Anthem, Inc.	Member
Micky Tripathi	Office of the National Coordinator for Health Information Technology	National Coordinator
Michael Berry	Office of the National Coordinator for Health Information Technology	Designated Federal Officer





Cassandra Hadley	Office of the National Coordinator for Health Information Technology	ONC Staff
Brett Andriesen	Office of the National Coordinator for Health Information Technology	ONC Staff Co-Lead
Brenda Akinngbe	Office of the National Coordinator for Health Information Technology	ONC Staff Co-Lead
Daniel Jernigan	Centers for Disease Control and Prevention	Acting Deputy Director for Public Health Science and Surveillance





Call to Order/Roll Call (00:00:00)

Operator

All lines are now bridged.

Michael Berry

Great, thank you, and welcome, everyone. Thank you for joining the kickoff of the Public Health Data Systems Task Force. We are excited to start the conversation. My name is Mike Berry with ONC, and I am the designated federal officer of the HITAC and this task force. On behalf of ONC, I would like to thank each of you for volunteering your time, and I would especially like to thank Carolyn Petersen and Janet Hamilton for serving as the co-chairs for this task force. We are very pleased and fortunate to have them lead the charge. All of these task force meetings will be held publicly, and members of the public are welcome to share their comments and feedback through the chat feature or during the public comment portion of our meeting, which will be held about 11:55 a.m. Eastern Time, about five minutes before I close out the meeting. I will also be taking roll at the top of the meeting, so when I call your name, please indicate your presence, and I will start with our co-chairs. Carolyn Petersen?

Carolyn Petersen

Good morning.

Michael Berry

Janet Hamilton?

Janet Hamilton

Good morning.

Michael Berry

Good morning. Danielle Brooks?

Danielle Brooks

Good morning.

Michael Berry

Denise Chrysler?

Denise Chrysler

Good morning, I am here.

Michael Berry

Jim Daniel?

Jim Daniel

Good morning.

Michael Berry





Steve Eichner?

Steven Eichner

Good morning.

Michael Berry

Ngozi Ezike?

Ngozi Ezike

Present.

Michael Berry

Claudia Grossman?

Claudia Grossman

Present.

Michael Berry

Steve Hinrichs?

Steve Hinrichs

Present.

Michael Berry

Jim Jirjis?

Jim Jirjis

Present.

Michael Berry

John Kansky?

John Kansky

Good morning.

Michael Berry

Bryant Karras?

Bryant Thomas Karras

I am here.

Michael Berry

Steven Lane? Nell Lapres?

Nell Lapres





Good morning.

Michael Berry

Leslie Lenert?

Leslie Lenert

I am here.

Michael Berry

Denise Love?

Denise Love

Present.

Michael Berry

Arien Malec? Clem McDonald?

Clem McDonald

Here.

Michael Berry

Aaron Miri?

Aaron Miri

Good morning.

Michael Berry

Larry Mole? Abby Sears? And, Sheryl Turney?

Sheryl Turney

Good morning.

Michael Berry

Good morning, everyone. If I missed anyone, I will keep my eyes on those in the roster, and I will take note of that. So, thank you, everyone. I would like to now turn it over to Micky Tripathi, our National Coordinator, for his opening remarks. Micky?

Opening Remarks (00:02:40)

Micky Tripathi

Great, thanks, Mike. So, I just want to welcome everyone here today. I really appreciate everyone joining. I am really delighted to help launch this Public Health Data Systems Task Force of the Health IT Advisory Committee. ONC and CDC are co-leading a working group to respond to an executive order that is called the Executive Order on Ensuring a Data-Driven Response to COVID-19 and Future High-Consequence Public Health Threats, and I co-chair that working group with Dr. Dan Jernigan from the CDC, and it is a joint ONC/CDC working group that is looking at public health data systems. What have we learned from the





experience today, and what does it tell us about the future? Interoperability is specifically called out in the executive order, so as all of you know, that is a topic very near and dear to ONC, to the HITAC, and to all HITAC members, so it is a particularly important executive order from a health IT perspective as well as we think about it.

When I think about this executive order and what it is we are trying to do here, we want to generally think about how we move from the concept of public health data systems, which I know is actually the term used in the executive order, but to me, it is about thinking about how we move from the concept of public health data systems to the concept of a healthcare ecosystem that has public health as one component of it in the future so that we have a healthcare ecosystem where a public health ecosystem is a part of that ecosystem, and I think a big part of what we want to do is to conceptualize what the public health data systems of the future ought to be: Not siloed systems that have static reporting, but that are more a part of a dynamic internet type of rich exchange that we have come to expect in all other walks of life, and we want to have that as a part of our public health data systems as well.

The pandemic certainly stress-tested a system that I think we have all seen. It revealed the results of a complex, decentralized system with often inconsistent jurisdictional policies, standards, and processes across federal, state, and local jurisdictions, and a system that I think we all have to acknowledge has been historically under-resourced, and as we have seen among a number of things, I think the result was that it was not as responsive as we need it to be in terms of data accuracy, timeliness, reliability, and relevance, it was not as connected with the clinical EHR systems that all of us have worked so hard to put into place over the last decade, and not as interactive across all levels of the system as we think about, again, the interactive type of patterns of computerized exchange that we are used to in all other walks of life and not having that in our public health data systems.

So, this is a time where it is just a great opportunity for us to think hard about what we have learned now that the system has been stress-tested and we have been able to see what the real gaps are and use the funding that is now being made available to get us past the current crisis and to prepare us for first preventing the next crisis, and to the extent that we are not able to fully prevent the next crisis, respond as best we can to a future crisis in a way that allows us to leverage all the lessons learned here and all of the technology and approaches that we have worked hard to put into place so that we are better positioned to be able to do that the next time around.

I want to just thank Janet and Carolyn for agreeing to co-chair this task force, and I really want to thank all of you members of the task force for volunteering to be on this. You will be richly rewarded with a ton of work between now and July on top of your day-to-day jobs, so that is the first reward you are going to get for volunteering for this, but you will also be rewarded, hopefully, with being able to provide critical input to something that is really important for all of us in the country and to this workgroup process that is relying on the HITAC and this Public Health Data Systems Task Force to provide critical input from the industry and outside expertise as we put together all of the various inputs and thinking about the full response to the executive order.

So, again, thank you so much to all of you who are participating in this, and I am delighted to launch it. Let me just check and see if my colleague Dr. Dan Jernigan has been able to join for some remarks. I know he may have been caught up with something this morning, but let me just check and see if he is here. Dan,





are you here? No? Okay, Dr. Jernigan was not able to make it this morning, but I will turn it back over to the co-chairs, and thank you again.

Introductions (00:07:42)

Carolyn Petersen

Thanks, Micky. We really appreciate your opening comments in helping us to set the stage for this very, very important work we have ahead of us. Last year, in March of 2020, the full HITAC convened some presenters to help share with us some perspectives on the emerging COVID situation and give us an opportunity to discuss some considerations around health IT in terms of managing pandemics and, more broadly, how health IT can work better with public health systems to further care from the patient perspective as well as to work more effectively and efficiently for clinicians and the broader healthcare system, so it is really exciting to see us be able to come back this year with a full task force with some very specific work to do and an opportunity to explore all these topics in much greater depth.

We are going to start today with some introductions of the task force members. I would just ask you briefly to state your name and position, and also, if you have any other disclosures to make at that time with regard to your relationships, that is an opportunity to do so. I will start out. My name is Carolyn Petersen. This is my fourth year on the HITAC. In my day job, I am Senior Editor of MayoClinic.org, which is a health information website. However, I am on this committee as an individual representing patients and the patient perspective in that I am a 35-plus-year survivor of a pediatric cancer with experience as a consumer representative on FDA advisory panels for medical devices, and also as a member of a PCORI advisory panel on healthcare delivery. I want to be clear that the views expressed are my personal views and do not reflect the policy or position of Mayo Clinic. In addition, I am a volunteer member of the HL7 International Board of Directors. And, with that, I will pass the mic to Janet. Thank you.

Janet Hamilton

Thank you so much, Carolyn, and I will just take the opportunity to welcome everyone, and I am very excited about working with this group and the charge, as well as being invited by ONC and the HITAC to help co-chair. I am the Executive Director of CSTE, or the Council of State and Territorial Epidemiologists, in my day job, and we represent those epidemiologists on the front lines of the COVID-19 response at the state, local, tribal, and territorial levels, so the discussions that we will have are on front and center minds of our members.

And, I will just say that while COVID-19 highlights some of the major gaps in our public health infrastructure and interoperability with healthcare, these are not new issues, and I think all of you on the workgroup know that, and we have been working in this space for a long time, and I am really excited that it feels like we are on the precipice of true change. So, thank you for your time, and your support, and all of the work that you will put into the task force. Finally, I will end my remarks by saying prior to joining CSTE, I worked at the Florida Department of Health for many years, where I was an epidemiologist and led disease surveillance activities and the data systems, as well as the policies behind them, and I have no disclosures.

Carolyn Petersen

Let's just go down the list in order. I think Danielle Brooks is next.

Danielle Brooks





Hello, good morning. Thank you guys for the invitation. I am super excited to be a part of this. My name is Danielle Brooks. I am the Director of Health Equity for AmeriHealth Caritas family of companies. In this role, I am responsible for the development of not only our initiatives and programs internally, but also in the communities we serve for health equity, meaning I focus on closing gaps and improving quality of care and access for some of our most underserved populations. Within this role, I also work to improve our data systems, and also lead our COVID outreach strategy, particularly for minority populations.

Prior to this, I was a part of the PCORI Health Disparities Advisory Panel as well as the Academy Health co-chair for low-value care, and I also serve currently on the NCQA Health Equity Committee to help support creating advanced standards for NCQA. AmeriHealth Caritas is a Medicaid managed care organization, and so, we represent around 10 states and territories, as well as long-term services and chronic care and disability issues. Prior to this, I have spent my time in the intersection of health IT and justice. I am a lawyer by training, though I do not practice. I do not have any disclosures, but any of my views are my own and do not represent my company. Thank you again for the opportunity.

Carolyn Petersen

Denise?

Denise Chrysler

Sure, thanks. I am Denise Chrysler. Thank you for inviting me to serve. I really appreciate it. I am the Director of the Network for Public Health Laws Mid-States Region, which is at the University of Michigan School of Public Health. The network was launched by the Robert Wood Johnson Foundation 10 years ago to promote and support the use of law to solve public health problems. Of course, data is a key part of that, including and addressing social disparities. With regard to disclosures, I am a member of the National Committee on Vital and Health Statistics. This is not in the form of a disclosure, but I am also on my local board of health.

Carolyn Petersen

Thank you. Jim?

Jim Jirjis

I am sorry, did you say Jim Jirjis?

Jim Daniel

I think it was Jim Daniel. Hi, this is Jim Daniel. I am the public health lead on our state and local government health and human services team at Amazon Web Services, where I am working closely with our departments of public health at the state and local level, and prior to that, I was with the U.S. Department of Health and Human Services, working both for the Office of the Chief Technology Officer and the National Coordinator for Health IT. I do not have any disclosures.

Carolyn Petersen

Thank you. Steve Eichner?

Steven Eichner





Good morning, thank you. My name is Steve Eichner. I am a health IT lead for the Texas Department of State Health Services. In my role at DSHS, I help advance technology across the department and collaborate with other organizations, including Texas Medicaid and state health information exchanges, to ensure that they have interoperability. I also serve as chair of the Public Health Task Force on Promoting Interoperability. I happen to have a rare disease, which gives me some additional insights on the particular needs of special populations. I have no additional disclosures. Thank you.

Carolyn Petersen

Thanks. Ngozi? I hope I said your name correctly.

Ngozi Ezike

You did. Thank you, good morning. My name is Ngozi Ezike. I am the Director of the Illinois Department of Public Health, and also a Board-certified internist and pediatrician. No disclosures.

Carolyn Petersen

Thank you. Steve Hinrichs?

Steve Hinrichs

Good morning, everyone. This is Steve Hinrichs, and I am the chair of the Department of Pathology and Microbiology at the University of Nebraska Medical Center. I am a pathologist, and also have my interest in laboratory informatics. I was previously the Director of the Nebraska Public Health Laboratory, and also the chair of the Association of Public Health Laboratory Informatics Committee. I have been working in the area of informatics for a number of years, and although I have no specific allegiance to date with either Public Health Laboratory or the private sector, I share those perspectives. I am also a member of the FDA SHIELD Initiative and have no other conflicts of interest to disclose. Thank you.

Carolyn Petersen

Thanks. Claudia?

Claudia Grossmann

Hi, good morning. My name is Claudia Grossmann. I am a senior program officer with the Patient-Centered Outcomes Research Institute. Thank you so much for the invitation. I am within the research infrastructure team at PCORI, and we oversee PCORnet, which is a national patient-centered research network which leverages largely electronic health records data from across the country, primarily to do patient-centered outcomes research, but have also been quite active, particularly in the context of COVID, around more public-health-related activities, and no disclosures for me. Thanks so much.

Carolyn Petersen

Thanks. Jim Jirjis?

Jim Jirjis

I am Jim Jirjis. I am an internist and Chief Health Information Officer at Hospital Corporation HCA Healthcare. I have been in that role for about eight years. I was in charge of our public and state reporting prior to COVID, but also during COVID, which included interacting with about 21 different state public health agencies to try to be compliant, so our vantage point would be what the experience was across 21 different





states with some of the variability and what that burden turned out to be on the provider side. As far as disclosures, I am a member of the Sequoia provider subgroup, but I do not think there are any relevant disclosures for this group.

Carolyn Petersen

Thanks. John?

John Kansky

Good morning. I am John Kansky. I am the President and CEO of the Indiana Health Information Exchange. Relevant boards that I serve on include the Sequoia Project, the Strategic Health Information Exchange Collaborative, or SHIEC, the Consortium for State and Regional Interoperability, CSRI, and the Regenstrief Institute, and to hopefully enhance my credibility on the task force, I will mention that I am the former CIO of the Marion County Health Department in Indiana, which includes Indianapolis. Thank you.

Carolyn Petersen

Thanks, John. Bryant?

Bryant Thomas Karras

Good morning. I am Dr. Bryant Thomas Karras. I am a physician, biomedical engineer, and epidemiologist serving as the Chief Public Health Informatics Officer for Washington State Department of Health. I formerly was a faculty member at the University of Washington, in fact, the first hired public health informatics faculty member before the Secretary of Health asked me to serve as the informatics officer for our state, but I maintain an affiliate faculty position there. I also have roles in subcommittees and working groups at the CSTE in surveillance and informatics, ASTO in the Informatics Directors Peer Network, AMIA in the Public Health Informatics Workgroup, and in the past, I have served on the oversight committee for our state health information exchange. I am also an active workgroup member at HL7 in the public health workgroup. Thank you.

Carolyn Petersen

Thank you. Steven Lane?

Steven Lane

Good morning. I am Steven Lane. I am a practicing primary care physician and clinical informaticist at Sutter Health in northern California. I also serve on the HITAC. I currently co-chair the ONC's USCDI Task Force. It is relevant that I am the chair of the Sequoia Project board, the Care Quality Steering Committee, and in the context of the pandemic, I have done a lot of work within our community, both regionally and nationally, on the exchange of relevant COVID test result data, working especially within California. I have been helping to support the rollout of the ECR functionality, utilizing the digital bridge background materials. I also worked on the care quality policy supporting the exchange of clinical documents between public health entities and clinical provider organizations. I also have roles within HL7, AMIA, and Direct Trust.

Carolyn Petersen

Thanks. Nell?

Nell Lapres





Good morning. This is Nell Lapres. I am a member of the interfaith team at Epic, and am currently leading our COVID interfaith response. I have also historically been a member of the Public Health and Emergency Response Workgroup at HL7, including co-chairing it for two years, and have worked with a number of organizations at Epic, both implementing and supporting them in order to help them integrate with public health.

Carolyn Petersen

Welcome, Nell. I apologize for misreading your name. The text is quite small on the slide. Les Lenert?

Clem McDonald

You are on mute, Les.

Leslie Lenert

Hi, I am Les Lenert. I am a practicing physician and Assistant Provost for Data Science and Informatics at the Medical University of South Carolina. I am also the Chief Medical Officer for Health Sciences South Carolina, a statewide learning health system and health information exchange organization. Other relevant facts are that I have been on HITAC for the last four years, and back remotely, I was the Director of the National Center for Public Health Informatics at the Centers for Disease Control and Prevention when that organization existed. Currently, I am involved in a number of public-health-related initiatives in the state. I have been working on our state exposure notification app, building it. I have also worked on disseminating laboratory results to physicians through our health information exchange, and on trying to disseminate results from vaccine registries via the flat FHIR protocol.

Carolyn Petersen

Thanks. Denise?

Denise Love

Good morning. I am Denise Love, and I am here as a member of the National Committee on Vital and Health Statistics and co-chair of the National Standards Subcommittee, which I am representing, and I am hoping to find opportunities to collaborate on issues that overlap with both the committee and this task force and activities going forward. My relevant experience is three decades of public health data systems development at the state and national levels, providing direct support through first the Utah Department of Health and then the National Association of Health Data Organizations to develop and implement statewide hospital reporting systems and, in the last decade, all-payer claims data systems as co-chair and co-founder of the All-Payer Claims Database Council, providing political, technical, and governance guidance to states developing these statewide reporting systems. I look forward to learning all the latest developments from you all and contributing where I can. Thank you.

Carolyn Petersen

Thanks. Arien? I think you are on mute, Arien. Okay, let's go to Clem.

Clem McDonald

I am Clem McDonald. I am the Chief Health Data Standards Officer at NLM, and I have worked with many of you over the years. For 35 years, I was a professor at Indiana University, where I was deeply invested in clinical data and connected tightly with Public Health. I worked closely with Diane Dwyer to build the





Dwyer tables many years ago for Public Health, so I am happy to be on this committee. I am involved with HL7, LOINC, UCUM, [inaudible] [00:26:00], and a lot of other things. I am deep into standards and happy to be on the committee.

Carolyn Petersen

Thanks. Aaron?

Aaron Miri

Good morning. I am Aaron Miri, the Chief Information Officer for the University of Texas at Austin, the Dell Medical School, and UT Health Austin Clinical Enterprise. We have been on the front lines of the COVID-19 response, everything from setting up contact tracing in partnership with the World Health Organization and with Austin Public Health, setting up two CLIA-certified labs to process our own labs at a clip of about 10,000 a day, as well as trying to help modernize and really deal with the data-sharing and information-sharing in the Austin, Texas region and partnerships with Ascension ACA and others and getting these data standards together, and so, I am happy to share and go into detail.

As you can imagine, the University of Texas is a very large organization. If you look at it, at any given time, between faculty, staff, and patients that we are seeing, there are about 100,000 people out of a city of 2.5 million people give or take, so you can imagine the amount of moving parts. We are also one of two vaccine hubs for central Texas, and so, in close partnership with DSHS and others, we have really been working to make sure that data is succinct and accurate to the immunization registry here in Texas. So, there are a lot of stories, a lot of fun times, and I am happy to share and look forward to this work.

Carolyn Petersen

Thanks, Aaron. I think Larry and Abby have not been able to come online just yet, so let's go to Sheryl.

Sheryl Turney

Good morning. Thank you for the opportunity to be part of this group. I am Sheryl Turney, and I have a long history of working with healthcare payers, hospitals, and pharmaceutical companies. I am a four-year member of HITAC, I have served on several HITAC task forces, and in the last year, I was also co-chair for the Intersection of Clinical and Administrative Data Task Force. I am a director at Anthem, which is a healthcare payer, and for Anthem, I am the Enterprise Product Owner for Interoperability, and I lead the mandates in enterprise data use policies. Outside of Anthem, I serve on several all-payer claims data advisory and data use committees for various states, and I also serve on the operations committee for CONNIE, which is a newly formed HIA in Connecticut. I am also working with enterprise programs to gain access to immunization data from immunization registries across the country, and I am also working with several trade groups, including HL7, Da Vinci, CARIN, and others to advance interoperability standards and implementation guides.

Carolyn Petersen

Great, thanks, Sheryl. It looks like we have gone through everyone who is online at this moment, and I understand that Dan Jernigan has been able to dial in, so I will hand the mic back to Micky for an introduction.

Micky Tripathi





Okay, great, thank you. So, as I mentioned early on, the ONC and CDC are co-leading an interagency workgroup that is focused on responding to this executive order, and I have the deep privilege of co-chairing that with my colleague Dr. Dan Jernigan from the CDC. Dan, you missed my riveting opening remarks, so I apologize. I will also make sure to get those to you, but let me turn it over to you now for your opening thoughts, and thanks so much for joining.

Dan Jernigan

Micky, can you hear me?

Micky Tripathi

Yes.

Dan Jernigan

Great. I actually did get to hear your remarks, I just could not figure out how to get the microphone to work, so I appreciate that, and I definitely do echo Micky's, Carolyn's, and others' comments about the historic capabilities that we have right now to do some important change. For folks who do not know me, I normally am the Director of the Influenza Division at CDC, and in January of last year, I was asked to be the COVID incident manager for a period of time, and then I moved up to D.C. for several months to work with the National Response Coordination Center, so I am quite aware of all of the issues that we had in terms of how to get data to the right place at the right time and to help to make decisions with that data.

In February, I was asked by Dr. Walensky to join with her to be an acting deputy director for public health science and surveillance, and in that role, I am overseeing the data modernization initiative activities, the funding, the strategies, and the implementation of that, and so, I really look forward to the discussions that are going to be happening through this group. It will be very helpful, of course, to address the executive order, but the broader issues of trying to get us to a better place with data and surveillance are clearly a focus as well, so I appreciate the efforts. Like Micky said, it is just going to be a lot of work for folks, but I think it is going to be quite fruitful, and I look forward to the participation, input, and change you all can bring to the issue, so thanks a lot.

Overarching Charge and Specific Charge (00:31:23)

Carolyn Petersen

Thanks, Dan. We are really looking forward to getting into the meat of the work, and also hopefully to providing recommendations and perspective that help your organization and others go forward so we can truly achieve the potential. With that, we will step into the meat of our work today. Could you bring up the next slide, please? And, the next slide? Great, thank you.

So, we are going to start by taking a look at our charge. We are the Public Health Data Systems Task Force, and officially, this task force is here to inform HHS's response to President Biden's Executive Order on Ensuring a Data-Driven Response to COVID-19 and Future High-Consequence Public Health Threats. Our task force has two things here in particular. First, to identify and prioritize policy and technical gaps associated with the effectiveness, interoperability, and connectivity of information systems relevant to public health. This would include a focus on surveillance systems, infrastructure improvements, health equity, clinical engagement, research and innovation, and educating and empowering individuals. Second, we are to identify characteristics of an optimal future state for information systems relevant to public health and





their use. Next slide, please. And now, I will pass the mic to Janet to go through the executive order and the data definitions.

Executive Order Background and Key Definitions (00:33:16)

Janet Hamilton

Thank you, Carolyn. Could we bring up the next slide? So, by way of background and framing, this is highlighting components of the executive order, and it is the Executive Order on Ensuring a Data-Driven Response to COVID-19 and Future High-Consequence Public Health Threats, as Carolyn laid out for us. I want to highlight and focus in on Section 3 of that executive order, which is pertaining to public health data systems.

So, the Secretary of HHS, in consultation with the COVID-19 response coordinator and the heads of relevant agencies, shall promptly address the three things listed on the slide here, the first being to review the effectiveness, interoperability, and connectivity of public health data systems supporting the detection of and the response to high-consequence public health threats such as the COVID-19 pandemic, second, to review the collection of morbidity and mortality data by state, local, tribal, and territorial governments during high-consequence public health threats such as the COVID-19 pandemic, and third, to issue a report summarizing the findings of the reviews detailed in both of those subsections that I just talked about, A) and B). above on this slide, and to address any recommendations for addressing areas for improvement identified in these reviews. Next slide, please.

In terms of framing also, we want to talk about the definition for what a high-consequence public health threat is, and you will see that here on the slide. So, a high-consequence public health threat is a public health threat that requires rapid multisector and cross-jurisdictional coordination and response. A high-consequence public health threat can lead to severe illness, death, and substantial economic as well as societal impacts, including pandemics, natural disasters, extreme weather, chemical, biological, radiological, or nuclear threats. Next slide, please.

Also, in terms of definitions we want to look at three key definitions: Effectiveness, interoperability, and connectivity. So, in this setting, we are thinking of connectivity as basic transport, the ability to send or receive electronic information regardless of format, content, or coding. In terms of interoperability, this is related to the usability of data and patterns of exchange: The ability to automate the use of data for public health purposes, as well as the ability to support both unidirectional and bidirectional data exchange as appropriate.

Finally, of course, effectiveness: The adoption of systems to meaningfully achieve public health goals. I think this is really critical for us to think about. It is not just moving data from place to place, but we need to be able to move the data, organize the data, and think about it all in a way that is meaningful and supports achieving our public health goals. So, within the effectiveness, then, it is integration into actionable workflows, thinking about how the data moves from system to system, as well as how it impacts the people themselves, and measures of public health effectiveness, as well as measures of public health outcomes. Next slide, please.

So, also, on key definitions, we want to think about what we mean when we talk about public health data systems. And so, in this context, we are really thinking about information technology systems or that





interactive ecosystem to collect, analyze, and disseminate health-related data to monitor, assess, and improve the health of populations. In this context, we want to think about this system and systems of systems as both those traditional systems, and we think of those traditional systems as our traditional core public health surveillance systems and that foundational infrastructure, meaning the systems built on reportable conditions such as lab reporting and case reporting, our vital statistic systems, particularly the death registration systems, and other key registries, such as immunization registries or condition-specific registries, such as cancer registries.

We also want to be thinking about this expanded view of public health data systems, and I think in particular, as we look at where we are now, this is more critical than ever. We are no longer in the era of expecting or having the public expect that data should arrive in the mail or on disease cards, but really, to move into the space of utilization of data from electronic health records, thinking about clinical interoperability networks, highlighting back to Micky's comments that it is not a siloed set of systems, but a dynamic exchange, and it is looking at public health as a component of the larger healthcare system: Those clinical interoperability networks claimed, nongovernmental registries, PHM systems, social-determinants-of-health networks, patient-controlled apps, patient-controlled services, resources that are available in terms of things like personal protective equipment, ventilators, bed capacity, the number of laboratory tests that may be available, as well as where specifically those availabilities lie, ADT or admission-discharge-transfer feeds, data that we could be getting from wearables, as well as geolocation services. I would say we have also done a number of other things during this pandemic, like the contact tracing apps that have emerged, and all of that really feeds into this expanded view of our public health data system.

And, we want to think about nontraditional systems and data sources, things like wastewater, web search queries, social media posts, use of information that we might gather around transportation and where people are moving, where they are located, et cetera. Next slide, please. Okay, so, I am going to turn it back over here to walk through our meeting schedule.

Meeting Schedule by Topic (00:41:18)

Brett Andriesen

Thanks, Janet. This is Brett Andriesen from ONC. My colleague Brenda and I will be the staff leads on the ONC side for this task force. So, looking at the topics that we are looking to cover and our weekly meeting schedule between now and July and working really closely with our colleagues across HHS and CDC, the team at ONC took a look at the charge and then started to break out a number of key topics to discuss. From those, we pulled together what seems like a logical schedule for discussion of these topics. These are subject to change as we begin our work and start to see how things fall in, but some of the things that we will be taking a look at include public health surveillance, such as things around data standards, infrastructure, collecting, sharing, using, linking, and integrating data, health equity and surveillance systems, the expanded view of public health data systems, interoperability around situational awareness during emergency responses, case reporting, testing, and things like that.

Around infrastructure improvements, topics include preparedness, equity, performance, scalability, longitudinal tracking, data quality, policy, and workforce drafts. Then, we will get into research and innovation, creating conditions that encourage innovation, stakeholder outreach and engagement, spurring investments, open data access, data format and quality, and then, we will get into educating and empowering individuals as well as providers and clinicians to ensure good feedback loops there. And then,





as we get into July, we will again take a look through recommendations that the group has developed, and moving on to the next slide, we will be presenting final recommendations back to HITAC by the July 14th meeting. Janet, Carolyn, or Brenda, anything to add here?

Carolyn Petersen

I am just wondering if we will be able to publish a list on the public website that goes into the details that you just read. There is quite a lot there, and I am guessing that at least some of us were not able to take that all down quickly.

Brett Andriesen

Absolutely. We will get those out to the task force members very shortly, and then, by the next meeting, we can definitely include that in the group of materials that goes along with these meetings.

Carolyn Petersen

Great, thank you.

HITAC Public Health Data Systems Hearing Overview – May 13 (00:44:17)

Brett Andriesen

All right, then. Moving on to the next slide, I think we are going to quickly touch on the public health hearing that we have scheduled for the May 13th full HITAC meeting. Moving on to the next slide as well, we are working really quickly. Again, this is a collaborative HHS-wide effort along with CDC, and we are working to put together some really strong panels throughout a full-day HITAC meeting. The panels are looking like they will start around 10:00 a.m. Eastern and cover a number of topics fairly closely aligned with this task force's charge and some of those topic areas. So, we are looking at the big picture on public health performance, public health systems performance, and then getting down to operational levels as well, looking at what types of data needs might be available and infrastructure components, and we are looking to finalize that agenda as soon as possible here, and we will make that public when we can. I hope everyone can join in and listen to what should be a great session.

Carolyn Petersen

Thanks, Brett. Before we head into the discussion and next steps, I see that Clem has his hand up. Clem, did you have a question or comment?

Clem McDonald

Well, maybe it is too early, but I was just starting to type in. I think that if we want “the initial statements that we want to send electronically regardless of coding format,” which I read as being without respect to any coding or format, we might as well stay with faxing if we stick with that. I really think that is the wrong statement to get to the goal. It does not mean we cannot send text reports or narrative reports, but we have to have some kind of codes or structure to be able to use it.

Discussion/Next Steps (00:46:09)

Carolyn Petersen

Thanks, Clem. If no other member of the task force has any questions or thoughts at this point, let's start into the discussion. The way to do that in Adobe is to use the hand-raise function. You will see that in the





black ribbon along the top of your screen. It is the little pictogram of an individual with their hand up. What that does for Janet and me is to show us who has a question or comment in the order in which we received those so we can move through them effectively and make sure we do not miss anyone. Just as a general note, we also have a chat that is open for task force members as well as members of the public, and we will have a public comment period at the end of this meeting when members of the public who are not participating in the task force discussion can make some comments. I do not see any hands raised at this point among the task force members, so if you do have a question or comment, let's bring that forward. Okay, I see Bryant has his hand up. Go ahead, please.

Bryant Thomas Karras

Hi there. I just wanted to second Clem's comment and emphasize that I think part of the challenge that has resulted from the underfunding or the underattention that public health systems have gotten over the decades is that in public health, we oftentimes have to revert to the lowest common denominator and end up receiving legacy files in CSV format over secure file transport instead of implementing modern standards and health IT best practices, so my hope is that our task force can help identify and make recommendations for how public health can be invested in to rapidly catch up with our clinical partners and become an active and engaged partner. That would be a fabulous goal.

Carolyn Petersen

Okay, thanks, Bryant. Let's go now to Jim Daniel.

Jim Daniel

Hi, thank you. I was just going to add to the agenda that it might be useful as we think about the different discussion topics every week to also think about which systems we are going to talk about because those broad topics are difficult to cover across all of the public health data systems that we are talking about, and it might be good to have some focused time on, for example, electronic lab reporting, immunization systems, and disease surveillance, which are the ones that were really key to COVID response and the challenges that we saw. So, in addition to the broad topics, I think some focused time on those systems would be good.

The other thing that I would ask is we did have a similar public health task force during Zika that made some very specific recommendations around electronic lab reporting, especially with ask-on-order-entry questions and some other recommendations around complete data. It would be great to review those recommendations as well because I think they are still very relevant, and we saw at the beginning and throughout COVID that those same issues were coming up again, so it would be great to review those recommendations from that public health task force focused on Zika.

Carolyn Petersen

Thanks. We are definitely taking that into account, and perhaps we will circle back with you after the meeting offline to see about getting a copy of those recommendations. Thank you for that. Let's go to Arien Malec.

Arien Malec

Hey, thank you. So, I have two comments. First, the timeframe is incredibly aggressive, and it might be worthwhile to think about two stages of recommendations. From past experience running task forces, two months to solicit feedback, collect input, and get to recommendations seems like a long time, but it is actually quite short, so from an agenda perspective, it might be worthwhile to think about Stage 1 and Stage





2. Secondly, in my experience in public health, it is an ecosystem, an incentive, and a funding issue, so if we think about just the systems and we do not think about the funding mechanisms, the operating mechanisms, and the incentive mechanisms, and think about the mechanisms that are incumbent on all the parties in the ecosystem touching, then we are going to miss some steps.

As a pretty trivial example of this, when we were looking at information flows for lab reporting to case reporting and contact tracing, we discovered that we were losing demographic information from the ordering system to the lab, and the lab would then report it to public health without the demographic information, so we had a secondary cleanup. We need to be thinking about the ecosystem perspective and the incentives that are incumbent on each of the actors in the ecosystem to support, fund, and drive interoperability for the complete system. Thank you.

Carolyn Petersen

Thanks, Arien. I think Janet and I agree that we have a pretty aggressive schedule with our meetings and topic list, and we certainly have a lot to do, so we are glad we have another experienced task force member and co-leader in you to help us with that. Let's go to Sheryl Turney.

Sheryl Turney

Thank you so much. I just wanted to offer that I do agree with a couple of the comments that have already been made in that our observations from a payer perspective have been that working with these immunization registries across the country, the data is inconsistent, they lack resources, the contractual arrangements with each are different, the tools that they utilize are different, and so, trying to collect that data and also make that data meaningful is a significant amount of effort for anyone that has to deal with them across the country.

And then, in many states, there is not always a requirement to report the data, so that is also an issue. And then, having the data be usable in terms of what identifiers are there in order to match those attribution lists to make it useful in the ecosystem is also an inconsistency. So, I think there needs to be a lot of foundational work to understand at the core what needs to be there so it can be usable and shared across the spectrum, and then, we need to consider maybe utilizing some of the opportunities of the learnings where there does seem to be some systems that have implemented tools like Snowflake and others that seem to be more usable for consumption as well.

Carolyn Petersen

Thanks, Sheryl. Let's go to Aaron Miri.

Aaron Miri

Good morning, and thank you. There are a couple things I would like to state. First off, as we often remind the HITAC for others, I want to remind this task force to think about health equity by design, so as we look at these components of the public health infrastructure and ecosystem, which are Micky Tripathi's words, not mine, health equity by design is going to be very important for us in the future state where we are going. I think there are a number of things we have uncovered in looking at the data, and particularly, with us, we just crossed 120,000 more vaccinations that we have given to our vaccine hub, and from a contract tracing perspective, it is several hundred thousand, and looking at that data, the amount of demographic data, data elements, and other data that are missing is just amazing. I think USCDI plays into this and will help us in





the future world, but there are a lot of intersection points here around equity by design. I just want to make that as a recommendation that we keep in the back of our mind.

No. 2, I often tell people here in Austin not to beat up on public health folks. They are doing the best they can. I think it has already been stated by Arien and others that I think we all know there was a misunderstanding of where infrastructure should be invested in, and this is our opportunity to right the ship, so I think as much as we like to harp on things like fax machines, like I and others have said in the chat, it is not by fault. There is no nefarious reason. I think the public health officials and teams are doing the best they absolutely can. They are a bunch of heroes, in my opinion. So, we have to work together to uncover those opportunity points to make the right investments so this never happens again.

Last but not least, I would also like to thank everybody that is part of this committee that has been on the front lines particularly, working their tails off over the last year and a half. It has been something, and I think everybody should just breathe for a second and really appreciate all of you for what you have done. I just wanted to say those couple of components. I appreciate them.

Carolyn Petersen

Thanks, Aaron. Let's go to Steven Lane.

Steven Lane

Thank you. Like Aaron, I have a few points I would like to make. One is that as the co-chair of the current USCDI Task Force, I am well aware that folks from the CDC and the public health community have provided a number of suggestions for data elements to be added to the USCDI. Most of those did not end up going into the draft Version 2, and we are all awaiting the July decision by ONC about what is going to go into the final Version 2, but it is important to realize that the USCDI process really relies on the input of stakeholders, so those of you who have not had a chance, please look at the recommendations that have been put in through the ONC's ONDEC system and comment and support those elements that you think are important to supporting this work because that is one tool that I think we can all utilize to make this exchange more robust.

I also wanted to comment, like an earlier commenter, about some resources that are available. The Pew Trust held a series of webinars focusing independently on ELR/ECR syndrome surveillance and vaccine data exchange and develop some draft policy solutions. I know Janet and others were involved in those discussions. I think they were quite robust and informative, and we should look to Pew to review those recommendations in the context of our task force. As a clinician, I also want to comment and support the earlier focus on the need for clinical data and integrating relevant data into clinical workflows. There are tremendous opportunities to improve the bidirectional exchange of data between clinicians on the front line and public health. Some of those have been supported and even piloted during the pandemic, but clearly need to be brought up to scale and utilized more broadly.

One case in particular is the availability of the electronic case reporting reportability response, which can come back from public health to clinicians with specific recommendations regarding how to manage a reportable condition. We are really just at the very beginning of taking full advantage of that data exchange, and I really feel that we should look to these things that have already been started and piloted and try to scale up the ones that prove beneficial or promising.





The last point I would like to make is that we just have a tremendous opportunity to leverage existing and evolving interoperability tools and methods that are out there. The direct exchange methodology that Arien and others were involved in starting up years ago is alive and well, and could certainly be used to support in additional ways the exchange of data between public health and other stakeholders. Query-based document exchange is also incredibly well developed and available today for public health to access current data from clinicians and others who maintain that data, and of course, as the new kid on the block, FHIR holds tremendous promise as we build out new solutions. So, we should stand on the shoulders of those who have done this work and not build a new wheel at this point, but really leverage the tools that we have to advance public health interoperability.

Carolyn Petersen

Thanks, Steven. Let's go to Denise Love.

Denise Love

Hi. There are some great comments here. I am going non-technical on my comment. I agree with the prior comments. I am thinking about governance and the need for broader use cases. I am thinking that linkage between traditional and nontraditional data systems is going to be a solution to fill many of the gaps, which leads me to the issue of governance to support broader use cases. During the pandemic, researchers found some of the public health data that was needed not to be timely or that it was inaccessible, and so, how can we design data exchange across the entire ecosystem appropriately to also broaden the audience and the stakeholders to public health data?

Carolyn Petersen

Thank you. Danielle?

Danielle Brooks

Hi, good morning. I would agree with the majority of comments that I have heard from my colleagues. I would like to express just how thrilled I am about the way that we are speaking about this. I wanted to go back to one of the comments about equity by design, and I would absolutely echo that and champion that, but when we think about these systems, particularly about the captured demographic data, I think there are opportunities to really think about what that looks like. From our perspective, one of the challenges is that the way we currently classify data, particularly demographic data, is not particularly useful because of the large bucketing of the way that we currently select race data across the system.

So, I would like to emphasize and really encourage us to think about how we can also use that demographic data as well as other pertinent information to getting access to quality information to folks, whether that be about language data, other elements about disability data, making sure that we really **[inaudible]** **[01:02:54]** access, and also think about other elements that could be integrated, such as sexual orientation/gender identity data, just so we can really get a full understanding of the populations that we are serving and effectively provide those solutions. So, I would absolutely love to champion and do champion the equity by design component, but I also want us to think a little bit more about how we can retool these capture systems to make sure we are getting a full view and understanding of our populations and the needs of that. Thank you.





Carolyn Petersen

Thanks, Danielle. Let's go to Steven Eichner.

Steven Eichner

Thank you so much. There is a really wonderful set of building blocks that have been developed over the last few years in terms of USCDI and health information exchanges, and things are coming up, like the TEFCA. I think we need to figure out how we get all these pieces to work best together to meet public health needs and serve as vehicles to share data between public health and providers while appropriately addressing patients' privacy and data management. That is something we really want to focus on, perhaps, which is how we are collecting information on people's medical conditions and under what authority we share that data back out to private providers. Thank you.

Carolyn Petersen

Thank you. Let's go to Les Lenert.

Leslie Lenert

I think there is a long history of public health receiving funding for infrastructure, informatics and data exchange, and surveillance that responds to crises in the environment, and this is perhaps the third time that we have seen this in just my brief engagement with public health. The issue here is really how we can make this time different. How do we look at this as a once-in-a-generation opportunity to build from the ground up an equitable public health system that can work in an ecologically sound manner with the clinical care system to care for the population of the United States? Now, these are very high-sounding words, but the point is that unless we think systematically, unless we think from a ground-up perspective and consider the diversity in public health delivery systems as well as in clinical healthcare delivery and now the growing role of clinical population health services and how we put those different components together to optimize health for this country, we are not going to achieve what we hope in these sessions.

We have been down the road several times before in response to bioterrorism events in the United States, in response to H1N1, Zika, and now again in this greatest challenge of all with the COVID-19 pandemic. There may be more resources at hand now than there have ever been before, but really, what is needed is an approach that starts at the beginning and creates a level playing field for public health departments large and small, autonomous as they may be, along with the healthcare providers in their environment to systematically advance health in this country. That is a very hard task, but we really should not focus too much on any one given standard or any one given approach as much as creating a design that will grow to what we need the system to be.

Carolyn Petersen

Thanks. I see that we are approaching our public comment period, so I will ask John and Nell to make their comments, and then perhaps a very quick follow-up by Jim Jirjis. So, let's go with John Kansky now.

John Kansky

Thank you. So, I wanted to build a little bit on the comments from Steve Eichner and Steven Lane earlier, specifically that we need to take advantage of existing capabilities and existing infrastructure, but also to make them work together. I am sure this is going to come up on future task force calls, but I wanted to make the base comment that health information exchanges are ready in terms of being ready data assets





and ready in terms of being ready data plumbing assets. They demonstrated value during the pandemic response in some, but not all states. Why not in all states? The obstacles include the readiness of the HIEs in those states, but also some policy barriers, so I think there is an important question that I hope the task force can address: Given the heterogeneous nature of the 50 states and six territories and the available existing interoperability infrastructure, what is the recommendation to make those things work together? Thank you.

Carolyn Petersen

Thanks, John. Nell, please?

Nell Lapres

I will keep this brief. I think a lot of folks have covered good topics when it comes to breaking down the silos in this ecosystem and allowing for better exchange of data between healthcare organizations and public health to facilitate both sides of the picture and patient care. I think the other thing that we do need to focus on is scalability. One of the main things that we have been seeing is an inability in some instances to scale to the volumes that are needed for this pandemic when it comes to exchange of data, and I think that is going to be a critical piece of long-term success: To ensure scalability to facilitate that exchange of data between public health and healthcare organizations in the future.

Carolyn Petersen

Thanks. Jim, if you have a really quick follow-up, that would be great, thanks.

Jim Jirjis

Yeah, really quick. My comment is just that we address this problem... One of the things we experienced was a many-to-many challenge, meaning many providers having to interact with many public health departments, and the cost of contracting, testing, interfaces, and how to deal with exceptions and rejections was wasteful, and whatever approach we take ought to have a similar goal as TEFCA has, and that is a really easy onramp, whether that is a learned intermediary or some other methodology to make not only the technologies more aligned, but also the processes more streamlined. Instead of many to many, maybe many to one and one to many.

Carolyn Petersen

Great, thanks. That wraps up our discussion for this meeting. I will now pass the mic to Janet to get into the next section.

Janet Hamilton

Great, thanks so much, Carolyn, and what a wonderful and robust discussion. We have already heard some themes emerging here, and I think the key that I will just ask folks to think about is not just how we identify the gaps but really think through the “meaningful recommendations” piece. So, in terms of next steps, I have heard a couple of things. I have heard some requests for certain materials to be shared, such as prior work from the ONC task force that was convened during the Zika response, so we will work towards identifying that and being able to circulate it with the members, as well as the recommendations that were put together by Pew.





So, I have heard those, and if there are other requests for materials that people would like to have circulated from the group, I would just request that you put those into the comments so that we can identify them and share them. And then, as we promised at the outset, this is going to be a lot of work and we have an aggressive timeline, so we do have a document that I believe we anticipate sharing with you all via Google Docs, or I will ask our ONC colleagues to make sure that we have the right infrastructure in place to share that with everyone. It looks at key questions that we would like to ask in our upcoming meetings, as well as topic areas, so we will find a good way to circulate that to allow the group to offer comments, and that will help us as we set the stage for organizing our meeting following the hearing. Carolyn, did you want to add anything in there in terms of next steps?

Carolyn Petersen

I think that was a great capture. We have certainly have a lot of good discussion today just to get us started in terms of framing more thoroughly the brief topics that Brett went through earlier in the meeting. I would reiterate that we do have a lot on our plate, and while we endeavor to accomplish that through the meetings that are currently scheduled, if we think that it is necessary to extend some of those meetings or add additional ones, we will do that, and we will give you as much notice as possible and be as respectful as we can of your schedules and other requirements, but because this work intersects with other work being done in the administration and has a direct bearing on how the country faces COVID and other public-health-related needs, we will ask you for what we think we need to do the best job that we possibly can, and we appreciate your understanding about that.

Janet Hamilton

Right before we go to public comment, I will just say that as a group, you all do have homework coming, and we anticipate that the document with the questions that we would like to circulate will likely come this Friday, and it will provide additional information for the timeframe in which to review and add your thoughts.

Carolyn Petersen

And, before we head into public comment, we will take a moment to have introductions from Arien Malec and Larry Mole, who have since joined us. If you could start, Arien, that would be great.

Arien Malec

Thank you. I apologize for starting late. I am Arien Malec from Change Healthcare. I am really pleased to be part of this task force and serve the public. Thank you.

Carolyn Petersen

Thanks, Arien. And, Larry? I think you may be on mute.

Larry Mole

Can you hear me now?

Carolyn Petersen

We can.

Larry Mole





Wonderful. Hi, everyone, and I apologize for the snafus earlier. I am Larry Mole. I am currently the Chief Officer of Population Health at Veterans Health Administration. I have been the clinical lead for the COVID-19 preparedness and response planning for the VA department. I think the groups I oversee align really well with this work, which are health equity, our national prevention program, our post-deployment health that leads investigations into military exposures, our public health department, including our public health labs, and our rural health program, and so, I am very excited to be here and hopefully contribute.

Carolyn Petersen

Thanks, Larry.

Public Comment (01:16:00)

Michael Berry

Great. Thank you, everybody. I appreciate it. This is Mike, and I want to open up the lines for public comment.

Operator

If you would like to make a comment, please press *1 on your telephone keypad. A confirmation tone will indicate your line is in the queue. You may press *2 if you would like to remove your line from the queue, and for participants using speaker equipment, it may be necessary to pick up your handset before pressing *. We will pause for a brief moment to poll for comments.

Michael Berry

Okay, and while we are waiting, I just want to thank everybody again for joining us today. Our usual meeting cadence will be weekly on Thursdays from 10:30 to noon Eastern Time. However, as especially the HITAC members know, we have our HITAC meeting next week on Thursday, so our task force will reconvene on Friday the 14th from noon to 1:30 p.m. Eastern Time, so hopefully, all of you have those calendar invites, so with that, I will pause and ask the operator if we have any comments.

Operator

There are no comments at this time.

Michael Berry

Great, thank you. Carolyn, Janet?

Final Remarks (01:17:07)

Carolyn Petersen

Okay. Well, thank you so much, everyone, for your willingness to serve on this task force and for your really invested and very strong participation this morning. We have a great deal to do, and I can see we have a lot of good expert commentary and thought that will be going into that work, as well as a great deal of interest in participating and doing the work. Thank you, and we are looking forward to going forward with the hearing next week and our meetings after that.

Janet Hamilton





This is Janet. No. 1, I will add my thanks. No. 2, please be on the lookout for your homework. I think we have already heard some themes emerging today, certainly the theme of equity by design being important, the appropriate use of resources, and that public health has been largely under-resourced or funded in a way that is post-disaster and does not allow sustainment of the critical work that needs to happen, issues around completeness and timeliness of data, scalability, as well as use of standards for sharing both structured data and how we can also take advantage of and utilize unstructured data. So, again, thank you all so much. We look forward to a lot of work and a lot of good work, and we will talk again, and if I can just ask the ONC folks to remind everyone of that alternative schedule and adjustment since we do have a little adjustment of our schedule.

Michael Berry

All right, thank you, everybody. We stand adjourned. We will see you next week.

Adjourn (01:19:16)

