Please stand by for realtime captions.

> Let me start by asking people to introduce themselves.

Let's start with Christina

[Inaudible]

Good morning. I am an intern.

I am Don Goldman, the chief [Inaudible] at the [Inaudible] healthcare improvement. And also, I am at Harvard public health and Children's Hospital. As we were discussing, I am teaching and under graduate course at Harvard College and I am trying to bring how we translate health services research and data into something that our students may understand.

I am Lucy [Inaudible] I'm with Kaiser. [Inaudible]. Good morning. I am the vice president for population health [Inaudible]

I am David Adkins, the director of health services research.

Hello. I am a pediatrician. I am working on the transforming clinical facts [Inaudible]

Hello. I am Sharon Arnold, the deputy director of [Inaudible].

I am Bethany Quinn, the vice president of Kaiser research and executive director for safety research.

Let's see. I know that we had a couple people who might be calling into the meeting. We have evidence of that?

Yes. José, would you like to introduce yourself?

Sure. This is José [Inaudible]. I have a question, may ask it now?

Sure.

I have an email but -- I am on the phone and I have turned off the web [Inaudible] because there is a lag between what is going on in the room and why am seeing on the webcast. I don't know, should I be on the phone or on the webcast? With that lag, if I am only on the web, it will be about 30 seconds after the fact. I just want to know how to manage that.

I am the management official. José, I would say, you need to be on the call in number that we gave you. That allows you to participate.

In real time?

Yes. You could mute that. You have the slides ahead of you so you will be able to follow with us.

Okay. Very good. Thank You.

The first order of business is to take a look at the minutes from the November meeting. If those are in your folders, if anyone has any changes or edits, let me know, otherwise I would look for a motion to accept the minutes.

To have a second?

Okay.

All in favor?

And he opposed?

Okay the motion carries. Great

So, it is my pleasure to introduce [Inaudible]. I'm sorry, I am shifting papers around. He is the director as of May, 2015. You have his bio in your folders. I think it is exciting. He has experience at the state federal and private sector levels. He has experience in IP, something very important in healthcare. This is not his first tour of in Washington. We are delighted to have you here and have a chance to get to know you a bit better. Without further ado, he will give us a description of his experiences and give us the directors update.

Thank You. Yes. I am pleased to join you today for my first meeting. It is a pleasure to be here. Not that I have been here -- now that I have been here for about a month, I would like to take a few moments to share with you my vision of where we are and where we are headed.

Then we will get an update of the work in progress and where we are and what we are doing.

Before I begin, let me thank you all for your service with the national advisory Council. It is deeply appreciated. I know you all have deep admiration for your work. On behalf of AHRQ and the American people, I would like to say thank you.

I will give you some context to where we are going. Let me share a couple of things. Way back, when I came on board in May, just before my arrival, Secretary price announced this initiative. He challenged all of us, including myself to think outside the box and imagine and envision how we can serve the healthcare system and the American public more efficiently and effectively. I seized that opportunity and said to myself, let's reimagine AHRQ and see how we can do things more efficiently and effectively going forward. We got ourselves engaged. It has been a very exciting process. The four areas that we thought were of significant importance [Inaudible] one, loud and clear was how we use data.

The second was creating the next generation of scientists. [Inaudible] was the old need for system improvements. Finally, to take a holistic view of the individual and the patients we serve.

As you may know, I am sure you have heard the secretary talk about [Inaudible], opioid crisis, mental health and he also talked about childhood obesity. [Inaudible] he points out three areas to pay attention to. One is physician burden, the second is focusing on [Inaudible] and more effective use of evidence and practice. I call these [Inaudible]. Finally there is the challenge before us to meet the unmet needs that have been unleashed [Inaudible] that has created unmet needs [Inaudible] leverage data for better outcome. They can have a more complete picture of the person they care for. This brings us back to my vision for the agency. If we talk about core competencies, they are world-class research on quality and safety compared to [Inaudible] over the years.

Development of tactical tools and training to support real-world implementation of evidence into practice taking evidence into practice [Inaudible] the use of data to identify problems and track trends.

I would like to see us leverage these two achieve the secretary's vision and priority. If you do these things successfully, we will reduce the burden on physicians and improve the use of not only the evidence and cultural services between research and implementation [Inaudible]. These goals can be achieved by us working more competently.

Recently, data from AHRQ NAC [Inaudible] AHRQ NAC is a go to resource for healthcare data because it is universally accepted as of the hike polity and accurate, and actionable.

I am saying this because these core competencies are extremely necessary for us to leverage going forward.

We are [Inaudible] we will provide helpful information and resources to expand access to badly needed treatment. These are at couple of examples to demonstrate that we are uniquely qualified to fulfill the promise of the American healthcare system. AHRQ NAC can speed up the process of new cures to the bedside and help physicians understand how to meet the priorities outlined.

Let's think for a moment about distinguishing features. We have a couple of them. One is that AHRQ NAC enjoys a strong working relationship with physicians including primary care and the environment. A broad-based approach, working with clinicians and the clinical marketplace, the sets us apart from many entities. We have a much larger reach collectively working with our partners. Similarly we enjoy partnerships with those who produce research. These include [Inaudible] researchers that we fund, research grants and many other such arrangements.

AHRQ NAC's focus make sure that we understand how to identify opioid addiction. Timely care is where most of us begin our primary care journey.

We achieve these goals by developing ways to incorporate new innovations into the workflow of doctors and nurses. AHRQ generates tools for them to use data to improve quality and safety. There is a need to explore avenues for data and information to learn and understand how to continually improve and provide better care.

That is a huge opportunity. The national Academy of science and medicine has called this a learning health system. My predecessor talked about this extensively as being a unifying concept. I embrace that.

I know this has been a topic of conversation at past meetings. Today, David Myers will provide an update on our Tiffany's in this area. I look forward to your thoughts and suggestions. AHRQ is also well known for analysis of large data sets to recognize health trends. We can provide richer [Inaudible] questions remain unanswered and prepared to be prepared to answer questions that we have not even thought of yet. We can acquire, link to and use the full array of federal data sets and learn to incorporate real world clinical data. As I said, we have to learn to use that data effectively.

We are starting to get there with our annual report to Congress. This demonstrates how quality and safety are improving and where improvement is still needed. This is our first step to achieving a view of our challenges. I want us to go further. That holistic view will be critical going forward, in the future.

AHRQ is it treasure chest with evidence. We must develop new partnerships to ensure more health systems, doctors, nurses, patients and communities are using these. The potential return on investment is extraordinarily high. It can indeed [Inaudible] based upon the work that we have already done.

This good also create benefits to the patient. We need innovated ways innovative ways to do this. Finally, as you talk this morning, we are committed to [Inaudible] the unmet needs and make it difficult for them to become [Inaudible], the very many [Inaudible] I believe we can build that system.

My vision for AHRQ is encore calm -- competencies -- is one core competencies. We can create a AHRQ version 2.4. We could address the key questions of today and tomorrow to improve health and the healthcare of Americans. I look forward to working with you where we can have the greatest impact. I thank you for your service to this agency and to the American people. I would like to turn this over to Sharon to update us on developments. I would like to get your input and would be pleased to answer any questions that you may have. One key thing is that you can help us understand from your advantage point where we can go to to do that and how we leverage our work and create opportunities [Inaudible] with that, I will turn it over to Sharon. Please take it from here.

Thank you very much.

Okay. I just wanted to orient you to the agenda. You just heard our directors vision. I will update you on the activities. We will have presentation on where we are on our vision of the learning health system and the act Tiffany's we have done and what is coming up. After lunch we will have an update on the evidence. We have some findings coming out about a big project that we are excited to share with you. Then we have a session on data and analytics to address emerging issues. We have a session about how we bring together the analytics we have and how we match this up for emerging issues going forward. Then We will have wrap up and discussion. We have a busy day ahead of us.

We have updates for our members. As you heard from the introduction, Lucy is now the director of the Kaiser permanent date research in the Northwest. [Inaudible] congratulations.

We have two members. Mike Lauer is the deputy director at NI H is our new NIH rest -- representative. He is unable to join us today because of a family emergency. Chesley Richards is the deputy director of the public health science services at the CDC. She is our new representative. I think she is supposed to be here today.

First I want to give you an outline of the presidents of budget proposal for AHRQ this is FY 2018. As you may have seen, it provides 378 $.5 million in discretionary funding. That is an 18% reduction over current budget. The important thing is that they proposal is to keep us intact as an Institute which we saw as a positive thing. The budget retain the number of major, important things. The investigated research, evidence based practice centers, dated gems and our support for the present of services task force. It eliminated a number of very important programs. Fizz include health information technology line items, quality indicators that we have done in the past. Research on, the data analytics support and the dissemination and implementation contracts that we currently have. That is a significant change from our current operation.

Moving on could to -- moving on to past activities, we had a robust visitation at the Academy health meeting. We were very pleased to participate in 18 podium presentations. I think that is a high for us. You can see the range of topics that AHRQ presented on. We were very pleased to be there.

I think you have, in your folders, we had presented to you last time our very first pamphlet called AHRQ works. We produced another one . This is exciting. It is about physician burnout. We are trying to produce a synopsis of our research in a user-friendly way. We would love your thoughts on whether this is a active as a model to disseminate our work. If you have any ideas or suggestions we would love to hear them.

Now I will go through our core activities. This is the slide that reminds you that we do have three types of Avenue -- of activities. We create materials to teach and train and generate measures and data.

We have recently produced an analysis in pediatrics looking at interventions to improve autism behaviors. The research found that century -- sent to re--- century [Inaudible] the preventive services task force has been busy since the last meeting. You can see the range of final recommendations. On the next slide these are draft recommendations. They continue to push forward with incredible energy on a wide range of topics. We do everything we can to support that.

The evidence based practice centers have also been busy. We have systematic review updates. We have technical briefs as well. You can see the range of topics up there. A number of methods [Inaudible]. We were very busy. We can discuss those in more detail if you would like.

Tools and training, we continue to report on the national scorecard on hospital conditions. This is an update. The decline continues. That is very heartening. More reductions and cost savings from that. This shows you the actual reductions in the activities. You can see that we are making very good progress here. We also just reported on a drop in healthcare associated infections among nursing home patients. This is an application of our methodology to cut healthcare related infections in nursing home patients. That rate has dropped significantly as a result of this intervention. 75% of facilities showed a reduction. We are very gratified to see this.

We have a recent funding opportunity announcement for the national research service award, that is up for competition and we look forward to seeing those applications come in.

We have a lot of data work that has been published recently. For those of you that don't know, the national -- the medical manager panel is a survey of employers, governments and we have released estimates for 2016 private sector establishments and a statistical brief. With respect to enrollment in employer sponsored insurance, there was no decline. Premium growth rates remained low. The growth rates for single premiums were similar to those from the prior year and lower in family premiums. [Inaudible] the offer rate at medium-size employers increased 85% from 85% to 88 percent. The overall take-up rate declined 3%. This is the lowest level for the..

From 2015 to 26th team, there was no overall change and no significant change in the enrollment rate for small, medium or large farms.

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20 6th% are enrolled in healthcare employees --

The growth rate for premiums were similar to the growth rates from 2014 to 2015. The growth rate last year was lower than the growth rate in the prior year.

We have done work on the medical --

I'm sorry I have a quick question. The premiums were flat. What happens to [Inaudible] are deductibles up? Were there any changes?

Yes. [Inaudible] those are increased?

That's correct.

That may be an average.

[Inaudible] I'm not sure if it is in that particular brief that we do have a chart that is coming out in another month or so that will have a lot more detail about what is going on. You will see the cost sharing is increasing on employer-sponsored plans.

[Inaudible] right. It will come out in the next month.

It is not a spike. It has been a continuation of a trend over time.

Thank You.

We also have done some work on childhood obesity. What we find is that being obese during childhood is associated with short-term medical costs. They are larger than had been originally suspected.

Here are some results. This raises medical costs. Severe obesity raises this by 400% among girls. This is a dramatic increase.

Among children with private health insurance, there are greater increases in private payment. The cost of severely obese boys is greater for boys.

Among children with public health insurance, 300% for girls compared to average for boys, 100%. Sharon, do you have a sense of why those are so different between private and public?

I don't.

Joel?

That when I'm not quite sure about. It could have something to do with a different population. I would have to ask Adam, he is the one who did this research. I think there is probably, in terms of health that is, I think in general, the publicly insured are less healthy than those that are privately insured.

It is dramatic.

That is not clear in my head.

There are recent -- papers looking at this. It is because of poverty and the effect on these issues. My whole thing is for you to be able to see those numbers. What are we really doing about the issues? I think that is what we need to talk it first.

[Inaudible] Joel is out of the hotseat.

[Laughter]

We have been doing work on open and on hospital stays. We had a brief showing the hospitalization in -- involving pain relievers is up 75%. This is significantly outpacing the 55% hospitalization for men. For women, it is much higher. Now, the rates are virtually the same. We have had a catch-up for women. There are variations by state. West Virginian -- West Virginia, Maryland and Virginia had the most hospitalizations. We also have a tool called the H cup. That combines the data into a national file. We get the data at a differential rate. So for states that we get data faster, we put that permission up that data out more quickly. Here, we can see that we can see the most recent data through the third order of 2016. You can see is steadily increasing rates for inpatient stays. This raises the question of whether we have been under counting opioid stays. It a measurement issue that we are looking into more closely. It is interesting to see this change over time. You can see it almost in real time with his data.

Given what you have just said about the effect of [Inaudible]. I think it will be important [Inaudible] improving the way that we spend -- give the information. We need to look for that [Inaudible] and maybe two granular. I think that will be really important. Most people just look at the picture and never read the things that go with it.

Yes. Absolutely. We are trying to look to see the effect of that change encoding on some of the other work we do and trying to understand that at a more gradual level. There are diagnoses that are assessed differently.

This is a huge issue. We have done work looking at value care. We're seeing disparities in the data. They just don't make any sense.

Yes. We can report that in a future meeting. We are doing further analysis. It is something we are looking into quite seriously. The data is very fresh of this point.

The data also shows the response to policy changes. This is an illustration of policy change. The graph on the left shows states by pairs in Illinois. We see a shift in Medicare covered state. We reported on that previously. On the right it is mental health and substance abuse. We see declines in Medicare stays and then it jumps back up. In 2012 Illinois implemented budget cuts. During expansion we saw an increase. This date this data really tracks the policy changes.

We have another recent brief that provides a recent overview of hospital stays. These are stays in short-term, acute hospitals. We find that inflation adjustment increased 13% over 10 years. Most of it was in Medicaid and private insurance. Mental health and substance abuse related days increased 20% over this. Sepsis nearly tripled over 10 years. It is the most common reason for hospitalization. We are following up on this.

[Inaudible] there seems to be some credible evidence that this is in part the result of coding the campaign and increased vigilance on milder cases. It will you be able to take a look at that? Perhaps we can reflect on how that could be reinterpreted?

We can certainly take a look at it. When we publish our staff briefs, they are just the facts as we see them. We tend not to do any policy interpret Tatian there. We can certainly consider doing a longer article or journal publication on the reasons for the change. We can certainly take a look at that.

Given all the constraints, this is and inter braided to be a national crisis. I don't think a sudden rise in people falling in this -- dead in the street is an important issue. I don't think it is rampant.

I'm wondering if you have done any state-level analysis of different policies around opioid abuse. I know some states want maximum dose limits. Are there any ologies -- are there any policies at this date level? There are concerns that it may lead to illicit sources of drugs. They are trying to see those kinds of changes. The other thing is does this allow one to distinguish -- distinguish prescribed opioids as opposed to street drugs?

Yes. For your first comment about whether we are considering looking at the policy impact on H cup data, we are considering that. That is a rape area for research going forward and it is under consideration. I don't think our data allows us to distinguish between prescribed Versed -- versus illicit somebody can correct me if I'm wrong.

[Silence]

We are Soli dependent on the codes. Nine codes are an honorable. ICD 10 has more specifications on opioids. Your point is, is it a prescription or nonprescription drug? I don't no that. Pam Owens is our senior scientist. She should be the expert in this area.

Thank You.

I will open it up for further questions and discussion on what we have been doing today. If we could go back to one of the earlier slides that discusses the proposal of AHRQ being converted into an ARC Institute. Can you talk about what that means for priorities? Are there things that we have historically done that will no longer be part of this vision? I know there are budget cuts. Are we cutting because it is not in the budget or because it is not part of the budget? Where you see the organization going? How will it transition and how firm, or fixed is this? It looks like many questions.

It is part of the president's proposed budget. In terms of the part of NIH, an honorable the third question about priorities, when our mission focus will be and some line items that we will not be able to address because of the budget cuts. The overall impact in terms of the vision is twofold. First, we will have to rethink our priorities. The other thing that I talk about is, how do we take advantage of the invest in opportunities and how do we update this evidence and make it broader. --?

There may be opportunities to do that. We can take a new view on the data. There's a lot we can do given the presidents proposed budget. Of course, the third is that it is important, the learning health system. I believe that AHRQ can be a catalyst in that area. Budget cuts do have a Ed -- and impact. I do think it is worth noting, Congress has the final say on budgets and changes. At least the bills that are moving through the Congress don't seem to include moving AHRQ into the NIH. I don't recall what the Senate Mark is. You probably have more recent information than I do Bruce? Pico our sense is that they are no longer talking about [Inaudible] I called on you and then she was --

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Exactly. She will learn. As long as you have the microphone, why don't you continue?

Some of the work that I have been doing is looking at [Inaudible] the reports came out in December. These are not perfect but they were inexpensive to calculate. I'm wondering if you have thought about incorporating the senses data into some of the status so we can look at it on a more national level.

We have been thinking about using social determinants on a number of aspects. We will talk about this more we could do it this afternoon. We have been thinking about adding a social determinant to add depth into the analysis. We've been asked during many avenues. I would love your feedback.

The University of Wisconsin, the last update was 2013. We've done [Inaudible] in Northwest. It is very simple to do. There's a lot of stability audit as well. First of all, congratulations. Thank you for inspiring a vision. Sharon, a special note of thanks for you for serving in interim capacities. Good work. Thank You. I don't know if these are questions or philosophical illuminations but here goes. So, there is a definite tension among agencies as to who is doing what. I think this is reflected in some of the comment area about the future of HR Q by policymakers and pundits in the country. Given that, the clarity of vision needs to encompass in some way how these relationships unfold and where the collaboration is. I hope I live long enough to see many efforts that are supposed to integrate a cross all agencies. They do it for a little while and then it goes back. With that in mind, there are 4 areas that I felt we might want to think about. The first has to do with the vision that we are going to deal with the burden on primary care and focus their in general. One of the things where I work, we don't do well at this is the king of the future of technology. Mainly, tech and IT. My own view is improvement -- improvements are very unlikely to be of active in a rapidly changing environment. It is a little discouraging to see HID on somebody's hit list. Maybe somebody else is doing that. I don't think transformation is possible without a better dialogue with technology.

Next is the issue of data sources. [Inaudible]

[Laughter]

The second has to do with these data sources. This is a challenge for research in general among the board of Academy of health. What does the future look like? A lot of research is not going to be hypothesis driven in the way we were used to. It will not use usual data sources. Certainly, data mining and ape and Tim Iology are thinking in different ways. Epidemiology are thinking that way. It seems bizarre to me that that was on the Atlas. That is the second. The first is -- the third is this bipolar attitude in the United States about studying costs. Clearly, you presented data on cause. When we get to effectiveness, it seems to be taboo. We just completed a survey of state legislators, both Republicans and Democrats. They accrued -- agree on one thing and that is cost. In this environment where there is bipartisan agreement, the costs are important. Having a clear vision about how AHRQ will deal with this seems important giving given the continuing problems we have with the cost

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Fourth is, we obviously have a national crisis for opioid abuse. It is a crisis. The question for secretary price is, will this be a one-off brute force? Is a going to be used as a way to look at systems that we have to promote health and improve healthcare especially for those that are disadvantaged? How can AHRQ look at how this reveals issues and problems in the systems? My biggest fear is that we will, I know we will solve this problem. There will be steep reductions. There already are reductions in prescriptions. The rest will follow. What will this do to improve primary care and improve the health of the population as opposed to dealing with this one segment of the problem. I guess that is a lot to say, those 4 areas. They do help eliminate -- illuminate how we can leap into the future. When you have core competencies, they become the pillars of your work. There is a tendency to say we are good at this and we will continue to be good at this. The future will demand this. As you said, it is a leap. As for incorporating, I know that will come back up. I think this year, the question is, there is also part of that budgetary request that looks at the overall funding and research in health services research specifically. We have this enormous limitation. In NCI, it is very important than others, they don't know what it is. That is the contention. Although keeping our goal is probably going to be what happens, if implementation research and the translational pathway is still a competition among agencies who were going to cure something, will AHRQ maintain its preeminence? That is my editorial. Your free to quote or attribute.

I just want to say that the president's budget had a line item in it for study for health services research. The house bill actually had a similar provision in it. We were happy to see that that carry through. It would be nice to have

an independent study of health services research throughout the institutes including us and how that should be coordinated.

I think I said it was one provision of the budget that I was enthusiastic about. Whether it was the only one, I will keep that private.

I agree with your passion. I think there are things that we need to look at and see how [Inaudible] can help us. Division I have is that I see AHRQ at the enterprise level and emerging. I think we have great opportunities for leadership in that area. The other comment about [Inaudible] you are right. They are worried about mental health and general obesity. Is you is on a much larger scale. We have to examine ourselves and see how we position ourselves for the future as opposed to perpetuating what we have done in the past.

I also want to congratulate you and wish you the best of luck. Sharon, thank you and the rest of the staff for a terrific job you have done through these transitions. My question is [Inaudible]. In light of your vision and where you would like to take the agency [Inaudible] where is the knowledge we lost? Where's the information we lost and data? Have you translate that Rex then, as was discussed earlier, how is that information helping the leverage for action? I wanted to give thoughts to -- given the proposal to eliminate these core elements of the programs, do you see that there are aspects of those programs that can be repurposed for the patient safety aspect of it? It just seems to me that those [Inaudible]

To questions. Coming to the reduction of budget, we are doing that right now as an agency. We need to repurpose and recalibrate our work to be able to pursue this vision for the long haul. Coming back to an earlier comment, I would say that we have to find innovative ways to look for those opportunities where there is knowledge and it could be exponentially increased. I believe that is where you can help us, define where those opportunities exist and how our work can be leveraged at the point of care. I believe the fact that AHRQ has this broad base work with the primary care and clinicians gives us a huge advantage. We can take this work done and move it much faster. We really are [Inaudible] research and implementation. I think that is where your idea would be extremely important.

Thank you. That is very helpful. Along those lines, and has been mentioned by others, the implementation could be used for a framework to sort of make that more coherent to people outside the field, and inside the field. I think there are elements where that might be a useful framework to articulate some of that with the idea that it is science, but implementation focused. It is a bit different than some of the more basic research that NIH focuses most of its efforts on. The ultimate goal is implementation.

A follow-up to the prior comment. [Inaudible] public policy. We proposed this at the board in the June meeting and they [Inaudible] it will look at future health services [Inaudible]

That meeting is going forward? Right? I am echoing others. We are undergoing similar exercises in VA health services, trying to grapple with the role for research relative to all the other research that happens in a healthcare system and private sector. One way of thinking out of it -- of it is what won't have a home someplace else? The whole issue of how big data, H IT impact the delivery of care is a big component of physician burn. I think that I don't trust the private sector to get everything right as they think about [Inaudible] one important part of the agency is, especially for health services is to think, how do all these innovations in both [Inaudible] and data mining translate into decision-making at the level of the clinician and patient. That is a place that no one is going to own. That cuts across too many different institutes. I don't think the private sector will be owning it because they will be thinking about selling their product. It is something that a lot of stakeholders would [Inaudible] if people can bring some objective research to that. I think one role for the agency is to be a dampening effect on the swings of height that come with any new innovation.

In my long-winded remarks, I forgot to mention training. It is really gratifying to see continuation of the [Inaudible] program. For over 20 years, it has been extremely valuable populating the community with people who know how to do health services research. With that said, what it will look like in the future is a challenge. We need to understand implementation. The current [Inaudible] on the street is very similar, almost identical to

what it is been in the past. I know the agency is taking about ways to fund junior faculty especially in implementation and healthcare delivery systems. The challenge there is going to be, how do we do that without losing fellowship? If you go through and say [Inaudible] you put a fellow in their and they are not part of a cohort, people who are nurses and physicians or physiotherapists, how do you maintain that? It is something I am sure you will be thinking about. It is a unique opportunity for this agency to promote that kind of research skill set. In addition, this is as much Academy health's role as trance for -- AHRQ's role , these are changing quickly. It is not just academia. It will be and industry. It will partner and ways to make that acceptable. That will be important. [Inaudible]

I think we have talked about this before, we have been working to identify the competencies required for new generation of healthcare researchers that work in [Inaudible] and conceptualizing a training program that would have academic and components of [Inaudible] and health systems. We are hoping to have an FOA on the streets shortly. I can't say anymore about that because it will be an FOA. It is something that we have been working on and are very interested in pursuing.

You might -- this is just a wild -- [Inaudible] I am sure I can go to any training office in the world and say who I am and that will be a recognizable bond. There are these kinds of cohort enablers that I think [Inaudible] okay. I think we will move on to the next session which is an up date on the learning healthcare works. I will ask David and Bridget to join us at this table and briefly introduce them. David Myers is a board-certified family physician who is our chief medical officer. Among the many things that he does, he is participating in the strategic planning around the learning health system work that AHRQ is doing. Then [Inaudible] Russell is co-leading the development. Then Jamie is also working on a variety of special projects including the work around the learning health systems. Without further ado, I will turn it to you. We will give you your full time.

We wanted to update you on what we have done. This will be a quick update. I want to discuss things about getting to work with [Inaudible]

This is a rough timeline and outline of what we will share with you today. This came from you all.

What good AHRQ do ? The first thing was to figure out a name for it. We were requested from the public that. What we learned from our request we will highlight. Then I will turn it over to Jamie to talk about some of the act entities to bring the community together.

Right now the healthcare system [Inaudible] the learning healthcare system paradigm, we take that data and turn it into knowledge. [Captioners transitioning]

Translates -- [Indiscernible - low volume] just knowing [Indiscernible - low volume] making evidence and that's a unique value. We out to the larger community and the advisory committee, and if so, what are you doing? And what do you want us to do.

Great, thank you David. So in January our request for information to better understand the process by which organizations and professionals select evidence of lament and the strategies they use to move this evident in every practice. Select the RFI contained 11 specific questions and the provider gives good overview. So we required -- inquired about how systems use their own data tool for practice. The types of metrics they are using, to evaluate system performance and progress.

We want to know how they are evolving patients or families in their effort. And then perhaps most important, for Gentoo we want to know ideas how to do can support healthcare delivery organizations in the transformation to becoming healthcare systems.

[Indiscernible] of your cousins.

The RSI was open for about six weeks. And we received a robust response of 44 submissions of stakeholders. -- A variety of decoders.

Many of these are health physicians, health academic centers and health of associations respect the respondents were overwhelmingly supportive of our moving forward to support health care systems.

I am going to focus on the recommendations on how we can assist in this transformation. Responses convened around four main themes that are going to be very familiar to you. Because they align nicely with how we think about AHRQ's work .

So there were an overwhelming number of suggestions related to data and analytics. A common idea is to further refine and promote AHRQ's existing resources to support health systems benchmarking. One suggested was that we could provide updated caps and H caps for the recent 12 month district for the recent 12 months.

We also respond to spec had turned to the right data -- access to data networks. This is particularly important for some smaller organizations that have limited ability to invest in every structures.

Respondents also want assistance in managing their own large data sets. And particularly ones that combine data for the service.

The specific needs here included support for development and validation of predictive analytics. Tools that facilitate integrations and connections to population health data or it and promotion of data sharing among institutions.

And finally respondents asked that AHRQ worked to establish a preferred set of measurements and analytic approaches so that there would be a more uniform approach to learning healthcare system research.

There were a number of suggestions regarding further development of models and metrics. Some common ideas included models of accountable care organization that can be replicated in the field. Measures of system improvements that reflect the use of data. New measures around low value care to support the implementation and quality measures to support the diagnostic process.

And is always was successful that AHRQ could help in aligning measures to help reduce burdens and also working with health systems and test measures in the field before federal implementation.

Regarding tools, AHRQ can work to modify existing tools to better support learning health with some practice. One tool that was specifically mentioned was AHRQ model care kit in dissemination planning kit.

AHRQ can also work to develop a toolkit to support rapid Regulus pragmatic trials. It was suggested that AHRQ could catalog research being done by the NIH healthcare systems research laboratory and the developing NIH DOD collaboratory.

And finally again, AHRQ could work to develop tools to increase the delivery of low value care.

In regards to training, there was support for continued training and professional development for both of services researchers, and healthcare professionals. It was suggested that AHRQ can invest in training that provides the bridge between academic institutions and livery systems.

And will hear more about our plans with researchers in the core competencies of learning healthcare goes which is in line with his request.

It was a suggested that AHRQ provide training on research methods in need of health practitioners. Specifically practitioners benefits with tight -- data techniques to better analyze, prevent -- [Indiscernible] outcomes and health delivery.

There are several suggestions relating to dissemination and implementation. AHRQ can work to identify the most effective approaches for best practices, and folks here were particularly interested in learning how to tailor these tactics to meet their own specific environments.

AHRQ could also work to find existing transformation methodologies for supporting system-level change. And AHRQ can develop and disseminate key studies of other health systems experiences and learning healthcare systems.

A couple of specific ideas here for the case that he's included how systems are structured at support learning, and the use of data visualization as performance improvement tactic.

Especially if they are comparing their own local data against AHRQ data.

There was almost universal recognition of AHRQ rule in the convener of district takeovers to prevent collaboration and cut catalyze action. Responders asked for AHRQ to be to bring together nonprofit, government and industry representatives underscore the importance of evidence and inform practice and just informed [Indiscernible]

It was suggested that AHRQ create mechanisms through which is systems can collaborate with and learn from their peers. Such a meeting and learning collaborative focus on accelerating this development of learning health systems capabilities within healthcare delivery systems.

Finally, respondents suggested that AHRQ can provide assistance in implementing IHI lengthy programs to hospitals and evaluating hospital systems and limiting strategies preaching back and now I would turn back over to David he would talk about some of the current efforts.

Actually if it's okay, do you want to do a quick questions for Bridget on that before we see where were going or do you want terrible things and then ask questions?

It was nice to see some of the qualm -- the comments I made written down or he left back

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I want to thank you all for responded to our request.

We will push forward.

So we listen to you, we are listening to the public. We will talk about now in a moment how we will get even more focused specifically on what we can do.

This being AHRQ, we were going to wait for the entire year [Indiscernible - low volume] the plan to get started so we haven't thinking about how some of our large efforts already can be tailored with his vision forward.

I would just highlight for examples of that.

The first you've heard about is enhancing the workforce. Able to do this work. Specifically when AHRQ went out to develop competencies, for health services researchers around the learning health system. And how they can be embedded with the delivery systems. And as Sharon Lou to the gold with the competencies is not to leave some on the shelf, but to actually get them used by Creek? Of these creating opportunities for training to develop [Indiscernible] in the cadre [Indiscernible] to find the 20 century health research is embedded in this [Indiscernible] and that's moving quickly.

The second area is here -- is the workforce is one part of that. There will be other workforce systems but that was the researcher part of the team.

Another area was embedded technology. Learning health system has to have to be able to move forward. And this afternoon we will go a further to what this could be. Right now we are starting with the clinical decision support. Is not universally used. It is not universally acceptable for clinicians to the point of care to drive evidence into practice. So led by the HRT team and you hear from him later, two major initiatives. What is cleaning a national learning network for systems who are struggling to push clinical systems systematically into their systems. And number two -- a targeted effort to create the really not sexy backbone of the standards and tools that are necessary. To make moving evidence into the clinical decision support easy for everyone to do.

And that's called CVS connect, and people doing it it is quite sexy and the questions are fascinating. So very much behind the scenes Graham and we're testing that starting with cholesterol guidelines with the national cholesterol guidelines is universally translated will.

And that driving that last mile and connecting with individual health systems with artifacts that allow anyone to customize and plug in and not start at the beginning of the treaty guidelines. [Indiscernible - low volume]

For clinical decisions. And we are now testing it and it support for testing to help the community work centers aligned with helping those most in need.

The third area that's very important to point out desperate it with Intermountain healthcare. It [Indiscernible - low volume]

And one of these is how health system can be a primary care office. It's at all levels of [Indiscernible] and evidence now he can hear about next the presentation on primary care is a large effort to reach over 1500 primary care practices across the country and build their internal capacity to understand and apply evidence as looking at their use of data information systems in the workforce, their skill development, and also kidding and excited about putting controls back to them to sit -- decide what is the most important thing help them change it. We are studying how that works as well. But we're not thinking. This is only for [Indiscernible] systems. Learning with some healthcare delivery systems.

And hands-on and direct with the grassroots is working evidence now is we are also taking systematic look and looking at larger data. And that's what we are calling comparative health systems initiative, ask actually a multifaceted initiative but with a pretty large grantee, we are trying to understand what you health systems in America look like. How do we categorize them and specifically how are they using evidence. Whether they are systems, whether they are measures, and then take district to say the system as well. Answer the question is what characteristic of healthcare system is really empowering them to deliver [Indiscernible] in the best practice to become learning district [Indiscernible - low volume]

With this initiative. As a more system-level for the evidence now is actually on the ground with primary care practices.

For example, the different waves AHRQ can approach them.

[Indiscernible], I will turn to you. We are starting a. We really want to know where in the future our initiatives can be targeted.

So as David mentioned, we have obviously been thinking about this and using a lot of [Indiscernible] so AHRQ commissioned a meeting on June 29, to help advance the vision of the continuous learning health system. This builds reports that [Indiscernible] had published in 2012 called Best care lower cost for continuous learning health care in America.

As well as ongoing discussions that NAM is leading to help the systems. This particular meeting had a focus on the potential for AHRQ contributions , and again the big take away is a lot of impressive health leaders who are in healthcare including [Indiscernible] and our own Mary Deller is officers on the committee who wrote the report on learning health care systems.

And there was incredible excitement about thinking about that irrespective AHRQ.

In the outcome of this will be perspective paper that will be available in late August and will be happy to share with you when we get it.

The meeting was structured -- the meeting was structured with panels addressing desperate these four questions. What constitutes learning healthcare systems? How might learning healthcare systems we implement it, and what strategies are best for spreading the vision of continuous learning.

We are looking forward to reading the perspective document by NAM and the results of the meeting will actually serve as that check will help to influence our own AHRQ summit that is scheduled for September 15, 2017, and this year's summit learning healthcare organizations.

The goal of our summit is to explore how AHRQ can actively [Indiscernible] for the advancement of learning healthcare organization defensively. This is a really exciting meeting for us. And it will be particularly interactive when we at AHRQ and AHRQ participants in the meeting will actually create the content together. It will be a one day invitation-only meeting and it will bring together about 80 different leaders on learning healthcare systems including researchers, representatives from delivery organizations, both integrative, like Intermountain and Kaiser, but also small practices as well.

And they will be looking forward to getting a good roadmap for us to look desperately forward on that.

It's been about eight months since we gave the green light. That's where we been. That's were going.

This section was not actually design we engage in telling us what to do even though were always open.

And have as much time as you want. And this is just to let you know what were doing pre-

Kevin.

It's great to hear the progress made and I think it's wonderful progress. I think it's a great area, I think it's a really important role for each IQ. Very much involved on the right track. Just a couple thoughts. One of the slides we show that you mentioned case studies and where I'm sitting in my health systems both in academics but both the nonprofit Center motor integrated systems and think about more primary care specifically safety nets, there is a real need to have some examples of how healthcare is organized -- organizes. And best practices. Where the big bushes are organizations willing to invest in the capacity to really do this to analytics, some of the leadership. From clinicians and organizational leaders. So I think it would be really helpful to say here some organizations that have created their offices of learning health systems. This is what it took. This is what they are investing, this is where there a [Indiscernible]'s have some grants or something. And I think that's the best actual threshold actually is are you willing to actually put this much MPD as it was time to be able to mine the data related data, and less the leadership that identifies the priority. Issues that we really need for better deafness and better information on in the application. And I've seen some organizations that are pressed with what they are doing, I think -- I would love to go back to my organizations AC, here's where the people are doing and why they thought it was worth doing.

So that's one thing that I think would be helpful in the short term to get some examples of best practices and particularly those organizations that invest because of the resources to get this done.

Second is, and I'm really glad you mentioned the evidence now [Indiscernible] I think we can't lose sight of primary care as their own learning health systems. It's not just the big hospital-based or integrative systems. And I think I'd be interested in your thoughts but this one is a question, the first one is more of a suggestion. Is how do you see this connecting with the whole practice-based research work arm of a jerk you in the body language and saying desperate there is no evidence of this now with HR Q has prepaid some despicable role and how do

you help EB RM think of the skills is learning health systems in advance there to their sense of research methods.

The guy have to add anything to that, that's great suggestion. We are thinking about it, and we both want to see small desperate cannot just primary care but small offices and specialty offices adopting his principles. We think the quality will improve [Indiscernible] when they do this in the real power data will, we can connect those small independent practices so they have a larger set of data to look and learn from. And that's the regional extension idea can do that. The CRN's can do that. The CBO's can do that. We as a catalyst for creating the systems for datable is not just internal but it does flow internally. And that shared in larger ways.

And that's an interesting question that we hope -- [Indiscernible - low volume]

If I could follow quickly, not to belabor but with the PVRs, AHRQ has -- the conference bill [Indiscernible] and have you put this PRS to say what is the model research that is beyond little bit, with the natural history of headaches. I mean there is -- how would we -- what would look like to really start thinking of PVR and is a learning systems in that -- think a little old school primary care research. I wonder if you could challenge them a bit in this area.

For many years I've tried.

Keep at it.

Monica.

That was actually my question.

[Laughter]

I also want to commend you for a lot of work in this short period of time. I really can see and appreciate the enthusiasm. In the innovation and all the hard work that is being put into this and I just want to thank you guys for doing that.

My question was sort of how this is [Indiscernible] in existing net [Indiscernible] base research -- [Indiscernible - low volume]

You come up with better answer. [Laughter]

I would love to listen more. And hear what you are telling us to do.

But we will take that back.

Sandy.

I think it's great what you guys are done and are doing. I just want to encourage you -- just to thoughts. When I was taking care of patients I learned early on and it's a lot easier for me to look at a chest x-ray and identify appropriate than [Indiscernible] [Indiscernible - low volume] the problem that's in front of you and I think as AHRQ, we have to think -- the people who are delivering here, whether it's physicians or nurses or organizations, are so focused on our challenges today that we sometimes to think about what [Indiscernible] on the line but at the same time the mission, by traduce to anticipate that in the affirmation some of the problems are informed, [Indiscernible - low volume] and that leads to two thoughts. Number one hides I really want to emphasize how we always talk about 90% sure district [Indiscernible - low volume] instrument form practices, but the practice [Indiscernible] that you mentioned.

And with that, something in here that I urge you to think about adding to your things -- [Indiscernible - low volume] what I think is the fundamental role of AHRQ and ensuring the world that the data we have we would develop the evidence is valid. And the technical delivery and the analytical validity that has clinical validity. Because I am very concerned as a researcher and as a physician, involved my healthcare system and ultimately [Indiscernible]. That we take that is what we know is not right. Sometimes it's not even law. It's so bad. And but we use it because what we have.

And I think an important opportunity and need and role for AHRQ is to focus and make sure, take the lead in assuring that the evidence that we are developing, no matter where it is [Indiscernible] which -- so one thing with the budget again, the quality measures is supposed to be broad but I think there's elements, and I can see why Congress might think that way, they may think the [Indiscernible] will do it all or somebody else will do it all. But AHRQ has unique perspective of what is important to make the quality measure valid and reliable. And [Indiscernible - muffled speaker/audio] [Indiscernible - low volume]

The other thing when I look back at some of the mistakes that I have and continue to make, I think one that I sometimes have anticipated is you have a great conference of district [Indiscernible - low volume] you have a couple dozen people between. When you publish those reports, you always give back really good thoughts for people who weren't involved.

They can be grassroots people, they can [Indiscernible] [Indiscernible - low volume] you might think about now a strategy to handle those, so they come in and screen them and figure out which ones look like they may warrant further thought and met and [Indiscernible]. But certain anticipate their vents because going through this set at such a rapid timeframe here the have to anticipate that would be helpful for you guys to make sure that sometimes it's the best ideas come in the most unlikely [Indiscernible]. Not from district [Indiscernible - low volume]

Lucy.

So I would like to echo the comments. Thank you very much. This is incredible.

And a meaningful [Indiscernible] [Indiscernible - low volume]

Three points I like to make.

I wish I had [Indiscernible] on my own. [Laughter]

Me too.

Three things. I think the point that Don was making about how to differentiate from other agencies, I think it's is very important for doing that. And make the case easier and then the point is that the Kevin was making in terms of how do you leverage the system AHRQ capacities, and the one I haven't heard people talk about is the action network. We already have partnerships with learning after systems of various degrees and specifications on the size and so it's another opportunity that you have, and having been a director of the program director for an IDS and an action one annex in three, I can tell you in the trajectory of that, we have gotten away from [Indiscernible] and if we could go back to the roots of the IDS RM, because one of the big challenges that we have in the field and this was acknowledged through the slides, we have the resources in the knowledge. In the learning healthcare systems with AHRQ does not have the incentive to publish necessarily the [Indiscernible] they are sort of holding onto the knowledge and is not really a mechanism to share that.

And a lot of the more recent actions task orders have come out have -- they are behind where the field is. We would have to go back in time to implement a lot of those things. There's a lot of ways to get back and think about not just finding these things with grants because I can tell you by the way a grant gets funded, the question is gone. So using those conjectural methods, I remember IDS there's a couple things we were at the proposal [Indiscernible] in two weeks and we were in the field.

So that was pretty amazing. So I think if you're going to build this real hardship with delivery systems, and you generate evidence and I would say [Indiscernible] [Indiscernible - muffled speaker/audio] you know one of the cases that a lot of us struggled with his we get these evidence-based guidelines [Indiscernible] but they are not validated in learning healthcare systems.

They have this natural partnership ability, and I really recommend that you think through how to gauge them, how to meet the timely demands, and how do you harbor that better practice knowledge and [Indiscernible] [Indiscernible - low volume]

Just some basic questions. On one of the slides you talked about, dropping comparing large data sets -- how are you doing that when you can't seem to find variables that match within one system. I will give an example -- I would depend through my fellowship with my prior institution to where I at now which is a very large hospital system, they all use [Indiscernible] I could tell you I can look at epic. When I was his trade, it looks nothing I the prior to hospitals.

When what I think is the primary care provider, I practice still, my system looks nothing like epic. I think most health systems still connect their primary health practices. There's nothing continuous from primary care from primary data to find out why the patient was even admitted or referred to the primary care institution.

And will get back to the institution is very difficult. So I am just really curious, and he goes back to our need for a standardized system somehow like I'm always surprised we never have the major EMR organizations at the table.

Explaining that.

We don't even have it [Indiscernible] to come from the use bite different providers. That's hard [Indiscernible] [Indiscernible - low volume] that's right. And even I think [Indiscernible - background noise] is a children's Hospital Association and the safety meeting we talked about looking at the metrics district is not a lot with the PRS in the register district we are in the midst of this five different major children's hospital systems. None of the leverage matches. So how do you look at outcomes even in primary care when you can't even look at the same variable and say that's what I think they meant when they put that in.

So I look at it again and I will go for it again and [Indiscernible] the weekend just called me.

-- Just killed me.

And we look at they were we doing it this way. No wonder we have these huge data sets that take forever but we need the resources. To connecting institutions. You would know prior to my book if you figure that out.

But Harry doing -- to how to do that I guess [Indiscernible] back to Mike. Select the most part I should say is what we heard from the field. [Laughter]

I promise you were not able to do all this -- let's go for the Nobel Prize. Let's change the world.

Sure, standardized.

On the data sets afternoon will do this with a learning health system as we work with [Indiscernible] [Indiscernible - low volume] in these all have to come together.

You even I guess my whole thing to do now is just having recently been found out [Indiscernible] a month of immunity was exposed to safety meeting [Indiscernible] [Indiscernible - low volume] so I have to say that's great. But we were even have vaccines down to a science yet after all these years. My God there's no database in

the state I was in Pennsylvania. Where I could immediately access and know who has the vaccines up to date. Something that simple.

And I just as a primary care provider, I think that's critical where we are seeing so many noncompliant vaccine folks out there, that that's another example in the primary care setting. I'm sure that will come up in the discussions with family practices in the primary care. So connecting that would be great.

So two separate comments. Going back to one of the sites you showed us about healthy hearts in rural primary care practices. Something like that.

And I was just trying to read the acronym and searching for it and I can find is a clue what it was. But as you probably know Robert, others funded a major I think it was seven state [Indiscernible] and how to get evidence based practices in rural health. And some of the states did very well. I think North Carolina was one of them. Arkansas, regularly as a premier district premier program in reaching role primary care practice. Using agriculture extension service models and be very successful.

So I hope that I trust that you will be going back and studying those [Indiscernible] so say we have a heart problem that we have to solve.

Getting back to my comment about opioid things of that.

Has requested and you learn a lot more about evidence now was auroral.

We did do an opioid medication assistance therapy. The countries in place where we need evidence is having a community [Indiscernible] [Indiscernible - low volume] we have a very targeted small program including medication therapy and deliveries to primary care -- [Indiscernible - low volume] and about medical practices of the community and statewide resources and how are this practices as well.

We get the WJ absolutely we are part of [Indiscernible] [Indiscernible - low volume] some of the leaders there today and [Indiscernible] north Carolina is one of our models. These kind of things like I did know.

So share with us. The primary care is coming up.

The other comment has to do with learning. Learning healthcare systems and [Laughter] I talked about this a lot. Sometimes I feel like I do have two had or I'm two different worlds when people talk about healthcare system so I'm really looking forward to this part of the NAM meeting. With that said, right away, feeling dichotomized because most people wouldn't talk about learning health care systems, which you will be doing I think June around data, are talking about the rapid use of data to understand and improve healthcare delivery. The sentence that you have on your slide was under wider use of evidence after early successes within a limited clinical area. There is something to do with data. That has to do with implementation science and how you move from innovation to scale up and spread, and there's a whole scientific basis for that. The data you need for that is improvement data, not daily database.

You need some base to monitor whether you are successful. So the epistemology [Indiscernible] of learning, if I could use that term that I learned three years ago and a meeting, is very different when you're moving from innovation to local implementation of skills that spread and that it is and how to use data to drive [Indiscernible]

We are fully with you and just our model as you can see, the first one is two parts. As is about learning data evidence that's not [Indiscernible] how to meet use evidence practice with your problem but it's also about your own data. And those take different things. And then press, the combination of what makes learning health systems learning health system is that and the ability to move in a practice with the implementation and you're right, it requires other skills. And people will often get stuck on only one turn to helping everyone understand that implementation is not the same as research.

They are different data sources and clinical care providers. Is a higher order we're trying to -- [Indiscernible - low volume]

Hopefully we will be able to say something that you will respond to your getting it or change it or have been.

And create meet Oestreich re-create me to hold. [Laughter] that would be great. To make just one thing to note. Actually once read about this on what are ready to roll comparative effectiveness research setting would look like. And there actually are Oestreich is remarkably difficult to find them. I mean when you talk about grants being given to organizations, they are very happy to go test something. If they are qualified. If you're talking about asking them as part of routine work to begin implementing testing, spreading, real in their own benefit, volunteers are scarce. And successes are few. And where you do have the settings, they may not be fully interprofessional and disciplinary using all the resources they have at their resources -- as their disposal. I've never been the province of British Columbia and people the frontline were trying to all this work had no idea they had a whole health services research program in a different building behavioral scientist and the human factors and user centered design, never ever had? Are met whenever the expression is.

So that remains a challenge. As long as you provide funding to organizations they will do stuff.

And will they develop the kind of interprofessional interdisciplinary network in their own system that can actually test of their own accord on their own dime. What they need to do.

So you are thinking here a lot of enthusiasm. And his support for the work. And some additional ideas. I will just add one before we, and before I tell you how we will deal with the timeframe going forward.

Of that is, I wouldn't underestimate the importance of culture and the need to actually help people become open to learning and we see this a lot. We think in healthcare delivery. Where people on the front lines and this is the part of another initiative you're talking about -- feel completely overwhelmed. And the idea that they are supposed to change how they are doing something that they believe is right there with you when you had do -- really requires both a culture shift capacity building so I just want to leave out part of that and in fact and in some ways and in some ways I think the culture piece because of art and this is something we learn because it supplemented in the policy improvement state. That you need to not just have leadership gauge, you need the front leans to the front lines have the capacity to be a part of the process. And that's likely to be equally true here. And along with tools and everything. And having seen some things that couldn't get put into practice where it seems like all the right things are there. You know there's huge cultural barriers and fears and concerns. Will I lose my job if we [Indiscernible] things that people didn't completely understand we are getting in the way of adoption and implementation. So just because you need more chips on your plate.

[Indiscernible - low volume]

We actually talk about leadership in the culture that part of the equally as important to the technology and the analytics part. [Indiscernible - low volume] and what we're finding some people want to go the analytics people --. And to be one of the cultural. And we need level for the other.

And that would probably be the leadership of cultural. And most likely we will have to have something that allows wherever you are, whatever you got, how you spiral the next step. And take the next step in helping the data people get the culture and the culture people cut the data people --. Because -- [Indiscernible - low volume] we will continue the focus on her leadership culture front lines. And it's actually works with some of the [Indiscernible] actually getting people to understand this reckoning to the mines at the changes coming and that's a good thing. And that's a good thing, but increase the morale.

[Indiscernible - low volume] and we don't have much room. And were struggling. How we make this about [Indiscernible] the Nobel prize.

[Laughter]

We look forward to the Nobel prizes.

So here's what we're going to do. We are going to take a really brief bio break. Then come back and get the update on evidence now. We anticipate that that may cause us to need to do a working lunch while we talk about the data and analytics issue.

But it if we weren't so darn engaged and so determine to write the helpful guidance, we would be in this problem.

& Take a brief bio break. Try to come back in five minutes and we will move to the update on evidence now. Thanks.

[Meeting on 5-minute break. Captioner standing by.]

Have David who is staying in the hot seat. And with him is -- I have to do this in alphabetical order. We want to actually thank both Deborah Cohen and Tracy [Indiscernible] who have joined us. From Deborah who is a professor and she said research of the family medicine at Oregon health and science University. And really delighted to have you with us today. And then Perry Dickinson who is a professor in the Department of family medicine and the director of the department's [Indiscernible] foundation and the Colorado health extension system.

So all involved with this work and we are pleased to have all of you with us today.

So thank you so much. And for all of you. There's an update on evidence now. Forget that. That's all this is.

This is another 90 minute session. It's a little longer. We are back to two things. We need your advice. The bigger question, the evidence next. [Laughter] exactly.

It's really about AHRQ's role in the primary care. What are the opportunities , who are the potential partners. What is the high leverage opportunities for. And to understand where you think we should go. We want to make sure we understood where we are right now. This is really really exciting work. Some of the most exciting work I've done. In my career.

Because of the subject. The primary care and it's really directly [Indiscernible]

But also we need have people together so I am extremely grateful and [Indiscernible] Perry from Colorado, I was wanting to give you a really robust picture.

So the goal here is to give the [Indiscernible] anybody watching overview and update to the project. What it is and I will do that quickly at the beginning. What we are learning from the national evaluations. And then go deeper into the field. Really understand what it's like on the front line. Both with primary care of the changing landscape of healthcare in America, and also the research and transformation support. It's not just evidence or have across the mother programs, [Indiscernible - low volume] but really cutting edge.

And really use as background for the discussion about AHRQ and feature [Indiscernible] [Indiscernible - low volume]

And [Indiscernible] how we got here. And Tilly difficulty really quickly, three different steam streams that led to this program first with million heart. A department at that health and human services to save 1 million heart [Indiscernible] [Indiscernible - low volume] and prevent 1 million heart attacks and strokes within a five-year period of time. And an public came to AHRQ were putting together , they responded immediately and said we are without the healthcare system and were working on public health promote just -- approaches preventing

heart attacks. We want you to understand the world healthcare system in the primary and secondary prevention of heart attacks.

Is redoing that and so funds from the newly created outcomes research trust fund district that's a mouthful desperate that the trust fund and and specifically with that Congress distracted hearts uses money for a disseminated examination of new knowledge generated.

And AHRQ said you don't really need to do submission taken people desperately people but the evidence was about we would take the funds invested and helping people implement.

And use help improve healthcare in America.

To streams in the third stream was AHRQ primary care.

We believe that primary care's health systems foundation and the national healthcare system. And will be a system that delivers health care to all Americans. High-quality and district that safe and efficient and corrective. It has over goals for American healthcare. Our base and strong foundation primary care. We been engaged in this work. These are samples and will go back to look at some of the different areas that we worked on and primary care research. And also direct support of primary care practices.

So with those i3 ideas, combined with million hearts in the idea of decreasing Mary prevention of heart attacks and how the healthcare system works in that. A requirement to disseminate and how does help you but with evidence to primary care the focus of primary care, we put this together and created evidence now.

What it became, through the creation of [Indiscernible] and we would tell you but the regional cooperatives, combining external quality improvement support services to small and medium-sized primary care practices which often don't have internal resources for quality improvement activity. To provide those externally to help them implement the evidence on the ABS and also improve the heart health of patients. Simultaneously build the capacity to understand [Indiscernible] moving forward. To make it as we did that, the two goals directly about the [Indiscernible] with Aspen, blood pressure, control, cholesterol management desperate [Indiscernible - low volume] and support services. To deliver the services and want to change primary practices that we touch and leaving them stronger than where we started. Finally again with AHRQ we want to study how this external support helps them improve and how they work with a deliver, and learn so weak can share with the rest of the healthcare community how to build and disseminate what works with primary care health practices. You have partners for that, future work at the MS can be Blue Cross, Blue Shield, [Indiscernible - low volume]

Newly forming ACO's [Indiscernible] and many people need this information now. It's not just about the evidence, the evidence of the healthcare system.

This is one of the largest investments in AHRQ's history. $112 million over four years. Launched on May 2015 after year of [Indiscernible] collaboration and development.

The award created seven regional cooperatives to do this work. I would tell you that the challenges not only to deliver this care but to research how to deliver this care.

And then we said, because they are testing slightly effort [Indiscernible] we want to build that roadmap. We wanted a national external evaluation. Traditionally this would've been done by contracts recognizes the patient would be so powerful we didn't want a way to turn around and say all the government invested this, they are just proving what they did is good.

Wanted an external independent evaluation. And we were thrilled by the applications. And this district we have a team led by Oregon. In the 70s and what we are learning natural aspect nationally.

-- What we are learning natural -- what we are learning nationally.

[Indiscernible - low volume]

Our goal is to reach over 1500 small and medium private care practices that currently don't have quality improvement or available resources and we agree to reach over primary care professionals in 1 million patients and we have done that part of it.

And I will tell you and this the map that will see the seven regional climates. The regions can be small and geography is New York City. [Indiscernible - low volume] but I don't have that population are as large of this Pacific Northwest such as Washington Oregon and Idaho.

Across the country. Some people have pointed out in an effort of working her health and this map actually shows we could be showing that we miss his goal.

And I would say North Carolina [Indiscernible] in the highest rate of [Indiscernible] [Indiscernible - low volume] in Oklahoma is the epicenter some of our problems in the highest level of disparity for hearted -- heart attacks and strokes. [Indiscernible - low volume] we do have some of the greatest area of the country as well as diversity. To make it once external practice support. Any say what you mean -- and this is the five feature district future based studies in smaller studies show how practices work.

On-site facilitation and coaching and insulation for the whole program is getting elbow to elbow with these practices to help them on their journey. And telling them where they are having practices people learn with people in their community.

And consultation the academic health center and bring in as resources. She primary care practices. And everything in the [Indiscernible] data feedback and benchmarking to drive change.

People say what it is facilitators do. It's not exhaustive but the kinds of things that they do. And keeps practices about quality improvement methodology. And [Indiscernible] they are there on the grounds with the people delivering evidence to make it really understated. And think about what it means for the workflow. And how they act is to improve efficiency because often change, there's no room for it. Say you need to make a living space. And practice with efficiency is one of the way to do that. And it's also about making them part of the community of improvers desperate [Indiscernible - low volume] both local and nationally.

Just to understand that this program is working, we made the decision to standardize the metrics [Indiscernible] [Indiscernible - low volume] we do this across the goal in the ABS performance with blood pressure and smoking. Collected a baseline for all these practices and routinely moving forward.

This is not the data to prove, this is a data for the research to show the change over time.

We also decided we want to be at understand that we help practice this? We need to measure their and we need to call practice. The cost money that is now a practices wanted to do but it refunded this and this is district they are paid that's a [NULL] pain and help us collect this data. We are helping them provide the resources or provide the incentive to get that extra level of data. We also understand and realize this is all about context. The real learning comes from understanding how common practices are developed in content. So there's mixed methods of evaluation looking at the internal change and capacities context of the best practices as well as the regional collaborative context of what's happening around. To make these of the four measures that they would use. Three of them are in QS. CMS endorsed measures. Lots of learning about this, but just know there are standards to start with.

As he said the goal is to really learn each of the collaboratives is a research grant, and they are doing independent evaluations of their work. They are really robust and interesting and different. And then on top that, since thereby to hear about the [Indiscernible] contract I am up cross them, think about schemes and learning to really be able to see what works for who and what situation and [Indiscernible]. It's no small path. She started

program by telling the national evaluator as well as the cooperator desert this is impossible. But we have [Indiscernible] [Indiscernible - low volume]

Make a little easier for them, we created a national assistance center. They're creating learning opportunities across the grantees. Cervical guarantees and web portals and interest groups focus on problem solving. Also provide direct technical assistance for problems often around data collection issues for mythological questions and how do you best organize a step which design when ramifications occur and how you do [Indiscernible] and we need experts desperate [Indiscernible - low volume]

They are also helping us tell the story of what we're learning.

Moving forward and creating what we hope will be a robust set of resources and national learning after this program and the blueprint in all things we learn desperate [Indiscernible - low volume] helping us. Tunic were not doing this alone. Arc -- AHRQ is very committed to doing this with the partners. We meet with them regularly. An informal steering committee for this program. Make sure we are in line to work with CMS and TDT and NIH, but they are learning from what we are doing, and we are taking what they are doing and making sure we are lining up as well with the cooperative.

I told you this launch started 2015, we have been out in the field. In the practices despicably site data. They are not actively [Indiscernible] just past the end of your two so some of the first practices have finished the intervention they are getting into maintenance phases. And the [Indiscernible] intervention data collection. I will go through the fall. The spring and all the last data collection is how data gets turned over to the national evaluator, the national evaluator will actually pose an entire extra year to keep processing learnings from this. But our question for you is we can see that finish line coming. What is next. For them, and for us.

Right now I will turn over to the real experts to go deeper. By the way I am from New York. I can talk really really fast.

Happy to answer questions, but I think would be more important to hear from them. So first [Indiscernible] on the national lands for the national evaluator Perry will speak, but before you come here the questions. How should our skills based upon what we are are learning what we've done. Think about what you heard from [Indiscernible] earlier is the secretary's priorities and opioids mental health care child obesity and [Indiscernible] think about primary care in the future. Two of the questions and I will bring these up in the end. But about how do we align things that you know about that happening that we need to know are happening.

Are there other issues in primary care that of the pretty platforms that AHRQ needs to be addressing .

Okay?

Thank you for inviting me to come here. I'm excited to talk about what we've learned of the national evaluation -- and [Indiscernible] so I can move through some of the saw faster.

I've divided my talking to three different parts. I will talk a little bit more about the evaluation approach. Share some early findings and then talk a little bit about next steps or implications of the findings.

Great. That think thanks part.

That's great. To the first part is to talk about methods. As David told you were doing a mixed method of evaluation. A couple of our aims look at -- and we're using the ABC data. One of the things that David did mention, and I think you would agree, is that the choice of the CMS a BCS measures, in my opinion really created an overlap between the same metrics practices were used for quality improvement, with the metrics that we're using for research. And that's a place where I like to work here because we are very much aligning maybe not with the quarterly look back, the quarterly look factors, but we are aligning what we are looking at with what they're working on. And that's very interesting. She makes a couple of our aims to focus on baseline data and

understanding patterns of ABC delivery baseline and best capacity at baseline. In addition, we have been conducting prospective observation analysis, and our goal is really a two level. The first is to understand the regional cooperative organizations. What the components of them are, how they develop the partnerships, and what they do. And the second benefit, the practice level, which is what or how the practice is changing. When the characteristics of the practices that implement change, and ACS, and then specifically in this year we're talking arts district turning our attention to take in deeper dive to selecting a sample of high change and low change practice and really going deeply into understanding what practices have changed and improved in those that don't.

Finally a [Indiscernible] of our work in addition to understanding the combinations of the intervention and most effective is to rapidly [Indiscernible] to find them.

Let me just quickly review some of the data sources that we have. Dr. reserve is one of our capacity measures, that's been collected to the practice member survey. We have a practice survey, we get one for each practice that looks at special characteristics. Of the practice, and also our second capacity measure which is looking at the strategies and practices for quality improvement.

We are district intervention tracking is one of the most interesting pieces of data. To the facilitators that are working with these practices in the field are tracking their custom district the number of touches, the type the duration. That will be very important data along the path was a change. Help us understand what some practices may change and others may not.

We had a from ABC's the HR, where we are also conducting a cost survey in which is looking at the cost of survey of implementing the cooperative support at the level for all these practices and what is the cost of regional cooperative to provide support for 200 primary care practices.

So the qualitative data is also very extensive. Search by refusing document such as grant proposals and other documents. That the cooperative create.. We use of the online diary where we interacted desert overtime and real time with the cooperative. To understand the implementation experience as they unfold. To really it's a really useful rapport building and data collection tool.

We have been invited and allowed to the participant servers and workgroup discussions. We visit the site visits, the cooperatives every year. And that includes both observing what they do and [Indiscernible] folks to really focus on external support and practices facilitation, so in every cooperative we went out with a handful of facilitators to see what they did. They were practices and interview them. Which is amazing.

Is a mentor this year we will be doing practice site visits, where we were glad to practices and talk with them about what their experience was. With evidence now and take a look at what has changed. And that includes both observation and interviews.

And then we need to just get the phone call folks. We developed I think a pretty nice relationship with the cooperative.

So this is one of the codecs for quality of teams that are on the site visit. In New Mexico actually.

And this is the website that we created for rapid dissemination, escalate.org.

And I want to turn and talk a little bit about what we learned so far about the evidence now practices. So as David mentioned, the cooperative has been wildly successful in reaching their goals. They have each recruited at least 200 primary care practices. Funny I had somebody review my notes and they put in here a comment that when I'm presenting your data as of May 18, 2017. Which -- [Laughter] no, we keep our data pretty up-to-date and folks on my team thought you might think this is a little old. But it's pretty current.

I find that adorably funny.

It's great. She makes approximately 90% of the practices and evidence now reports fewer than 10 clinicians in the practice. Almost have any percent of the practices report having five or less clinicians. 60% of the practices report that they are located in [Indiscernible] setting because it is really good representation of rural and central practices. Most of despicable third are serving a practices of medically underserved rated 40% of the practices are clinician owned again with good representation across the site.

So I want to tell you a little bit about the evidence now cooperative. And I really love this map. Because the dots on each of these -- in each of these dots represent ZIP Code were cooperative has recruited at least one practice. And what is really nice, about this, is that you can see that in a number -- they spread from border to border. Interstates. And oftentimes in health services research, the folks that participate in his work on the usual suspects. I mean I'm the first to say these are sometimes the practices that are closest to the academic institution. In this is really not the case. And I want to point out this really ties them, and I will leave. Talk about this test with the idea that healthcare [Indiscernible] these folks have extended their relationships and built best practices and reach that is impressive.

And I'm sure many of you are familiar with healthcare [Indiscernible] it was an unfunded date of the ACA that was built on [Indiscernible] for the agricultural extension. And it sort of a which is moment if you think about this right because the agriculture extension was helping improve the farm work in the country in a time where food was very expensive. And worried that there would be district it would be scarcity could draw analogies now between healthcare system with a care bearing this be very expensive for folks as well.

Healthcare extension is really poised to help practices.

Let me talk to you about what these cooperatives are doing a very high level I would just touch on four ways that their helping practices.

First helping practices performing staff. Compare the data to external benchmarks and set targets for a monitor performance improvement.

They are helping practices learn about current [Indiscernible] from experts where that is necessary and learning how to implement clinical changes to improve care quality to align with that evidence. Their helping practices develop motivation, [Indiscernible] and resilience to make changes. To response environmental changes in external reporting requirements. And they are developing a broader and more connected network of community partnerships to better serve their patients.

I just want to give a sense of a couple these look like. And I will both of these rather quickly. Smack this is a Northwest cooperative, a brief region of Idaho, Washington and Oregon. He could see the partnerships that they brought together. The lead is kind of permanent date -- is Kaiser Permanente. That's for the evaluation is being run, and where the whole project is being overseen, but they partnered with [Indiscernible] health which is the regional center and cure and as well as the research network core brand.

In both of those organizations have provided the boots on the ground, and in this case the health IT coaching expertise to extend themselves as a practice.

They were also instrumental in leveraging the relationship to gauge practices in this work.

Quickly and it contracts with Oklahoma, Oklahoma is a single straight region. I would just highlight some of the differences in the partners that they brought together. So in the Northwest regions, there is no health IT data infrastructure. Per say in that region, Oklahoma is a little bit different. They have an emerging health information exchange. Called my health. And part of their work of evidence now was expanding the reach of my health and getting our practices connected. Instrumental and that was the relationship with the regional extension, because those connections are not so easy to make. They need the regional extension to work on the ground with the practices to connect into the resource and frankly distracted by other means where they need to

get it faster. To make in addition, there PVR has also been involved in the work although it's a picture here. They have developed a lot of relationships with community partners. So they have a mission of getting a community health partner located in each region and partner with the academic Health Center and they have been doing that through the committee health service organization.

Is a folks that work with members of the community and [Indiscernible] in the healthcare center.

So what are they doing to help practices, they are providing data [Indiscernible] they are providing facilitation coaching, offering expert consultation. Offering online learning opportunities, creating learning opportunities, reading opportunities and [Indiscernible] and they are also creating content delivered to these modes.

So I want to take a little bit of a deeper look into three different areas. The first that I want to talk a little bit about burnout. These are all [Indiscernible] data.

So we thought about practice capacity and evidence now. Thanks to AHRQ in four different ways. I will just talk about team member burnout today.

So as we're walking with Cooperative to harmonize measures to the surveys, we agreed on including one burnout measure. In the practice member survey. So this is a server that is cleaned by everybody in the [Indiscernible] and multiple representatives from the practice.

And this is the question. We will have to look at both the [Indiscernible] is a continuous variable.

Essentially what we found is that you know, on average burnout was about 1.9 which is on the ongoing [Indiscernible] but not burnout -- not burnout, but this is an average, you can see from the diagram -- that you can see higher and lower levels of burnout. Do not for part of the cooperatives is to try to understand what's going on with burnout in these practices and we would talk with you about helping you understand what the problem is manifesting and if at all possible how to address it.

So we have a few clues are potentially were to look at how to think about that. Two megs of the surveys were filled up by 8699 members.

And what you see here is overall position burnout. Position burnout is Isa 25% and 20 [Indiscernible] percent of nurse nurse nurses and nurse practitioners were also burning out at a percentage of clinical staff.

Only look at some the correlates with higher burnout, we align this with framework for burnout. What we found was that being part of a non-solo practice, being part of a health system and ACO's with -- and we work a longer time practicing in rural locations. Also associated with burnout participation in meaningful use and the lack of community connection which is part of practicing in a health system phone practice seems to be associated with folks with higher levels of now. So this definitely more to be learned here and things to be done.

So the next area where we have initial findings as raw data and infrastructure and this is greatest challenge for cooperatives and procedures -- and now the greatest opportunity and again raising quality clinical measures and ZMS., A, B, C, D and F -- party then we were supporting for quite a while. Semester as practices and questions about the HR use, interestingly, 90% of the practices organ HR's, predominantly these practices are using ONC certified THRs as of 2014.

There are 60 different DHR systems represented cooperatives, 68 and very wide variation in New York City has only 40 HR systems present but some are supporting as much is 32.

Approximately I don't that is, exactly [

Approximately 60% of practices have participated in meaningful use stage wanted to nearly 70% of practices report that they have known in the practice that can use the HR to create a clinical quality report. Although 40%

have soberly outside the practice helping them.

So I just want to review what we think are some of the data requirements for quality improvement. The clinical quality measures for the H Mark art [Indiscernible] reflect our current guidelines. The cholesterol method doesn't measure which there is a new guideline in 2013. I believe that the value set for that guideline was released in May 2013. And if that value set that drives whether or not DHR can produce that BQ them. So from 2013 to 2017, which meant none of the THRs and this particular evidence produce that quality measure.

Practice message have to have days beta that is credible and trustworthy. The reporting measurement periods must be customizable which means that they need to be able to change so they can align with the PVS cycle.

Reports seem to be adaptable to the level of the practice, the clinical team, right -- this is where we see these bright spots in the global teams and [Indiscernible] want to spread them across the practice across the system. Folks need to be able to look at this data that way.

And they need data application levels to ensure their visits have been performed reach and [Indiscernible] work.

And data needs to be comparable across DHR and practices. And here is where we have seen lots of opportunities. That THRs do not meet the for quality improvement --

THRs -- EHRs.

Participating in meaningful use is associated with practices being more likely to say they can produce a particular queue every pore. They had looked at it when they were pushed to look at it by the cooperative, they didn't sign it does find the data valid. They had no way of using report on how to validate the data. And a lot of EHCs -- THRs -- EHRs district really get the report from July to December that was is not the right period of time for quality improvement work.

Health system affiliation seems to help with this. But we learned qualitatively was that health systems don't get their practices, the reports of the data they need very rapidly. If they are not aligned with health system priorities.

And so a lot of cooperatives run into trouble there.

The data infrastructure does very regionally and can help mitigate these challenges. Although I would not go into details here, in Oklahoma the agency can help.

In your city they have data warehouses and that kind of date of Dr. that will not build connections with these EHRs and provide the function they need.

But in a coma they been trying to build this and we got a very expensive

And she's not taking anywhere from $5000-$1500 to -- [Indiscernible - low volume] to do that.

Says infrastructure is necessary but what we found is not sufficient. Of both of the cooperatives have to have common ground to get in there.

And find what's going on and it would the date is not valid for quality permit.

We can all now taken a level and implications of using the data.

But we should start at ground level.

So finally I'm sure I am wildly over time. But these data again are incomplete and not totally up-to-date. But all the practices for which we have got baseline come up with records of data, and what you can see here is that this is not working. That these practices are making changes over time. Keep in mind that these ABC measures report quarterly with a 12 month look back period.

So we wouldn't actually -- we would expect the to see huge [Captioners transitioning. Please hang up the telephone and answer when next Captioner calls in.]while changes, we also expect to have implemented changes that we are seen over time.

Here.

[Captioners transitioning. Please hang up the telephone and answer when next Captioner calls in.]Is it the same time. [Indiscernible] [Indiscernible - static] but they are present. This seems to be associated as there a greater number reported within the last 12 months. Fewer studies. [Indiscernible - static] and strategies [Indiscernible]. For smaller practices. Using data. [Indiscernible] at the center, and that important practices needed. I think [Indiscernible] will talk about this. That is where the cooperatives are working. This is our team and they are amazing. Thank you.

And I am from New Jersey. [Laughter].

I think we should finish, otherwise we will never get to [Indiscernible]. And we want to get to. And I trust you to remember, [Indiscernible] to come back.

Okay, I will not spend a lot of time on the specific data from our results from our cooperative. The bigger picture [Indiscernible] and a couple of highlights around evidence. I will talk about on the ground aspects of doing this work, both from an implementation and research perspective. And what our role can be in this, and how it compares to the role of under funders [Indiscernible]. Just to give a content about evidence Southwest. A collaboration between new Texaco rural offices and the system [Indiscernible] you will see two different programs building out, to form distinction centers. We will talk about that in a moment. New Mexico has had a long history of focusing on local community health effort, and particularly with underserved populations, and their extension. But not as much experience with normal practice efforts. In Colorado, we had about 15 or 17 year history of doing practice efforts [Indiscernible]. Where the work actually started. But not as much with the community-based work, and New Mexico were doing. And trying to build something more comprehensive. And it made for a very natural partnership. Going through groups know each other and work together anyhow also, historically a strong practice research background in both [Indiscernible]. That is building on that expertise, and moving it forward.

The evidence Southwest, 211 practices, [Indiscernible] 158 in Colorado these are the practices we engage, 234 rolled, if you dropped out before they actually started for a variety of reasons. And you will see we are the target for evidence, reaching some of the smaller, more independent product cyst, that did not have a large infrastructure -- practice. We are doing in Colorado, average 3.8 clinics. In New Mexico 2.4 clinics. Nurse practitioners. And it has spread quite a bit. Ural -- urban and suburban.

Okay. As said, it's not the usual suspects. Interesting, from both, someone who has done a lot of work and research work. This is an incredibly diverse group of practice. In Colorado we have done a lot of practice work, historically, and a lot of practices have engaged previously in work. We are working with them and other projects. This evidence is incredibly helpful to us to engage in practices that were actually meeting at practice transformation or research into the work. Across both states, it allowed all, the engagement of new partners in this work, and the development of a new enhanced infrastructure for practice transformation, community engagement and implementation research. We are seeing improved alignment and coordination of efforts across these multiple partners. I will give you a case of an example. And how it is working in Colorado. Bringing everyone to the table who is involved supporting practices, it helps to accomplish aligning things and correlating

things from the practice perspective which is very important. And for [Indiscernible] so many different things and different terminologies and different directions.

I need to say from the perspective and the state of Colorado and New Mexico, the development of these hardships and the infrastructure, maybe the most important outcome on the regional level, of evidence now. As long as there is outgoing support.

I will talk specifically about the Colorado extension system a multi-stakeholder collaborative, convened by the University of Colorado, Department of family medicine, including over 20, practice transformation organizations. Providing transformation support for various groups of practices in Colorado. Including a first above organizations, including health systems, hospital systems, practices providing support to them, and not as engaged in evidence now, because we were not going for system practices. Across larger efforts, critical to engage in this work.

It involves practice support organizations like primary care Association, supporting the F QAC. And a number of nonprofit within the state, teamwork, supporting and a lot of work for years nationally in Colorado groups like this. Of wide variety of organizations. And I should mention, quality -- information change as well, it has changed as well. A number of state agencies several done with the partnership of the Colorado Governor office, and Medicaid office, and the [Indiscernible]. And nonprofit. Wide cooperative. There is not a real formal structure, in fact, try to avoid creating another organization to do this. We have been able to maintain as a cooperative.

From the impact study, you can see from AHRQ the format states, -- 4 states. New Mexico, Oklahoma, North Carolina and Pennsylvania. And the partner states. They have started distinction work. This is from intact. This is something that is occurring nationally. And it has extended beyond it considerably, with evidence now, can see as [Indiscernible].

Our mission. I want to go over this as it is important to understand the different fast. And shared across most extensions. To improve health and healthcare, across Colorado through supporting innovation, quality improvement and transformation, primary care. It used to be primary care, now extending much more through [Indiscernible]. Two specialty practices as well. Improving practice readiness for payment models, technical assistance and infrastructure development. Collaboration among primary care practices, specialty practices, other care providers, community groups, patient advisory groups, local public health offices, and public health agencies. They have silos along local and regional level, and the more we can get people to work together, dealing with these problems, within [Indiscernible]. Facilitating and aligning local and state were work to improve healthcare. And achieve [Indiscernible]. Producing new knowledge through careful evaluation of every program that we have been in place. And linking research institutions and researchers with practices and community partners. With universities.

This started through partnership performance and practice, one of the large scale practice transformation efforts. And we went to initial states to be. I did the evaluation. And it grew into this larger partnership. Around the time of the impact grant. We partnered with Oklahoma with impact project. We use it for a small amount of money, to get a -- before completely voluntary. And we had funding to support project director -- project manager. And we had this big burst of grants. Evidence now. And seemed my funded model project, taking and partnering ship with the governor's office. Focusing on behavioral integration and alternative payment models, working with orange her primary care practices.

Transform clinical practice, and for that project in partnership with the governor's office, primarily working with systems and specialist. What we have is a whole range of projects where we can support different types of practices Were slightly different types of work, providing a little bit of an on-ramp to pack transformation -- practice which I think is important for different types of practices. And we have added onto that. Project in partnership with the Colorado behavioral health funded by [Indiscernible].

I am not going to go through this as I think David and Deb will generally deal with this really well earlier. One thing I do want to put in, we identified from our previous work, the whole thing around getting data [Indiscernible] for this project would be a huge. [Indiscernible]. Drawing on the Beacon project, and the evaluation, we have developed a workforce and we are calling [Indiscernible - static] which is specific roles separate from the facilitators. [Indiscernible - static]. And the practice work and it is hand-in-hand with the practice facilitators.

We have additional role that we are building called a regional health connect your this is where we can get into more of the connections with the community. And we are funding this across several projects. Their role is to be a local person, employed from the local area. [Indiscernible - static]. To engage [Indiscernible] practice. To link them with resources. And staying in touch with practices as they go across multiple logics. This is a journey not just one project that gets them where they need to go and they can stay in contact with the practice. [Indiscernible - static]. Connecting [Indiscernible]. [Indiscernible - static]

[Indiscernible - static] implementation project, where we go out and work with practices largely around implementation not a strong research component, but everyone retracted you care to evaluate, so we learn what is working and what is not. We have done a lot of evaluation with other folks early on the Beacon project, improving performance and practice. And we have learned a lot from those. Those two go together. Workforce projects, we need to do building a workforce. We have done residence PC MH curricular practice [Indiscernible] and we need to get into the medical assistant and nursing training programs much more, and trying to make that direction.

Community engagement projects and transformation. For example, a projects where we pull together a diverse community group to provide input on Asian resources or diabetes management. And that makes directly into it.

Up to clinical trials, especially interesting and difficult areas, always emerging from our evaluation effort from his other projects things continuing cracking our heads. Patient self-management support is an example. Very difficult to get into practice and we have a project investigating implementation. For patients with diabetes.

All of these use, no matter what the project uses, mixed research quality improvement methodology. And qualitative and quantitative. It has become a universal approach.

Challenges. The huge challenge, evidence now, really helps with the need for a large number of practices for these studies. The subject of these studies, are not individual patients but practices. And while you can do a study, with maybe 36 to 40 practices can't get them significant results, you cannot get close to some of the more, textured and family detailed sort of learning that we need to get to. Requires much larger data sets. Evidence has been a huge blessing, in that area. Implementation projects of this type takes a lot of boots on the ground. And you will have people out working within the practice, you cannot do this, very much from a distance.

A huge challenge and it takes time for practices to change. And changes to be reflected in the measure. Things like blood pressure control. Actually astonished that we are seeing improvement with a pressure control, as it takes time, particularly as you get measures for changes you make in a practice will reflect.

And you have to as you start this work within a study, we see in New Mexico, and in Colorado. You need to build momentum in engaging practices in this work. It is interesting, working with New Mexico, early in the course, and some issues we had 10 years ago, getting practices where they will set meeting and learning collaboratives, and learning communities, and to build off it. They're coming along. Whereas we got past it.

And the major, major data issues. In the time when you had a slide, and I guess I had taken about. The time to get practice to where you can trust data, they tend to trust it more coming in, and it goes precipitously down. And slowly comes up. Data is not trustworthy. Anything that we are doing, relying on clinical portal measures, quality measures. Until we have better mechanism for supporting the practices. And it will be very rough. And that is across all types of practices, not just the small ones.

The [Indiscernible] of this work.

I think [Indiscernible] has a distinct studies. The real world implementation with evidence guidelines. The process of crack transformation. What works, when and for whom, and requires large and unfortunately hard to get funded elsewhere. Functioning systems and practices which are they look like and how can they serve? This is critical. Serving rural and focus underserved population adapt and survive? As we move into these advanced models, and do not take into account that infrastructure they have.

[Indiscernible - static] connectors for research institutions [Indiscernible] learning from the implementation. And adaptation from the community. Engage in the practices and communities, identifying global needs and research. I think from my experience, it is the only funded area. Other funders, see MMI, funding large scale practice for information project. Evaluation efforts to be separated out from the implementation process. And more narrowly focused. I will not say they are not interested, but is not -- is not within their scope particularly. Obviously not impossible to engage with the more based practice primary care research. I have done it, but there is limitation on principle methods, and focus on [Indiscernible]. While they are source of support, it is minimal compared to our. And foundation, I will take funding, probably clear, in order to build this work, I will take funding from anyone wants to fund these sorts of projects. A lot of foundation projects to the assisted. Typically what you can do with them is that implementation projects, with very limited evaluation, you can put a kernel of evaluation, and send it out. And learn from it. You need to avoid using the R word with them.

It is critical. My conclusion. There is still major questions regarding how this best practice is implemented, make changes required within the healthcare system. There is such a major change underway in the health system, and primary care is at the core of those changes, but we do not have a lot of evidence to guide. We are developing new expanded laboratories that build on previous [Indiscernible] work. But it goes further and eight in the generation of this needed knowledge. Requires large-scale implementation projects, quality improvement, evaluation and traditional research.

With that, thank you.

Thank you that was tremendous. I am sure we have many questions. [Applause].

I will say in kicking off, while people are putting up their cards, I am sitting in a very large health, Kaiser Permanente. I resonate with everything you said. Sometimes, and I bet David has designated with what you have said. There are opportunities to learn across all of these different kinds of settings, and that most systems that are trying to learn and improve, arguing with many of the same issues. And so I -- I think it would be a mistake in some ways, to accept some of the proceed research advantages. And those concerns as being unique to small practices. I think the question is how we work together, to overcome some of the barriers, and learning improvement. Okay, [Indiscernible].

Thank you, great work. I am happy to see you mention the plants [Indiscernible - low volume]. Plants. I am curious as you do the valuation cross the cooperative, to establish [Indiscernible - low volume]. Do you get different types of partners, especially depending on the distribution like rural states. [Indiscernible - low volume] I know in my work, overlapping. Thinking toward sustainability. You have a program of researchers, [Indiscernible] once a practice drinks the Kool-Aid on quality improvement, raising it bleeding out to other topic areas. And one way that I have found success, largely work [Indiscernible]. Helping people to understand how they capture cost. The cost savings of the improvement. To help sustain it. And across the cooperative and practices, what does it cost to maintain the analytical support needed and continue to fill the engine. What can you learn from it? And maintain that infrastructure affects

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The different partners bring different things. Some are good with that aspects. I think we have a lot to learn in this project and will present opportunities for us, both in our cooperative and nationally. The same partnerships as we build. Some are more -- most more limited with the list of partners. Never the less it takes full partnership.

Let me look at the last part of the question. Infrastructure piece. A lot of -- that goes back to what I was talking about, it takes a lot of while to momentum. They can engage tentatively, think it is a research project, and they start saying, wait a minute, they start connecting docs. Apart we need to work hard to connect the dots. They start saying this is being fundamental work that to take on. They start looking for the next project. Unfortunately, we do not have funding for this type of as a continuing type of thing. We go project to project. And what we can knit it together over time, we can have practices repeatedly. They come back for the learning, technical support. And they come back for the relationship and the ability to relate and learn from other practices. And it builds momentum.

That is very true, cooperatives introductory going no longer. I follow the coach with the same practices for decades. And what they think about at this transition point, what is the next that you have? I think they are definitely looking for -- once they got in, they're looking for that longitudinal [Indiscernible]. But beyond studies, are there other things? [Indiscernible - multiple speakers].

To be clear, and I [Indiscernible] this as well. I will not name names. Just because they work on a study together does not mean they are. They want that continued relationship with the coach, because they take care of things they need for the study, and spent other the hours that they have together, working on how to change the communication culture the practice. Something near and dear to their hearts. A lot gets done, that is kind of invisible.

What I am hearing you say, without external funding, this work could not continue. Is that true? It will be an important question.

Thank you. I want to hear all of this really quickly. [Indiscernible] we are touching seven cooperatives, 1500 practices, building relationships and new infrastructure. If we had the money, would you rather see those cooperatives continue to work with those practices flex and go deeper and further, change the area, learn more about sustainability, and different areas? Or, get those cooperatives to work with 200 other practices, who have not gotten approval? [Indiscernible].

To prioritize. Is it better to ask these folks moving laterally? Her to go deeper? If you had to prioritize, under these guides, the same practices go further, and more? If your other option is, keep this infrastructure going and asking them to read it to people they have not touched next I do not know if they would accept either. Whatever we say I would be excited. What do you think is the priority? Let us know. What is our next step? And let these guys swim, and find other funders, and get to Arkansas, California, and Alabama. And to go to places we have not touched.

I would love to get to Congress to do all of these things. Assuming that is not [Indiscernible].

I want to give a quick response. When we first started this work, I thought the practice facilitator [Indiscernible] we get them to where they are. Good quality improvement process. And they can continue. Enable to sustain it. And some practices cannot. Clearly we see cracked as is better able to keep it going, particularly if the winds died, we do not get reflected by other things. The problem often being get reflected by a lot, and it takes a while to get this institutionalized. In the face of the current environment. I think it takes time. Practice needs a certain level of support, and it does decrease in change over time, it is hard for them to completely keep the momentum going without losing.

This is great, you do not even have to buy me lunch. [Laughter]. I am really glad to see that continued use of the extension model, which has answered the question I previously asked. I have one common, strategic interest, AHRQ leadership . And a small question. Overall strategic comment, if what you have just presented, encapsulated in a message to policymakers, if you could do it, that would be far more powerful, then a lot of what is sometimes brought up. To the front. These are states with rural populations, with senators who have equal votes, Congress with [Indiscernible] and real story about primary care, and people, communities, and we almost have it. All elements are there, and I can see this in a visitation that would -- presentation that would

change perceptions on Capitol Hill about AHRQ . And this light is showing that AHRQ can do . And this better be preserved. That is inspire to me.

I have questions. I do not know Colorado as well as New Mexico. I was looking for you to say something about project echo. And leveraging facilitation. I was also hoping you would find out that Medicaid expansion was taking very seriously from New Mexico, and maybe a facilitator for what you are doing, double whammy in terms of policy. That is the first question. Secondly, there is an interesting, [Indiscernible] ever valuation. I am not sure I get the evaluation. Between external evaluation and research evaluation. This seems like a blend, heavily firewall. I want the extent to which you regard this as embedded real-time feedback research. The final question, imagine that you would evaluate the learning community, amongst what they call, cooperatives. I am wondering how that is going. And I am frustrated by the use of the shared learning community, is. And I see a lot of evidence that either the specs are well defined, or if they understand them. [Indiscernible]. Dealing with New Mexico. Project echo. [Indiscernible] they are separate related efforts. In New Mexico and now Colorado. We built on project echo program in Colorado as well. In Colorado we are collaborating closely around certain things. There are areas where they really help in terms of some of the workforce development pieces. We tried to project echo within see PPI, a mechanism for doing essentially practice facilitation implementation. And it did not quite work the way we thought it would. I know [Indiscernible] has done a project around it. [Indiscernible - low volume]. I do not think we have completely, -- I would not abandon it. Working with so many different types of specialties within a group, and it was hard to get it engaged and [Indiscernible]. In that format. At any rate, particularly for our Colorado project, helping support some of the integrated behavioral health and primary care settings, providing trainings in the mental health services. And reminding people that have not dealt with it as much, and in recent years, because they did not have the resources it is an important resource.

I could try to answer the other two questions. As David mentioned, we have an independent -- independent funding stream and I broke my teeth on this work for health. Funded by the Johnson mentation. Fortunate to have a program officer. [Indiscernible]. She made it very clear, when we evaluated the initiative, separate funding streams or apps will critical. -- Absolutely. You can still be connected, and be independent just because you develop rapport with the folks evaluating, does not mean you do not have the capacity to critique. That is trying to be. If we just do outcome evaluation, there would be a ton, that we would not understand. And if we going to meeting with the cooperative, in a way that is for lack of a technical word, judging. And I -- we need to build a rapport with them to share with their learning on the ground. And I would approach and motto has been, while his body, we are trying to appreciate the work they do, the good bad and ugly. Because there is more learn from families and there are from successes. Does it muddy the water, a little bit. I still think we are at night the cooperative. I did not have to recruit 200 practices. Many nights I went to sleep very happy about it. I do not need to deal with the data. [Laughter]. We are separate from them in a lot of ways. And what you are hearing is the robust method approach, that is not always common in this type of evaluation. Trying to build report in a way that community [Indiscernible] research. And we learn what is going on and connect up from the ground. What is going on quantitatively as well.

I have designed this as external [Indiscernible - low volume]. Trying to help the community. There are overlaps overall. And big gaps. The evaluator may think they know the solution to a problem and pretend not to volunteer. Not truly participating in the evaluation. And how change [Indiscernible]. [Indiscernible - low volume]. Clearly engaging helping find within the community. Resources to change what you're doing. [Indiscernible - low volume]. To watch change.

And vice versa. When we something as cooperative we will referred back. It does get blurry at times. We do our best to do it. The other question is around learning cooperative. I think there are two different levels, worth clarifying. Affect cooperative level, with -- within each, developing cooperatives for the practice is one of the strategies they are doing. One of the strategies you are using, in Colorado and New Mexico, also in Virginia. Having learning cooperatives, and experiences across a lot of the cooperatives. And we have attended some. I think that they take the practice and take relationship building over time. The peer to peer experience has been hard to tell to providers, and to practices, that necessarily want to meet after hours. But we have heard when they do, they love it. I am sure. [Indiscernible - multiple speakers].

We cannot with federal funding. [Laughter]. Honestly, that is something our department is splitting the bill I cannot do without.

That is one level. At the initiative level, I think PI and other folks within the cooperative are connecting and attack to have a learning exchange. Learning on a web-based platform. And connecting through lots of different phone calls, focused on common issues and concerns. I sense there has been that type of collaboration that level as well.

I know we need to move on. I encourage you to write specifications and having literature as it is murky. And the board as to how it needs to be done Kisco devoid. That is a separate thing. I sure we will find an audience. [Indiscernible - multiple speakers].

Monica.

I am delighted to see you have a slide about connection and [Indiscernible]. It look like only one who on the ground. -- One boots. And the size of the teams, the volume of people, and magnitude of behavioral changes needed, and you live within community and home not a clinic. How much of the work belies on the social environment, social networking all of those things. [Indiscernible]. My question, to what degree do you guys need this as step? Thinking about it, a long-term approach, and get your house in order? [Indiscernible] before you move out to the community X and potential resources to be externally as opposed to internally facing. If you have the time to do so.

I think they are somewhat simultaneous. Definitely some practices will not be ready to move outward, until they get support. To a degree there is a certain part -- they need to see the needs. And some practices get that coming in, and so it takes a while to get [Indiscernible] to focus on population health, and the needs of the population. And it needs naturally into this. Again, [Indiscernible] locally, getting to know the practice well. And help to assess where they are when they are ready and willing to engage. The other piece, is getting the community in order. That is fragmented. There is work around alliances that we see in Colorado. And forming organically, and taking advantage of those, linking partners into and/or across a partnership. It can lead us into being able to tackle the social determinants, which we would not be able to do otherwise. The thing around being able to tackle social determinants, a much large scale of, it is necessary to have that infrastructure, and we are just now building it.

I agree. I could give a example. Innovative approaches. I went on a site visit to a very rural part of Oklahoma. I had intended, they have these community health organizers. I went to one of the meetings. And a part of what CPPI -- Oklahoma did, for every one included, for a certain number of practices, they received $1000. The thing that they want to do in this particular community, and stay for the night. Did not have sidewalks, no places to walk. A part of the community struggles, a place for children to play. They will a federal grant, and it gets run down and they need to buy another one to do it. A part of what they were doing, they were going to put monies toward, the -- I forget the details. The cost $250, and a part of it go toward a. The other part bringing together planning about creating a place where you can walk and get exercise. Another network, and a lot more work is partnering with an assertion called [Indiscernible]. Which is neat. For those, they have boots on the ground, usually high school kids, mapping community resources they have technical people, the most millennial place I have ever seen. A big barn. And they get programs. And the software connects with the HR and lets the commission refer to a resource -- clinician. And they know and get follow-up. They have been in and limited number and struggle to get off the ground in a limited timeframe. And there is real potential.

That is my concern. In of itself. More than one person. And acknowledging the infrastructure, social networks, will need to have a place.

Place where you can [Indiscernible]. A big divide urban and rural, this is where it comes together essentially.

David.

I agree this resignation with our experience. To answer your question about broader or deeper, I would suggest going deeper, in a sense of invested infrastructure. And the real critical question, how do you make these efforts sustainable? You will not have another hundred and $12 million again anytime soon. And the question is how to learn from what the different groups have done. Winding different funding sources, so when the project goes away, the groundbreaking will continue. And looking at the marginal cost, sustaining, and looking at where there are returns on investment. And that could make create a business case. I am very interested in the qualitative work. We do a lot of facilitation in the VA and very little known about what is facilitation. And I love that slide. I will copy the slide about this okay, what makes a good one, and would it cost to make facilitation. I am convinced that is a critical part of helping these practice change. It is hard to say until someone who has never hired a facilitator, what to do with it. And you get the one challenge, one thing we probably do not resonate is that of problems. We have records. I worry about projects we spend a lot of effort tackling something not interesting, the real issue. But it is eventually going to get solved. And so, I do not want to be to liberal about it, where the issues that are not going to go away X when?. [Indiscernible]. We are going into one of those. What are the issues that will be there? You do not want to spend a lot of time fixing issues that eventually the market will fix, that is not an interesting site and research dollars. And a sense that there are issues, when everyone is on the name record, and using data for improvement. That often gets glossed over.

I think so. Smaller practices -- I do not know how quickly they will be able to afford to go to systems like [Indiscernible]. They are also not -- let's assume they do. I think that two things come to mind. The first, the design of [Indiscernible] is such that same piece of information can be documented in multiple places. The result of that, certain consistency documentation behavior. That Cascades to programmers, providing designing programs, and to the computer. Often times there are programming done does not pull from all areas. That is one major reason why people find data not valid. I document box 4. In the document pulling from two, three and five. It is a huge problem. I cannot explain all motivation as to why it does not happen. The other, seems like products are put out before completely baked. And third, the reporting software. It may be available within the system but not to use. If it is there, we can generate a report for any measure of period, or drill down. There is not necessarily an independently owned, smaller practice. Someone with knowledge and expertise. These should be much easier to use. We were in a number of practices where they absolutely have them but nobody knows how to use them, they are not easy to use. Those are three things that come to mind and I am sure there are others.

To follow up. We're trying to write those papers. I will try to get that out. Our intention was never to make this [Indiscernible] thing. It took too much resources. It will not use [Indiscernible]. The community said we need to document. They cannot do the work they wanted. And we are making the best of what we have. We are with you, we wish we did not have to. One of those [Indiscernible]. New York city Cooperative. We went to a city meeting, [Indiscernible - low volume] and heard about it. About the problem with no one practice known not to use the HR. By the time we train them they moved. And continually wasting money and time. The city said we will create a training system and the primary care practice within the city of New York can use they get a new person. And quick training on how to use quality improvement. Quality reporting. But the city change [Indiscernible]. It was cool to say. The third point, [Indiscernible] actually has a newly developed curriculum for practice facilitation mirrored with the how to guide. [Indiscernible - low volume]. And how much it costs, where you hire people, job description, how do you evaluate? Nice material. I am proud of it. The cool thing we are trying to do, all the knowledge people have, [Indiscernible]. [Indiscernible - low volume]. We help resources, answering, not just VA. And what will it cost us? What are our options you want to hire nurses or community workers? And trying to house the system. [Indiscernible - low volume] they do not like it, takes too long.

[Indiscernible - multiple speakers].

The other interesting thing about facilitation. There is a quality assurance component to this that I have not thought of. It manifests you to fully in Colorado they have 20 different PTO. How do you ensure you are bringing the product with cracked this. There has been some really interesting lessons learned. In evidence. [Indiscernible - low volume].

Lunch. The only thing that stands between us and lunch. Use it wisely.

Congratulation, I am very impressed. This report, and if it's so much with what we started off talking about. Translating evidence to practice. And the unique role of AHRQ . Nobody in the space supporting this type of pragmatic primary care research. [Indiscernible]. This should designate with [Indiscernible] strategy about strategic roles. It is -- you asked a pretty profound question where do we go with this. An intimate understanding of the history of care coaching and the extension program. And the vision for this. The national policy, there would be federal funding for practice coaches throughout the country. That did not materialize. Due to its credit, we will follow with his daddy. And put the money in [Indiscernible] get it done in this way. And this project back evidence [Indiscernible].

David, there are Limited resources. I do not think AHRQ can produce practice coaching on an ongoing basis. We have prototypes and proof of concepts, and for this to be sustained it needs stakeholders, I will take on the responsibility of operating this type of practice facilitation work. What is AHRQ strategic goal Rex and I think? -- If with limited resources, and if we support, and they need to be a test laboratory. Otherwise you have anyone else throughout the country jealous, and how come we are not getting the same resources? And what we are learning. And who in Colorado, New Mexico and Oregon will pick up the actual operational side of this? And then AHRQ layering what they can do. Which will be around evaluation. Tools and practice curriculum, things like that. You will not have the resources. Something of this magnitude. In that sense the strategic questions, facing you here.

Like Monica saying, how do we push it into the community and social [Indiscernible]? What can we understand Rex and Kenneth have --?. And how can it happen?

[Indiscernible - static] the programs support. [Indiscernible - static] and alternatives. Making a large investment. There is potential for [Indiscernible - static] essentially implementation [Indiscernible]. Using those opportunities are more defined research. Into those. Drilling that out, looking at other folks that are supporting this, and we can see how we can have this with the nice [Indiscernible] perspective.

Grapeshot. -- Great thoughts. It seems when we do this type of intervention, [Indiscernible - low volume]. The system needs to have a gain, clinically, organizationally, and [Indiscernible]. We know if we want this change, we know how to do it. [Indiscernible]. That cost effectiveness as a part of the evaluation, a limited sense of [Indiscernible - low volume]. [Indiscernible - static].

Actuary. You showed a slide on hospital association [Indiscernible]. And a critical role with data reporting. That was predicated on hospital infrastructure for implanting safety. You did not fund every hospital within the U. S. to come up with a safety [Indiscernible]. This is the predicament and unfortunate situation without having infrastructure. And you will need to say what is lessons from the hospital sector, and practice improvement, culture safe, and whether the money [Indiscernible]? Frankly [Indiscernible] there are clinic associations. And how do we [Indiscernible - static] return on investment for the equivalent -- IPA, clinic partnership with payers. If you could help facilitate that case, and you see the multiplier effect. How we can learn, and who should be picking up it. And -- the role of AHRQ and the hospital sector, dependent on people investing within quality safety and infrastructure apparatus. We do not have it in primary care. [Indiscernible]. And a long-term basis is the question Rex

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Okay. Thank you for a terrific set of presentations. [Applause] and a very rich discussion. So, you have 15 minutes to get lunch, and be back to continue the adventure. Thank you.

[BREAK - Taking a 15 minute break - will return at 10:45 P.M. Mountain time]

Let's try to get started again. [Indiscernible - static]. Joel directs the center for cross trends. [Indiscernible] the division of market research and the health IT division. [Indiscernible] is the medical office and the center for

practice improvement. [Indiscernible - static] we will get started.

Thank you very much. We want to switch gears for this. [Indiscernible - static] for where we should be moving forward in the area. [Indiscernible - static] the kind of work we have done. [Indiscernible - static] the strength of our researchers and ideas where we can move forward. And we hope to launch into a very robust discussion about where the priorities should be. And the emerging issues that we should focus.

As many of you know, we use and have access and develop many different types of data. We have a survey data in the form of a medical expenditure survey. Administrative data we use in the form of healthcare cost and utilization Project. And we have the ability to capture and use clinical data. In many different data that we have developed, and have access. And one of the questions posed, what type of data is coming next, and how would think about data moving forward? These are the data sources of the past using overtime. And as we look forward, what should we look about the streams of data coming now? We have historically addressed a wide range of questions with our data resources health insurance. Coverage, expenditures, access quality and satisfaction, and behaviors, social and behavioral issues. Quality and safety. [Indiscernible - static] abroad range of questions. And the question, are these the same questions we should be looking, or new questions coming forward? [Indiscernible - static]. And thinking about it. [Indiscernible - static]

@of the medical expenditure panel, not surprisingly, which is something that I have been involved with for number of years. About 28 years actually. [Laughter]. We will talk about that. As I was putting this talk together, over the last few days, I realize that this year is the 40th anniversary of the first expenditure survey that the organization has done. We started the first one in 1977. This is our 40th year. [Indiscernible - static] the national medical care expenditure survey. The second one in 1987, the national medical expenditure survey, that I started when it was going on. And in 1996, we started with the current iteration, which we call the medical expenditure balance survey, largely because we added a longitudinal component to it very similar to the earlier versions. We are now in our 22nd year of collection for the. -- [Indiscernible - static]. I want to describe the survey, and why it is needed. [Indiscernible - static] and where we intend to go, and we are interested as to what you think we should be going. And anxious to hear the reaction. Of the NAC .

Just a little bit of information about the survey. I could go on for hours and hours but I will go on for two minutes about what is in the survey. [Indiscernible - static]. Every year, one panel drops off and another starts and we have a overlapping of panel going on. The survey basically, [Indiscernible] healthcare use expenditure, sources of [Indiscernible]. [Indiscernible - static]. There is also another component. The providers use [Indiscernible - static]. And third-party payers, as they largely have no clue. Have an -- do not know what the insurance companies pay. [Indiscernible - static]. To ask questions about the characteristic of providers an organization they are part of a new component to the NPC that we have put our first filed the share. And we are anxious to get out and analyze. The third major component got the insurance component. Basically a survey of employers across the country. The reason we do it, most people in the U. S. get their insurance through employees. And we go through the employees to get information about what they are offering, what the plan looks like, the premiums. How much the employer will pay, and/or employ, etc.. -- Employee. [Indiscernible - static].

[Captioner transitioning - please hang up the phone, so the captioner can connect]

We wanted to do analyses of the healthcare system. They were looking at what data and it didn't exist. They decided to start this survey and you need detailed Dave a -- data about individuals and their families for that kind of behavioral modeling to do predictive analyses etc.. We didn't have that data and we needed it. That's why the survey was started. We wanted to look at issues like what factors are associated with mother people have insurance or don't. Demand for care, why do people want it, what determines it, etc. the use of different services why one is used versus another and how that relates to individuals. To do those details you needed the depth and breath that this survey provides. Also, it provides basic descriptive information about the U.S. healthcare system. That is important too, that's descriptive information about what employers are offering, the trends and premiums. We also put that out about the household survey, we have different briefs with descriptive information.

Why is this information unique? Gopal Khanna spoke this morning about a 360 degree view and that's what the survey provides. And has information not only about what was paid for their care or what their insurance company paid for or what their provided did that you get claims data. It has information about their families, their income, the family structure, information about employment, assets, sociodemographics and all the information you need, that you have to have to do good modeling of what's happening in the healthcare system. This is the information that you cannot get out of administrative data. It can't be replicated, you would have to pull things from so many different sources and try to put it together in some coherent fashion. You can't do that. This is an internally consistent database that is all the breadth and depth you need to do those analyses.

Who uses it? It's used very broadly across the federal government. We can's -- consulted an assistant who was a Secretary for planning, the Congressional Budget Office, we work with them and develop the microsimulation model. The person in charge of the group that does the modeling of healthcare impacts, used to be in our center. She was the director, she is now CBL. The treasury, Bureau of Labor Statistics, it's wisely used and Sandy uses it in his class. [Laughter] absolutely. It's widely used in classes. Particularly in econometrics classes. [Indiscernible] [Laughter] it's a public good. That's where we are. It's used by consumers. It's used by states, it's broadly used by researchers and policymakers and consumers throughout the country.

How are the data used? A number of different ways. Calculating the gross national product, tax credits for small businesses, who offer health insurance. All of the major health policy simulation models around town and the country use it as a basic input. It's used by groups like MedPAC and making recommendations with respect to Medicaid in the CHP program. As I said, we provide assistance to the different policymaking groups within the government, the states use it and we worked with Arkansas and developed eligibility standards for the Medicaid program etc.

Also, the health affairs tells us the largest single source of data for articles that are published in that journal. If you -- I'm always gratified at conferences. The number of papers that use it as the basic data sources is gratifying. In terms of where we are planning to go, some of the current plans that we are working on. We are trying to expand our samples were better state estimates. It's currently optimized for national estimates. We can do some state estimates, it's limited and we are trying to expand the capacity. Going into the future, states will be important in policymaking in respect to what happens in health policy in the future. We are working with the Veterans Administration to get a larger sample of veterans. This is an example where administrative data is not enough, the Veterans Administration has all the data -- the administrative data on the date -- veterans themselves. They don't have, their policies that now allow veterans to go outside the system and you services outside the system. They don't have any information on that. We are working with them to provide them with information where they can come on your administrative data with the survey data that we collect on veterans. They will be better able to tell what's going on with that population.

We have proposals and this came up this morning, we do self administrative -- self-administered questionnaires. We had those to the survey periodically on special topics. We are talking about FAQs and mental health care and the social determinants [Indiscernible] some of that you can get by merging other databases. We do have the message deal code, you can get the detail from Census Bureau data that's available. There are other issues on social determinants like what happens to people when they were kids, etc. that affect their health. We will propose to add some self-administered questionnaires on those issues, in the future.

With that, I'm anxious to hear the discussion and where you think we ought to go. Thank you.

Joel just described one of the long-standing data programs that the agency has created and maintained. The other long-standing data program at the agency is the healthcare cause utilization project, I'm always pleased to see sitting up here talking to Joel, he preceded me by for years. He has been with the agency for 28 years. [Laughter]

He is much younger.

It makes me feel much younger. [Laughter]. I've only been here for 24 years as opposed to 28 years. [Indiscernible] has a similar path that Joel has described. It was under a broader umbrella for the national Center for health statistics -- I forget. Under that program, there were multiple ways in which the data sources were come -- [Indiscernible] when I joined the agency in 1992, they were under the third iteration, it was called [Indiscernible] three and we lost a number of systems after that. It shows you that this is actually a very long-standing program, that goes back into the 80s. The way I always think about how met and each cup -- it's administrative data. The way that I look at research has been done using maps data and has a tendency to focus on demand-side issues. Looking at insurance coverage and things of that nature. When you look at HCUP data there's a tendency to use that data to cover what I will say, the supply side. It looks at issues about market and market forces, how changes in the regulatory and buyer environment might impact hospitals positions. [Indiscernible] there is clinical information and HCUP . You can get a better understanding of the clinical practice patterns by using the HCUP data. Let me talk about where the administrative data comes from. Administrative data comes from billing data, we have information on inpatient visits inpatient stays, emergency department visits, ambulatory surgery encounters. When we hone in on inpatient visits we have 47 states that participate, plus the District of Columbia. When you take those inpatient records and put them together, it represents approximately 97% of all hospital inpatient records in the United States. We newly have the universe. We have 34 states that participate in that part, 35 states participate in ambulatory surgery [Indiscernible]. This data is encounter level. For each encounter we have a record. That means we can aggregate to what ever level that's appropriate. For instance, you can keep it at the encounter level, you can aggregate it up to the patient level. You can aggregate it to the hospital level or the community level. There is great opportunities for us to do's that -- use that. We have been very thought to enhance the data. The enhancement goes through data [Indiscernible], we are able to link information at the hospital, information such as not-for-profit versus for-profit status. Teaching versus nonteaching hospitals, number of beds and other characteristics along those paths. Socioeconomic characteristics and environment, information from the census and other federal sources by the sources as well can be linked to HCUP data to basically enhance urine -- analysis in this parameters.

When I think about MIPS and age cup I think they complement each other. Those people who live in [Indiscernible] will tell you there is no perfect tool or data source. It's only through the weight of methods and using different data that you can get to a fundamental understanding of how the healthcare environment works.

What are some of the unique features? At the core of HCUP is the federal industry state [Indiscernible] that means the federal government, parks, we partner with those organizations that maintain a statewide data system. There already collecting this information for a variety of purpose. It could be a government, Hospital Association and their information for purchases of public reporting her constituents. This partnership gives us some flexibility, we partner with them and we do not do original data collection, we leverage their collection effort, we take their data, we standardize it and enhance it. We give it back to them and most importantly, we convert those things into research database or analytic purposes. I mentioned this model, this is a model that can be simulated in different settings. It could be something that [Indiscernible] going into the future. Those are thoughts about that.

Let me talk about how HCUP is in fact used. Similar to MIPS in the federal agencies that Joel described in his remarks, they are the same ones that use our data as well. The use it for different purposes. If you think about the ranks, we have nearly the universe of inpatient data. We have a heck of a lot of emergency department visits and ambulatory surgery information. Even in the inpatient space, we of over 30 million inpatient cases per year. In terms of mercy data, we are talking 100 million emergency department visits. We are testing a lot of information. The key aspects of HCUP that are most relevant, for each encounter there is rich information about a condition or procedure. It's coded in different ways. There's ICD-9 or ICD then -- 10 coding. There are different ways to code and classify the information. In the past, folks have used this information to do more. And some of the earlier remarks, we honed in on the opioid crisis. There are a number of research projects that can be done to track and monitor and look at that particular clinical space. We have the capacity to check other aspects in the clinical space, hospital acquired adverse drug events, outcomes of bariatric surgery and things of that nature.

The other key element is that we have 47 states and the District of Columbia. We of the universe, in that aspect. This is well-suited to understand what might happen in terms of changes in the regulatory environment. There's

an opportunity to upper -- understand. A few examples of what we have done in the past. Under the healthcare reform, we have a series of projects that look at Medicaid expansion. We know that some states expanded and others decided not to. What where the utilization patterns from those states? What happened to cost? What about quality across these dimensions? There's the ability to look at that. Other reform components, the dependent care coverage expansion, who is getting care now? What are there differences in payers in terms of conditions going into the emergency department or hospital? Medicare [Indiscernible] another program that speaks to lower hospital [Indiscernible] for all [Indiscernible] fee-for-service coverage. That the broad area that we have basically targeted, I the lead during those leveraging the fact that we have state-level data and the richness and depth in terms of the clinical information.

Let me talk about the future of the data and where we might be moving in the future. One thing you have heard, 300 -- 360 degree view of the U.S. healthcare system. This is a component that we can develop better, to give us the abilities to address emerging issues. From the HCUP perspective, or the administrative perspective, one can fill these gaps and through multiple data linkages. We have already done prototypes along these parameters. For instance, if you think about the levels of access that we can have, the counter level, the patient level, the hospital level, the community level. If you think of those is linking you can enhance the data by looking at [Indiscernible] records vital to statistics, you can get information about the condition and position of the organization and link that to this data set. You can link potentially, [Indiscernible] and HCUP data. We do have information that will allow us to look at it at the hospital level and parameters along those points. Doctor Atkins mentioned that we know for instance states have different policies in terms of opioid prescriptions. [Indiscernible] information at the state level, with a some variation to understand these outcomes, in terms of opioid use and things of that nature. Doctor [Indiscernible] mentioned an aspect of social determinant, that's becoming a larger consideration for folks at [Indiscernible] and other avenues. Those are all sets of information from other sources that can be developed and linked into. Where are the areas where we can move into and leverage what is happening? We know the healthcare environment is constantly changing. The market has new federal legislation that's been enacted. The clinical infrastructure is changing. The community are changing in reaction to that. We know health systems are forming in a different way and contracting in a different way. Those old -- are your [Indiscernible] levers. We need outcome levers. With data you can get to [Indiscernible] and quality, you can get to the different dimensions to understand what is happening, as they healthcare environment continues to change. You can do with through the perspective of the providers. High level overviews from general thoughts about linkages and areas of research, I look forward to our discussion.

Hello. We are part of the health IT division within our center for evidence and practice improvement. We will tagteam to talk about clinical data and its use in combination with other datatypes and new methods. We will share some of our past and current work in this area as well as thoughts about how we might leverage this work in the future, with you. To set the context, when I think about clinical data we see it as fuel that helps power learning health systems. Earlier today, you heard about how the system works. You may remember his slide about the learning health system data knowledge and knowledge of virtuous cycles. We know clinical data can and are being used to generate knowledge and that knowledge is being combined with clinical data to positively affect practices. As you heard, we need to understand how to make this cycle a reality in all systems both large and small. Why? The plethora of digitized clinical data that now exists an individual EHR systems registries and across distributed research networks creates the potential for more easily answering of questions we could not before. Especially, those about caring for unique patients, patients with multiple morbidities and those from priority populations. We differ from our MIPS and HCUP colleagues, unlike MIPS we do not maintain a database or data set of clinical data to answer questions. AHRQ's role as that of an enabler or catalyst. Our efforts were recorded to help answer research questions. E -- Ed will share some.

Rather than give the long list of things that we have done, we want to give some examples to build -- illustrate the breadth of what we are doing now and some of the trajectory where we thinks we will go in the future.

We heard an allusion to practice-based networks and we referred to.net. It started as one research network that created a and now it has 12 networks and 5 million patients. They have done exciting work around things like depression and finding out what side effects people have from taking antidepressant medications. [Indiscernible] work around registries, one is improved care now which some of you may know was the registry for

inflammatory bowel disease. There were increases in remission rates using the registries for kids with colitis, Crohn's and for kids this means [Indiscernible] means more days at school or on the soccer field. That's one of the examples of good registry data.

Another example is [Indiscernible], it was led by Pat Franklin. It's about effective Joyce don't joint replacement. They demonstrated best -- better patient outcomes. Better predictive models around who will be readmitted after a joint replacement. We have a set of work around data and analytics, they were trying to get I in -- there are set of agreements led by [Indiscernible] and [Indiscernible]. It sparked and built a community of health service researchers around data analytics. They tackled hard questions like [Indiscernible] published a ton and started an online open access journal called [Indiscernible] and it's published over hundred 50,000 times. They have [Indiscernible] which are continuing after the [Indiscernible] is ended. Those are some examples of [Indiscernible] funding in the recent past. We are building on those in terms of registries we have efforts around harmonizing outcome measures and how to harmonize data across registries and data elements used between registries. In terms of outcomes, we have funding opportunities to use and encourage applications around health IT on the use of patient reported outcomes. We are [Indiscernible] new types of research, in the future with more clinical data becoming electronic what are the interesting questions that we could not ask before. A good example is, [Indiscernible] is worth taking a few extra seconds. People know that when it clinicians access to electronic health records and in some cases open multiple patient records at a time, how many tabs are in your EHR session, how many patients can you see at a time? There are recommendations that say you can only have one record a time, thinking with multiple tabs you might order something wrong. There is no evidence to support how many records people should have open at any one time. There's a spectrum of policies that guide how many records patients can have at any one time. Jason's work is geared to answer this question. Organizations need that to guide where policies around how many records are questions can be open at any time. It uses a measure that wasn't possible before, you can track, if a clinician order something retracts it and orders it again. Presumably, because originally the order was on the wrong patient. That measure is the first health IT safety measure endorsed by the national quality forum. Hospitals and other organizations can use this to provide policy decisions within the organization.

The other thing that's worth noting, if you have funded M health applications as an example of different data, it gathers data from apps and use clinically within the electronic health records. I will mention interest around 360 degree perspectives. We have an emphasis notice around contextual factors. How do you incorporate those into a clinical decision-making? There's more exciting stuff around artificial intelligence.

Thank you. I was excited to hear the talk this morning about artificial intelligence and exploration into those methods. We are supporting some grants right now in natural language processing. I will refer to these as AI methods going forward rather than using the intern -- entire term.

We heard about provider burdens in the EHR's contribution to that burden. One of our investigators is developing a stiff dough sophisticated language processing tool to identify and rank the importance of clinical information in the EHR based on the patient's presenting a plate. Thereby eliminating the physicians need to hunt through multiple data to find relevant information. We are hearing from some of our grantees about their interest in pursuing machine learning techniques to enhance predictive models around disease onset. Will not AHRQ supported work . Some of you are familiar with the deep patient project at mount sene which loses techniques in combination with the HR data to this letter -- facilitate modeling with predictive results. I want to mention the work we are doing with Robert Wood Johnson and the office of the national coordinator to study the future of AI in healthcare. We have co-commissioned a study on this topic and the Jason report should be ready in November. For those of you who may not know, Jason is an independent group of scientists that advises the government on matters of science and technology. A few years ago AHRQ commissioned a report by Jason on health data infrastructure. That's all a window into some existing work, by no means exhausting that we might leverage in the future.

With respect to clinical data alone, we heard earlier from you that harmonization and quality of digitized data are still issues that AHRQ might address. We can also continue our explorations around the use of what we are calling the EHR metadata to improve processes. And mentioned the work of Jason Angelman, he is looking at

when clinicians retract and reorder and that's found in what we are calling EHR metadata, log files and audit files that are in connection with HR use. Our team talked with Julia [Indiscernible] to start a study for clinical informatics in improvement research. She will look at metadata that describes who is doing what and EHR to see the impact. It's interesting to us, researchers are realizing the importance of these metadata. That's also work that we can support here at AHRQ. The exploration of that metadata to improve care and care processes. It also mentioned our work around other digitized data that can be linked with clinical data to improve care and care processes. We might continue explorations around how best to do that including looking at how best to link data for Care Coordination. We are also interested, as was mentioned this morning, and separating the height from the promise of digital data. Our job as we see it is to provide evidence about what really works, why and under what circumstances. Innovations in data and analytics can have the greatest chance of having a positive impact that way. Since there is a lot of hype around artificial intelligence methods, we might continue our explorations based on previous work and forthcoming Jason cut -- recommendations how AI techniques can best be used in conjunction with clinical and clinical related data to improve care. Also, there is a lot of hype around the digital healthcare revolution. Newbo will devices for providing care, we don't want to get into FDI -- FDA device territory, we might discuss utilizing the data. We also need research to determine how best to integrate the use of new data and methods and -- into real-world healthcare flows. As you know, we have limited resources in data and analytics represent a huge space. We are more interested in your thoughts where we can impact the most.

You have now heard about the range of data and analytic capabilities we have from surveys to administrative data to access the clinical data in support. They also range from data that we own because we collect them to public, private our partnership to efforts to support the use of data in clinical settings. We have talked about some of our ideas about the next step. We would like to hear from you next about which of these areas you think is most fruitful and most important. Any other ideas you have and maybe most importantly, as you can tell our work has tended to happen in silos. These are three silos that aren't linked. We would love your ideas to better link the silos that we have within we would love to hear from you

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Question, are HCUP data linked to CMS beneficiary files,'s you can get a denominator? HCUP data is basically numerator data, do you have the nominator? To look at rates of the Medicare population?

The capacity to do what you are describing is there. Let me back it up a moment and characterize. HCUP is all. , That includes everyone that goes into the hospital regardless of the types of insurance coverage. That includes Medicare patients.

Are you using census files to create the denominator?

[Indiscernible-multiple speakers]

You can clearly create population rates. The trick would be to make sure you have the appropriate denominator when you think about different classes. If you think of the payer class, it is private, Medicaid, Medicare etc.. You can clearly get a population rate for the nation by using something as simple as the resident population. When you break it down to the different categories, there are methods in which we have explored. It's a tricky business, you have to medicate patients and -- Medicaid patients and Medicare. Medicare is easier to do. Once you get into the private pay, that's more tricky. I know that folks on my team have struggled to make sure that we have the right methods. When we put out reports, whether they are [Indiscernible] or things of that nature. The methods that we have calculated those population rates are [Indiscernible] methods.

Joel, you mentioned MIPS expanding our ability at the state level. I agree with that, there will be a lot of differences. What would it take to do that? What are the limitations of the current MIPS and looking at the effects of different state policies, depending on what comes out of the current debate about healthcare reform, if different states are now able to implement different policies, are you able to do that only in some states but not all states?

That's basically it. We consider, in general, we can make a state estimate for 29 states. It depends, depending on the state, the sampling is done in a way that's not optimized for state estimates. You have different clusters

within states and there are a number of cases that you have in each state. There are different statistical issues that you have to worry about. Just increasing sample size doesn't necessarily -- there is an effective sample size that depends on the variance regarding the area's. It's complicated. In any case, there are different considerations that you have to make. There are also limits, the way we get our sample off the respondents and we -- they release different panels and divide it into four different panels. We only get two of those. We are looking at now pulling in as many cases as we possibly can from that population frame of respondents. If we want to go beyond that, we will think about getting more panels are going to a different method of getting our frame. Right now, we are thinking of pulling and what we can. To go beyond that is more complicated, we need to think about that. I let my modeling director says, the MIPS cost 3% 000 3%, what company would make a big change in their system and not have the data to analyze what the impact of that changes. -- Change is. As a proportion of what we are spending on healthcare is a small proportion. It's not that much money. In dollar terms you have to think about how much is available and what we would need.

When I've asked before, you indicated that we could go from being able to make 29 state estimates out of 43 easily with an expansion of sample size. To go beyond 43 to all 50 would be -- we would need to reconsider how we called the sample. That's the quick answer. We could make a jump for something that too expensive and go all the way up to 50 would be more expensive.

By sample size, not too expensive meaning affordable within the current budget constraint? No. [Laughter]

Nothing is affordable with the current budget. [Laughter] we can't even stay the same within the current budget constraint. Every year we have a do East budget -- decreased budget. This would be predicated on more resources. We are asked every once in a while, what additional resources -- if we had additional resources what would be your priority projects. We have ideas which we have talked about here and we are looking for guidance from you, if some of you will were to offer us a little money what would be the priority and conversely, should we be making a case to the officials that determine our budget, with more money this is what we could do, look at how important that is.

[Indiscernible]

The clinical area is emergent is an interesting area. You talked about [Indiscernible] work with the IBS registry. One of the things that strikes me, not just in our own country but now the world is really fat. I spend a lot of work in Sweden looking at registries. It seems to me that if there was a way that we could harvest what we are learning so everyone does not start to [Indiscernible]. In Sweden, I've been impressed with rheumatology and Parkinson's disease registries. It goes beyond remote [Indiscernible] and it's where you create an interactive space. In the rheumatology registry it's an iPad and the patient inputs information about where their having pain and the clinician types and the medications remotely without ever disrupting their lives. Thinking about [Indiscernible] getting to availability and [Indiscernible] to the patients and connecting in that way and how we can learn from some of these other samples, so we are not starting from scratch. Open notes is an interesting area. I know [Indiscernible] has done a lot of funding in the area. What people have not looked at are the patient portals. The extensions to connect patients into the EHR's and that information. We could use work there, they are highly underutilized in many places. It's a unique experience, whether or not we are [Indiscernible] with measures, we get equal periods [Indiscernible] to let us know [Indiscernible] they were going to make us to report [Indiscernible] and change those. The science is not there to say when there should be a therapeutic [Indiscernible] when there's a change and we don't [Indiscernible] I think there is a line of [Indiscernible].

First of all, my thoughts about the first question, these are important areas. They are fundamental. The data questions are core to being able to do any of the things that we as a system or as the political system or providers need to work on. You have these complementary approaches which are important. I had a thought, I think the state expansions it -- is important. You cannot go wrong on the [Indiscernible]. The states are going to become increasingly important for a lot of reasons. They've always been more important than most people in academics and Washington recognize. I think they will be more important, particularly in the foreseeable future, it's more consistent in [Indiscernible] approaches be specialized and make decisions [Indiscernible] local populations. [Indiscernible] making that [Indiscernible] would be important. To make that is not a matter of [Indiscernible]

making [Indiscernible] it might be a way for [Indiscernible] it would be used in the government -- Governors Association. It's always better when somebody makes the case for us. With support from us about what the needs are the capabilities and prioritize with discussion and consensus about those.

For something different, I have worked a lot with NIH funding on health services ideas. Just because they have [Indiscernible]. You asked about cardiovascular disease, are you asking about cancer? I've often thought about the ability of some of these other institutions [Indiscernible] collecting data on their diseases of interest. It would be important and make no sense for NIH [Indiscernible] too bad Mike isn't here to re-create that. You have the [Indiscernible] and I think it would be more cost-efficient. This might be something to [Indiscernible] with some of the more [Indiscernible] institutes that have been more engaged in economics like [Indiscernible] and currently NCA -- in the past cardiovascular. I'm not sure. Mike Wood no. that's something to think about. I know nothing of governmental funding and how it works. It seems to me, when I was on [Indiscernible] panels it would have been nice to have [Indiscernible] policies recommendations.

Can you clarify, are you saying [Indiscernible] to get a sufficient sample of people with coronary heart disease? Maybe.

They might want to invest in creating and oversampling of those patients on a statistically reliable basis to address issues that are of concern for them.

[Indiscernible]

For the same reasons that it exists but it's not [Indiscernible] enough to look at [Indiscernible]. I think herbs already has it. I've already signed you each a database. [Laughter] we talk about Joel's database. [Laughter]

We give you ownership. [Laughter]

I was thinking at lunch, if I really had significantly more money, I would visit the Seattle mariners. That's not gonna happen.

It's a great idea and we have done some of that in the past. We did work with MCI. I talked about the FAQs and we've done one with cancer survivors to look at the long-term impacts of cancer on individuals. We have talked to NIMH. I talked about the mental health FAQ and we would try to fold in NIMH and SAMHSA.

With Mike being the in-house member, it's [Indiscernible] his background is [Indiscernible] epidemiology. The enemy is my friend. [Laughter] he understands [Indiscernible] science. He has an appreciation. He is smart and critical and I think he is understanding the importance in this work.

The other thing is Sharon, your question -- or somebody I don't know who said it. It's about the silos. Anything that can be done to harmonize measures, if there is a measure that is being used are similar measure being used in MIPS , if there common measures that can be used. I think that's always useful. It would be great if we met quarterly or whatever and look at these things. We need to ask [Indiscernible] or people who use these databases that you don't fund what they wish they had. Every time there's an article -- I would get health affairs to kick in. Everyone who writes a paper should be sent an email and be told what is needed to create a log. We are talking about cutting HIC as a program. It's not going away. We are frustrated because [Indiscernible]. The work that you should do that's fundamental is both in terms of clinical but also the methodological questions that we have to do to answer those clinical organizational payment questions. All the cuts are painful and cutting meat and not just bone and flesh. This is core. It's got to be maintained and sustained and increased, if we are going to be able to do the types of things that you all talked about this morning. We are increasingly [Indiscernible] and using that 360 degree philosophy.

I know how much Sandy cares about this, you can just read his banana peel. [Laughter] he wrote clearly and I was hoping it might appear on that banana peel. Only straight -- only has favorite programs. [Laughter]

I endorse the state level, it's critical. [Indiscernible] I think that is something that's really important. To cut across the silos is difficult, there are such different sources of data and [Indiscernible] would argue links. I think the question --

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[Indiscernible] [Laughter]

I wonder if this might be a useful exercise for you to pick a problem, a clinical problem or something and look at how you would each look at this and look at it together and see where the links are. Either -- within this orientation there's an enormous power. And/or bring in a couple of other people to look at it with you as a thought experiments. For us, sometimes that can -- my first research project was in AHRQ funded project. [Indiscernible] we had a great project looking at the adoption diffusion of CT scans when they first came out. We did that and we each went back and wrote our sections. We put them into the grant and said we had to wait until the next cycle, because they don't fit. As John said, when pencil comes to paper mark goes back to being purely an economist and I go back to being a management a sociologist. [Indiscernible]

That was worth every moment. [Laughter]

[Indiscernible-multiple speakers]

That's why he has the [Indiscernible]. Clearly, the DHR data, what can you really get? The prior conversation clarified how challenging it is to get reliable and valid data. On the other hand, that's where the world seems to be going. I don't know how you want to position AHRQ in this. I should think that is an area [Indiscernible] leadership. Someone mentioned patient reported outcomes, one of you talked about that and that's a big question. Is it structured data in the EHR, is it handled outside? There are several questions about how to handle patient reported outcomes in EHR. Are they entered is structured data and things like that?

In our case, we had a region where the answers were there but the questions were not retained. [Laughter] what was the question!

My pain score or it was my euphoria level or my depression score, I don't know. [Laughter]

We have some of the ways to explore those questions and more importantly visual data for providers and patients to be used.

Is there another actor in this space that is the leader on how to optimize DHR's data for research?

I don't know.

[Indiscernible-multiple speakers]

As it applies to care?

Probably more for research but back to the learning health system, what are the --

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I don't think there is anyone in that space. There are [Indiscernible] that are providing instructions to clinicians about how to to use them for [Indiscernible] or whatever. To research around how that's working and how that should be done or what the outcomes are. I don't think --

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That's an opportunity that's not a huge [Indiscernible] I'm thinking budget. Just to provide being the fault leader, some people saying it's [Indiscernible] and it's a waste of time to think you will be doomed meaningful -- able to do meaningful research without -- there are others that think the computer the future is artificial intelligence. How you can help people think through this space is a perfect example, if you're going to collect patient supported outcomes, how does that could structured? I would be grateful.

I'm not sure. I want to echo the idea of thinking about the researchers need.

[Captioners transition-please hang up the line.]

Her question was about outcomes. And how can I determine what is going on here? Are we increasing costs or better outcomes? Key -- if they don't come back to the same hospital and they go to the community Hospital, will it cost less? These are good questions. I was befuddled as to how to advise or where to get the best data source. So, if you develop a series of 20 such cases, which are research cases, where would that lead you in terms of your current data sets and in terms of negotiations and collaboration with both public and private entities? Him you almost have to have a PhD to know which data source you actually have. This is an editorial comment. In this day and age with rapidity of development and types of data, not to have a wide discussion leading to specific priorities and recommendations, I talked to my friends and informatics who are really at the cutting edge of data mining. They are not talking to anybody. They are just doing their thing. And by the way, 14 genes determined phenotypes with confidence so a high priority would be number one help rationalize the field. You are great conveners. That would be really important. Develop use cases that would guide the discussion. And finally, the research should be relatively health services. So given what we have, have we actually improved care or made it worse? If I were in charge of the billion dollars which I am not, on precision medicine, I would call you guys up and say, we need to know, we want to put 1% of the money being spent in determining how this information will be translated by primary care physicians working around the country in a way that patients will understand the decision-making. That is the research question. Regardless of the sophisticated nature of the data mining technology. Similarly, I know for a fact, [Indiscernible] is investing heavily because the all ready thinks that by harvesting the text and voice messages the people answering half, he can provide practices was very clear information that is never going to be on a survey. So there is a good research questionnaire. Does that derive better practice? So, that is the area to play in. Rationalizing -- rationalizing the field and seeing whether or not these rapid events [Indiscernible] can be cost-effective.

Just to add to your comments for your student. I suggest you take a hard look at [Indiscernible]. [Laughter]

Of course, she came to me saying she was going to use [Indiscernible]. And actually, the other student had done an internship and was all Mass General Harvard pediatric program in large measure because the inspiration at HR Q. I don't think [Indiscernible] can ends -- answer those questions. We need to understand better the specs. How long? I don't know enough.

We have Arlene Dearman on the line. She had a question for [Indiscernible]. Turnabout is fair play.

I'm so sorry[Indiscernible -- speaker too far from mic]

It is hard for us to hear you.

Can you hear me better now?

No.

This discussion has been great. I listen to the other presentations as well. What I've heard is a huge data for multiple purposes. For the learning health systems, the evidence generation, implementation, population health management, quality proof -- quality improvement. Predictive analytics. We have invested over the years and all of these different resources that have potential to be enhanced to do that including PB RN the action network, so given this huge agenda and this time of limited resources, how can we best prioritize and tap into some of these resources to really advance the field?

Anyone? Arlene, if you were in the room what you would see is puzzled expressions. Do you want to take another crack at asking the question?

Basically, what can we do to build on the suggestions we've had on the infrastructural [Indiscernible]. The practice based research networks to really enhance our ability to have an impact on questions that were identified. How do we best set priorities. How do we better articulate [Indiscernible] in this area.

I feel like it's hard for me to think about the data first. It does help to think about what the pressing questions are. Not only the questions of today but what questions might be in the future. In the really ask ourselves whether the data that are available today are up to the task of answering those questions. If not, where and how we fill the gaps. I think it's hard to think about it in the absence of having a clear sense of what the questions are. And who's asking them and what is the level at which they need to get an answer to the question. That feels consistent with some of what you're suggesting.

It does. One of the things that really troubles me is that in an error of constraint, individual agencies or any entities that come up is a fools errand. As you were presenting your stuff, I was thinking that I have 10 other priorities that I'd like to address. If the framing is, we have to do more with less and have meaningful priorities as opposed to nibbling at what is really important, if I had the power, I would take a congressman by the scruff and say, do you realize someone saying this is? Debating healthcare reform in two days on the Senate floor. Is a deliberative process that involves setting clear priorities and then assigning who is best able to contribute what methodology expertise. I once complained that the way this is set up is to cobble the horse by tying to with the back legs together and then ask it to raise. And then you ask why can't you race fast enough on a muddy course? That's what it's like when you do it this way. I would never run a company this way, would you? Set your priorities. Whatever they are, we will give you the same amount of money. I don't want to complain about the government this is true throughout HHS and the educational system. You cannot ask individual entities to set meaningful priorities [Indiscernible]

I will be quiet for the rest of the day.

I had a question but in the absence of time, baby out to for. You've got to start thinking about putting up person in the center of Health and Human Services. In other words healthcare and human services. Coming back to the issue of local level, that's a huge challenge the people have in being able to serve individuals instead of customers. Because of a huge disconnect. So something I would like to maybe come back to the next meeting and talk about. Some of your ideas the late Neil Patterson who was the CEO of [Indiscernible] was very creative person. You may not know what looking at the information for reasons I won't go into, I asked him, wouldn't you all be better off if the IT platform from the point of view of a patient. He said absolutely. The reason is a clearly liberal Democrat by political persuasion the area of residence I see with [Indiscernible] is being clearly stated that patient choice burnout and issues are high priority. There is no more powerful lever to understand where the priorities are then having real people of all types and means in real doctors of all types and means sit together to say what is it we really need out of informatics and cut through all of this. I'm sure they would be delighted to learn that they can take all of their articulated concerns and anxieties and complaints and actually transform it into eight meaningful themes. That would be great.

It's a stellar idea. Whether it will happen or not, we don't trust it to happen.

Monica?

My comment are right on time with the last few comments. One was to make a reference to priorities around patient satisfaction and patient engagement to [Indiscernible]. My comments initially were in the setting increase healthcare implementation and a lot of research around issues of patient reported outcomes and [Indiscernible] health and screening requirements and healthcare systems that could and probably should have a role in trying to think about how to do operationalize research aspects of that so that the data is part of our dataset. This issue of linking of Health and Human Services, and I'm not sure I didn't realize there were variables that actually looked at some of these larger issues. To the degree that I'm able to access them it's more the ecological studies and distressed index and things at the neighborhood level and not the individual level this part of the actual record. And so the degree to which we are thinking about [Indiscernible] care and moving on that in ways which reflect

the information that doesn't really have a home in the electronic record, it seems a natural place that arc would be .

Just in response to your question, Monica's comments there is such interest in expanded view, primary care and healthcare outside of what you do in the healthcare delivery system. Is linking with social services resources and that is still in the formative stages of how to do that well. I think that seeing that linkage would be another strategic area where there is a lot to be done. There is a lot of movement towards [Indiscernible] screening for determinants of health and the EMR and a lot of questions I can ignore so I can just get my documentation. How does that play out when people do that? One of you mentioned databases on social services resources. Who was using that and how does it work? There's a whole [Indiscernible] which involves social needs and things like that. Again, that's a good space for HR to be in and even without a lot of new resources, how do you do this well and one of the best practices and what are we learning so far. I think that's a fruitful area.

[Indiscernible -- speaker too far from mic]

He's a great reporter for the New York Times. I think he's a physician as well. One of the things I feel like we haven't done, what's happening with social media with our patients. I would love to see the intersect of what people really say about their physicians and providers and their hospitals on social media. He did a great article about that. I think he looked at yelp and paid it -- patient satisfaction and matrix on outcomes of patients. Yelp worked for that little impromptu study. I think we really need to drill down into social media as well. People will be brutally honest. But also, utilize Facebook and yelp. I call social media the leveler for all social status. It equips someone to have a voice. I think that somewhere along the line we need to start including that and at least crosswalk some of our data with people in an area or population regarding healthcare. A little different.

I'm an only child so I'm used to being able to speak out. This is really, really important. There was recently a piece about the promise of technology. He did make an important point. The use of smart phones and cell phones is more highly leveraged in Africa than anywhere in the United States. And I know that's a high priority, the idea that we can't get the patient reported outcome of people living in the communities in the United States and assess their health status, these are all very simple questions that could be done and random polls in 1 million different ways with minimal subsidization. Most people actually have phones. This is a huge priority and an area that requires investment both in implementation and assessment. It is just so important. We don't have an authentic voice in a filters through people who are leaders who have cumulative power and the true voice is there for the hearing. I am not a big social media fan. Right now, patient reported outcomes are being monopolized and owned by specialties and are building registries. For the orthopedic Society, three different measures of play. 80 or 90% of what you need to know about a patient's quality of life and you can add one question and get something. So this is, if I had to set my priorities it would be to get the voice of real people about how they are doing both from their experience in healthcare and their experience facing[Indiscernible -- audio cutting out]

I don't know if I can beat that. I just wanted to put a quick plug-in. It goes to what we can do around advancing patients [Indiscernible]. David Myers brought up earlier on the health system workaround clinical positions support. Reconceptualize [Indiscernible] is very broad. The right information to the right patient at the right time using the right technology and the right format. The two things David brought up, one was a learning network focus specifically on [Indiscernible] we have an advisory sample for that. The other pieces infrastructure to raise share -- to share nuggets of information like this around things that can make it easier so people don't have to start from scratch. And Abhar outcome measures and other decisions. There's infrastructure where we can support the research questions and implementation. I would encourage you [Indiscernible] that were trying to dive into.

For those of you that talked about the need to collect yelp data and other narrative data, we are actually engaged in those activities through our [Indiscernible] program and trying to collect narrative data to support the information we collect and try to develop well structured methods for collecting a sample of data and unfortunately, if the budget comes to pass and eliminates the program, that will be eliminated. But that is a very active area of investigation right now.

[Indiscernible -- speaker too far from mic]

I've always found it interesting that there are now rooms of social media experts for companies who monitor. To control your message. And I wonder why we haven't captured more of that with healthcare. I just went through my twitter feed to see different comments and in a heartbeat you could have a sense of what people think about healthcare when you are on cell phone -- when you are on social media.

[Indiscernible -- speaker too far from mic]

I think we have had quite a nice robust discussion. I want to thank everyone for putting together a great day. Hopefully you have heard lots of ideas from us about more things you can do. Anyway, I appreciate the time and I think it's been a great conversation. And so let me just in a few minutes we have left, what we often do at the end of the meeting is go around the room and hear from people. Any ideas they have about what we might talk about at the next meeting. So just a chance to get a quick sampler of other areas that you think would be of interest for future meetings.

I would love to hear the progress from [Indiscernible] and how we're going to count that. I know they have definitions going on right now.

Don you're hardly ever speechless.

I would like to hear exactly where that stands. Where ARC can meaningfully contribute to research around the effectiveness. I think you guys have got to decide whether you have the money to fund the implementation and the evaluation or whether fund research that evaluates natural experimental planning. I don't know. The whole dialogue has got to be more specific.

Monica?

I like a sense of continuity between meetings. We've had a lot of conversations like this is all the things we've done. It's the interim, there's some sort of summary or update our conversation around data and the direction, that would be nice.

I agree with Monica. Feedback from meeting to meeting.

My understanding is the national medical meeting will be in October on future health services research and bring back something from the initial discussion there. My expectation is that you will be in budget limbo for a long time [Laughter]

I'm counting on Congress passing the military and VA budget to show they can do something. And let everyone else dangle until May.

So, trying to get a sense of where people are feeling your critical spaces. You are going to have to think about what nobody else is going to pick up.

The wonders of modern technology.

I didn't want to put you on the spot.

I really spent today listening to a lot of great ideas and realize how much synergy we have across the agencies. I've been thinking about how much we can collaborate and gather. On the CMS side of the street, we are working on clinician burden and opioids and what priority should ARC focus on. For Russ, cost saving is something people can agree on and outcomes which people can agree on. The learning network that was described earlier today about setting up a network and looking into the network to see who the top performers

are and harvest those great ideas. So I've been reflecting on how much we have in common and how we can work together in the future.

That is a great point. One of the things that you made me think about is that we spent a lot of time trying to say what is our unique contribution. I think it's important. The idea of where is there synergy may be even more powerful. It doesn't get translated into overlap and some policy environments, but what does ARC bring to the table . Together, and maybe opioid prescribing is one example, in the context of a learning health system, what is it you can make happen that any of you by yourselves would be harder pressed to accelerate action on. And what does that tell us about how to leverage the power of government for addressing challenging health problems. I think a lot of the secretaries priorities are not exactly a walk in the park kind of thing. Just as an example, work we just published on, the work we have been doing in the area of opioid prescribing. And here it was some pointers about, we started this work in 2010. Organizational support prescribing and dispensing policies, performance feedback, and decision support tools. 28 separate interventions over that six-year period. A huge reduction in key metrics. It makes the point about, and that she saw one thing. A big national problem. Where is the opportunity to learn from that? This idea of bringing people together to work together as opposed to saying, I can only work on these things that don't touch anyone else. That seems self-defeating.

I think the partnership for patients is the best example. Bringing together CMS, CDC, everybody around the department to try and solve a common problem with tremendous success. We can talk about some of the initiatives we are involved in the partnership of others. Maybe that would give you a different perspective on what we do and how we work with our sister agencies because we have a lot going on. And so we can report back to some of those initiatives to give you a sense of the powerful partnerships were engaging in. How we leverage what our unique capabilities are.

I know you guys do a lot of partnership work. Sometimes we don't highlight that as much as we might because we are concerned about the overlap part. Just a different way of talking about it.

That's an illustration that you can set your phone. My husband has some suffered different people but he can't remember whose phone is use -- whose phone is whose.

Thank you again for a great day. We look forward to seeing you November 3 right back here at ARC headquarters. Anything else ?

I would like to thank you, all of the members, you been to -- very generous with your time. You've had thoughtful comments and given us much to think about. On behalf of all of my colleagues, I'm sure they appreciate your input and insight. I also would like to take a moment to say thank you to our team. We've worked exceedingly hard and I'm looking forward to the next meeting. We want to go back and think of ideas and just as we've done in the past, trying to put those systems into practice and come back and give you a progress report as well. Inc. you so very much. And may I ask my call of -- my colleagues to give you all a big round of applause.

[Event concluded]