[ Please stand by for realtime captions ] [ Standby music playing ] [ Captioner on standby, waiting for event to begin. If there has been a change, please contact Vitac at 800-590-4197 or cc@captionedtext.com Thank for event to begin. If there has been a change, please contact Vitac at 800-590-4197 or cc@captionedtext.com Thank You ]

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Good morning everybody I Don Goldman chair of the advisory Council. Thank you for attending and welcome members of the NAC we have members of AHRQ who are on the webcast watching and listening in . As a warning those of you watching know that I called one people so it's going to be hard to avoid being involved. But I hope you will spontaneously raise your hand if there's an important issue. Paul is counting on your input and that puts me on the spot. So this is the last meeting for Alice Bast, José, myself, Monica P and Lucy Savage. That's really hard to contemplate. It's a fun and valuable conversation. So some housekeeping notes. We are arranging for some reindeer and sleds for transportation later in the day [ laughter ]. All the schools will be closed and the traffic won't be bad you will need the sled. And in all seriousness if you do want transportation after the meeting. Check in at the registration desk. They're good about getting taxis to wherever you are going. If you are retiring, we are supposed to have our picture taken. If those of you if you want to make a public comment. Register at the desk so we will remember to ask for your comments at 2 o'clock. The cafeteria is there. I know you found it. Did you arrange for the Korean rice bowl die to be there? How many of you look forward to having lunch in the government cafeteria. It's really complicated. I tried to get my breakfast this morning and apparently if you want hard-boiled eggs. They do not weigh them because they do them by the egg. This is not fair, because they are heavy and at $.67 an ounce or whatever and egg is. You've broken your budget. So the eggs are separate, for those of you who like eggs. [ laughter ] please use your microphone, the red light will need to be on. We have people listening so we need people to use the microphones. With that, enough kibitzing as we said in my grandmother's house, let's go around and introduce ourselves.

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Hello and good morning Jeannie S on the designated manager at the office of director here at ARC.

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For those of you on the NAC, be sure to remind us all of your area of interest.

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I'm Lucy the vice president for health research Kaiser Permanente Northwest region I direct research center in Portland Oregon and Hawaii. My interest there is broad-based, but predominantly around health systems and how we transform the way that we deliver care.

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Tina Hernandez I'm at Stanford University. An assistant professor in medicine biomedical informatics. My area is data, the data, clinical analytics and anything to do with this data. Scenic I F. The administrator for safety and Massachusetts state agency as we say nonregulatory quantify independent state intimacy that plays an important function of the state level in terms of research.

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Jacob in Dallas, I'm focused on clinical standardization and adoption of evidence-based practices and spend a portion of my time helping research.

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Sally Morton Dean of the college of science at Virginia tech and professor of statistics. My area of research is evidence synthesis and how to provide information to patients and their families to make good decisions.Beth from St. John Hospital in Michigan, a critical hospital, I am representing rule America.

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From the Colorado school of health on the Deputy Director, economist in my area of research is around access for disparities

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Dr. Karen from Adele health I represent Medicaid programming and behavioral health as well as a pair perspective. Stephen Paul the chief medical officer from CMS I'm here representing Cherry Lane. Scenic I am David Atkins I direct health services research groups at the Department of Veterans Affairs. I guess I'm representing our executive in charge, Richard Stone, who is the head of the VHA. Scenic I am Mike Lauer a recovering cardiologist and epidemiologist. Right now in the deputy director for extramural research.

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Good morning I Francis C, general practitioner training, grants programs I serve as the acting director of ARC.

And the director of the agency for research and quality. 2 this is Alice, I am the CEO of beyond celiac and I'm excited to be here for my last advisory meeting I represent the voice of the patient.

Christina on the phone I represent pediatric nurse registers.

My apologies for not being able to be there but I will be here with you on the phone all day, I am the executive vice president senior associate dean at Vanderbilt University, general internal list of epidemiology and industrial engineer for health services research.

A few more people might call in, and if they do we will recognize and when they do so. For those of you on the phone to make a comment Jamie will take your email and we can cue you up this way I do not think we have a chat function. It has to be emailed. The way that we know you want to speak in the room is by putting up your card. You need to kind of do this, if you do that then they will probably stand. Please do that I will be able to call on your and make the list. First we have got a business think we need to do. To review and approve the minutes of the last meeting. So hopefully you've taken a look at those and if anybody has any comments or additions or amendments to the minutes? If not I will take a motion to approve those minutes. No presupposed so I therefore declared that the minutes are approved and will sign them and hand them over expeditiously. So now this is a great moment because stage is ready to go with got a directors update containing some important information so taken away.

Thank you it's a beautiful day simply said winter has arrived we said no winter arrived in Minnesota on October 11, it's note and not -- snowed and lots more than anything is seen today. Welcome to the winter meeting of NAC. It's a very important body and I rely heavily on you. Your counsel and your advice. I'm happy and honored to receive that. When I was telling Don that I want input I see that you mean that your input and ideas mean a lot to me personally. And to my colleagues. Your expertise is broad and deep. You come from diverse backgrounds your diverse interests. But together this NAC has helped us to achieve great things and I'm thankful for that. That's the reason why. Today I am a little saddened because some of our colleagues will be departing NAC soon. The only thing I can say is thank you so much and I asked my colleagues to join me in a round of applause for these members. [ Applause ] Your advice has been invaluable. I think you for your service. I have learned a lot from you and so have Mike colleagues. We will remain in touch with you so you are not off the hook. We come back to because we enjoy listening to you and your ideas. This is an exciting time for ARC -- ARC. It's important and relevant to us as an agency because there's several reasons. We are brilliant in flexion points. 4 things to point out. First, next year marks the 20th anniversary as ARC, the agency that we know today. This is an opportunity for us to celebrate as well as take a step back and reflect. What we need to be in the future. We are really thinking deeply at ARC as what it means to be the leading health research agency in charge of improving patient safety quality and care. Are taking stock and thinking about ways that we can build our leadership role in the future. Second, it's an exciting time because next year also marks the 20th anniversary of the Institute of medicine's landmark report to err is human, this was instrumental in elevating patient safety to a national call for action. We have seen major improvements and by the way patients have received care. As you might know ARC placed and saved lives and raised billions of dollars in cost avoided between 2000 14/16. A tremendous accomplishment. Number and three reason is because yesterday the national Academy of medicine published a report on the future of health services research. I was privileged to sit on the steering committee for this report. There is a lot in this report, and we have not fully digested the recommendations and calls to action. But suffice to say, that the report will inform our conversation is planning for the future. Listen, it's an important body of work. Congress directed ARC back in March to contract an independent entity to study sub coded health services in primary care research. We recently awarded a contract to Rand to perform the study. A progress report awarded a contract to Rand to perform the study. A progress report is due in February, the final report due next September. Should identify research gaps and areas for consolidation. And proposed strategies for better coordination of the federal health services research enterprise. These considerations together create a unique opportunity where we consider the future of health services and how do we at ARC fulfill that future. Let you know that everything we do at ARC must be focused on improving the lives of patients. We also know that we can do this by helping healthcare systems and professionals deliver care that is high quality, state, and high-value. We help systems and professionals and patients by leveraging our competencies. You've heard me talk

about them in the past. Research, practice of improvement, and data analytics. As we true our work to this lens, and work towards achieving it. It points us upwards to holistic views of the patient improving healthcare for all Americans. So let me tell you what we can expect today. First you'll hear from Francis our acting deputy director who will fill you in on recent activities of the agency and we will review our budget. We will advise you about that ethics of the data enterprise work group. We're hoping Joel could join but he has a personal emergency and cannot join us. Then Arlene will give us an update on ARCs efforts to support secretary Azores initiative and the nations burning platform. The opioid epidemic. After the break you will hear about our work to support two of the priorities of the secretary. We will update you on our work on value and Stephen who's filling in for Joel, will talk about drug pricing. Following this we will have what I hope is a robust discussion on how we had ARC can support all of secretary Azores priorities . Later on in the afternoon will have a session that speak to a concern that you have raised about participation in partnerships. Especially how we can leverage partnerships to help us accomplish our mission. This one is important to us particularly as we position ARC to play a leadership role in the evolving digital ecosystem. Everything is digitized and we are looking at major disruptors there are mergers and acquisitions happening coming into the marketplace. The data the velocity with IT and the volume of data that is coming up upon us. These are disruptors and these are points for opportunities for ARC to position ourselves to better serve the patient of the American people in the future. You told us these conversations are important, and you are right. We have listened to you and followed up. So let me conclude by saying thank you once again for your service to the agency and to the American people and with that, I will ask my colleagues, Dr. Francis Chesley to take from here and run with it. Thank you all.

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Thank you Gopal . I want to just say a few things quickly, let's get this out of the way and get us to the critical component of our agenda today. First give you an overview of the fiscal year 2018 budget, we are pleased, along with their colleagues across the federal government to have received our appropriation at the start of the fiscal year for the first time in a long time. It gives us an opportunity to put that into place, the work we have been doing around planning and operationalizing the budget and distributing those funds. The two components to our annual fiscal year budget for 2018 are the appropriated budget of $338 million. This includes a $4 million increase over the FY 18 appropriation. This is our second year in a row of receiving a budget increase for 18, it was $10 million over FY 17. There are two initiatives that will be launched as a result of the $4 million increase. One focuses on addressing diagnostic errors, a component of our patient safety portfolio that continues the focus on diagnostic safety. The second one is a $2 million grant initiative that will establish a program to explore the effectiveness of data computing analytics to identify trends in disease management. That's a powerful statement there, we are unpacking so stay tuned for some additional information on how to operationalize that particular element. On the budget we talked about the presidents budget in the past, here fiscal year 19 budget does not consolidate ARC into NIH. In approximate 120 million that ARC receives and the patient centered outcome. Note that this is the last year of the current trust fund allocation for you dollars to ARC. And in terms of a few specifics, the project continues these current programs. Patient safety in a portfolio fund that it a little more than $72 million. That portfolio will have about a $2.6 million in new grant dollars, and medical expenditure continues its $70 million, base funding for the survey. Health services dissemination is funded a little bit more at $96 million. This keeps the light on and allows us to fund and continue infrastructure for the organization. The health IT portfolio is funded at $60.5 million and that portfolio will have about four and half million dollars in new grants for fiscal year 19. The preventative services summit at $11.6 million and our new investigator initiated grant dollar is almost $50 million. We have $10 million in the budget to support patient safety learning laboratories. Those are new dominoes, and that budget line also continues $5 million for grants that refunded previously. So, pleased to say that we are open for business in the grants world. We have almost $37 million in fiscal year 19 to spend on new investigator initiated grant dollars across these portfolios that we have. This second thing I want to do is take the opportunity for a shameless plug in the two brag on our most important aspect, we talk about our competencies and our staff is truly the most important asset. We took a patootie last month to convene our honor work program. I will read all the awards that want to mention that one thing we need to do is recognize our scientific staff, Jessica and the war that she received. The director's award for healthcare research and policy. And to recognize our operational staff whether it is a team that updated our intranet or the programs in the center for evidence of practice improvement and in the office that directs our scientific review operation. We took the opportunity to recognize both our scientific staff and our operation staff. So I will stop here and answer questions. Entering details about the staff. [ Captioners transitioning ]

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The program director, the idea is not necessarily for the Bureau review publication, instead use of data and systems. These grants actually are built on some core competencies that are developed to say what is the difference between health services research and training for system researchers. Again, in partnership with the division of the research Institute we funded an additional learning collaborative in which the programs and their partners will participate so we can learn and push the information out publicly and also to develop core curriculum across the program to make the public as well for other organizations that may want to train researchers.public as well for other organizations that may want to train researchers.

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Other questions?

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I didn't even notice.

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This is great, if you could go back to the slide where you list how much money is going to what. So, the trust fund, yes where was that? Keep going back. $120 million, that is in addition?

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Yes that is in addition. Each year ARC receives annual appropriation and 2019 will be the last year, we estimated approximately $120 million in FY 19. There are some carryover funds from FY 18 that are available but the trust fund new allocation since 2019 but those can be used until exhausted.

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Okay that's great. And the next slide is what I was asking about, so the investigator initiating grants, you have $15 million and what are the others?

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In patient safety $6.3 million available from healthcare associated portfolio and then $2.3 million for new general patient safety grants. I mentioned the $5 million for the patient safety learning lab and $2 million for the diagnostic safety. Almost $15 million which is --

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So that is broad as long as it is related to the ARC commission it is something you will take.

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We have three categories of standing, one is the general and then our patient safety and health I.T. portfolio so separate funding announcements in which they entertained the applications, they go to the standing study sections.

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Thank you very much, that's great.

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Just to note the idea of embedded research in the learning system. It is really important. In front of me I have this from last night the national Academy of medicine report on the future of health service research. If you have not read this, it is not that there are big surprises, predictable people say predictable things but the synthesis of priority I thought was pretty good. In fact I had not seen priorities expressed quite this way and in fact one of them was embedding health services research schools -- tools as a basic component of a continuously learning health system so that is why we brag about the K-12 because that speaks about the special interest group in Academy health on learning health system and everywhere I go this is the new buzzword. So understanding this and contributing is going to be important for HRQ and just to provide a little bit of an appetizer for something we will discuss later about partnerships as we go through the budget. Paul, David and Mike, think about where in your budget and your work the priorities are expressed in the future health services research and in the report because we all have to figure out who is doing what around these priorities and that will be both partnerships and rationalization or reconciliation of effort. So we may come back to that. I hope we will.

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I would say to make points with respect to the reports personally I found compelling was the call to action and the mirror of priorities because it sort of speaks to a lining across the stakeholders and looking at the future health services research and the second thing just piggybacking on the point about the study that was funded in FY 18 working with Mike and colleagues and other funders and health services to look at the future landscape and to think about the federal infrastructure for health services research.

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I know if you're like me you probably did not get to read the NAM report until last night or maybe not at all. I had this recent experience where I am teaching a course and we are supposed to have questions around the books we have assigned to the students and I am writing questions waiting for feedback and writing the questions so finally I said have you guys read the book and the answer was no. So if you have a few minutes during the break and you have not read the report did not try to read the whole thing. Just read the summary especially the bullet points and the priorities, I think that will help the discussion to have these smart people get together and come up with these very well articulated specific priorities. So we need to speak to that in relationship to the priorities that come from HHS and begin to think about what is the role of ARC? And where's the leverage? So if you have time during the break go ahead.

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Just a question back to the budget, a lot of the core dissemination and implementation grants are those embedded in the new investigator funds or are they connected to the other money?

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They are embedded in both. So, ARC has two main priorities or mandates under the trust fund. One is training health services -- the second is a broad dissemination and implementation of activity and we do that in collaboration with the patient centered outcomes Institute so that is significant and part of the $125 million but in addition there are dissemination funds embedded within each portfolio especially with the patient safety but it is a place where we are continuing to struggle to say how do we maintain resources to push into the portfolio.

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Thank you. I was wondering could you speak more about the study and the process that they're moving forward on in terms of soliciting input from the field?

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Sure. So, the study just kicked off toward the end of last fiscal year in the fall. We are taking a couple of different streams in terms of data, input from the study the first is to do some listing across the leaders in the health services research spectrum so we will do that within the confines of how we are allowed to do that kind of work and I mean we are limited in number so that is one input. It also includes the environmental scan in which we are looking at what we and others have funded and then looking forward to what are the priorities? And we will do some listing and convening with the federal funders of health's research as well. So part of it and all other components within HHS to get a sense of their priorities going forward and how we might look at some collaboration. Part of this is setting priorities going forward in health services research.

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One other thing we are doing and it is sort of convening roundtables, a couple of roundtables which is separate from the study but it is our attempt to listen to leaders in the field to talk about the future of health services research. You will be informed by the study but this is more focused on system leaders. The idea is we want to make sure in addition to serving the patient's we are focusing on system needs relating to health services research so we will be separately convening conversations and we will bring that together.

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Hopefully part of the process will engage other users. Some people in Pharma, health plans, state policy and there is a lot of action in those areas.

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Okay. Kathy.

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I just want to make sure I understand about the budget with respect to the training grants. Now did you say the K-12 program was not renewed or will not be?

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No. I did not say that. Thank you for asking. Let me clarify.

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More broadly I would like to know where about the training grant is?

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So the trust fund is the ARC training of individuals , institutions and building infrastructure could turn -- to conduct research. That particular trust fund is in 19 with the funds which have supported individual and institution and infrastructure development those programs will continue through the planning and most of them are 3 to 5 year programs. We launched in FY 18 the institutional program which started in 18 and will continue for five years fully funded, in addition part of our investigative initiative grant also supports dissertation and

career development awards so we fund those programs. We will continue to fund continuing and new and in addition we along with NIH and HRSA fund the national research award program and also F 32 individual grants, pardon the alphabet soup but that is also funded under the appropriation. It does not show up as a line item in our appropriation it is in the NIH budget and that will transfer 1% of the annual budget into HRSA so we fund 18 programs under the T 32 and 11 under the new K-12 health learning program and none of those are being cut.

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Thank you very much. I should have checked ahead of time. I'm not sure how do you say that?

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Depending on who you are you might call me something different but -- depending on if you are in my family, a new colleague or a colleague from 26 years ago. We are among friends.

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Okay I'm getting there. I mess up things a lot. I called Francis Richard but there is Chesley Richards and this is true. Every time I come to see you I work on this so I'm not going to blow it again. So I did it. This is called embedded habits that you have to break. Anyway, so you are on however you want to designate yourself to this group and give us an update on the enterprise.

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Absolutely. Do I have control over this? Okay. Okay so I am, I have been here for 26 years at ARC and played many different roles including working on the panel survey, I work as a colleague on the team through the quality indicators program. I am also working, co-leading the effort with Joel Cohen on ARC state enterprise and what we would like to do today is talk to you about what we have been doing since the last time we met. I have a brief recap on where we were in July. We came to you in July talking about sort of our efforts at the enterprise level to look at data analytical capacities and trying to build that out for the futuristic world of serving HSR. What we have been doing and talking about since they came to us was thinking more about innovation and thinking futuristic week and getting away from the traditional model and health services research. So what we would like to do, last time we came in July which was four months ago. We came to you with a set of questions and it is really for you to start thinking about where should we be going as an agency and as a field. In respect to health services research. We had a lively discussion in July and we would like to talk a little bit about the messages we heard and what we have done since. So what we heard is that we needed to think about traditional health services research and the strengths. And the strength was rigor but it comes at a price of time so in the field there was a need for information to be given more directly, for active implementation so we could see a more rapid uptake of evidence-based research in a practical on the ground setting. So we heard that message clearly. We also heard about social determinants of health as being a priority for the field and trying to think about giving the population we serve, what are the other external factors to be aware of and how do you bring that information when you are delivering care? So we did think about the internally. We took the information and try to think about innovative ways to at least get the conversation started in terms of what we do and what is our role in that space? So today I want to talk about a special issue, innovative approach of what we call ARC challenges and other data initiatives we have had ongoing since this past July. So, this is an online electronic journal if some of you are not familiar. ARC started many years ago with the portfolio transitioned to Academy health lessons taken that on and does regular ongoing issues around special topics. ARC is taking it upon itself to do a special issue on topics related to our data enterprise objectives we are looking at focusing research that leverages new ways of utilizing data. Try to think about claims data and other new data forces and how do you bring those to bear in advancing health and healthcare? We had the submission process close and we are still evaluating some of the submissions. There's a possibility we could extend depending upon volume as we do recognize there was a fairly short submission process. We would like to take a moment to specifically thank -- for helping us think through some of the issues. They have been very supportive in this effort. The other new thing we have been trying to think about and do is use of ARC challenges. Under the compete act the government is able to facilitate competition within the field. It is something that is sort of a compliment to the traditional press for information packages we tend to do. This is a more proactive way of doing that. So what we have been thinking about or what we have done is in August we initiated a challenge where we invited the public to design and develop digital tools and apps to collect and aggregate patient reported outcome data for use within a practice setting. So that is ongoing. As you can see from the schedule the phase 1 deadline just passed in September. We are in the middle of phase 2 which will end in the middle of February and the testing will be between March and September of next year. That is the one we have got ongoing. There are two in the early

planning stages. With respect to determinants of health, having heard the message we thought there was an innovative way to go back out to the field and invite them to identify the new data resources that one could bring in identifying new ways of putting the information together to help tell a story and help think about how do you best plan for patients with some information around their community access or their own personal characteristics. Looking at issues around housing and all of that data that comes in so how do those things come together to actually help you think about planning and delivery of care for this population. So this is a very new area for us if folks can identify the data, accessing and demonstrating to us in some visually interesting way that there is something that we can then pursue sort of long-term. The second one we are thinking about focusing on is utilizing our own nationwide inpatient sample database to develop addictive models. We recognize that timeliness of data is definitely a challenge. When talking about national data sets. It takes time to collect the data, aggregate data, edit the data and data quality is something that drives that. We often see the need for having the ability to have data available to us to make quick decisions whether it is a policy decision and how do you do that? If there are ways we can take existing data and develop predictive models to be able to help with some of the planning we are hoping that challenging the field, whether it is the statisticians or others it will actually help us think about what are those algorithm tools and what could they be? For challenging the field to come up with a new algorithm and new ways to think about utilizing data for predictive analytics and that will rollout sometime in April. So while we have thought about these innovative ways we have been working simultaneously on expanding data capacity. So we do have three new states that have agreed to provide quarterly data. We actually have more timely estimates released, we have, we are working on putting together a county level, database. We have updated maps with the information and we have been working with the VA on some estimates through the maps program. We have also worked on incorporating state-level database that are specifically acquiring state health practice database for research effectually called spider. I'm not a big fan of that name but it is what it is. That is a new database that the folks put together. It is really a database that looks at statute or regulation by state. We are hoping we will be able to use that in looking at how does policy impact various components of healthcare delivery? It covers all 50 states and the last two points have to do with some work we are doing in terms of creating a new data platform under this direction we have been expressing the need to have an enterprise platform that we could not only provide information in a consistent way and random information in a consistent way but also be able to provide access to the public. So we have two different platform initiatives going on. The second one is about extending a remote data capacity which is of interest to some of my colleagues here, particularly because it is access to many database resources and we are trying to simplify that process for colleagues outside doing research. And that is it. I'm hoping to have more time for some discussion as we did last time because that was a lot of fun.

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Can you talk a little bit about social determinants of health you are collecting and how you are expanding? There are all types like the Institute of medicine, 2014 there was a list of 12 of those so is that what you're focusing on?

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I will start that and then I will ask my colleague Pam to expand. We have not put a lot of restrictions in terms of the challenges. We are looking to see what does the field have access to? As a national agency we don't know. So much of this is at the county level but to the extent that individuals have access it is not just about counties collecting because they may have data. There is 211 data, all kind of data but is it usable? Understanding what this looks like is the first as many step into the space so I don't think we have restricted ourselves into those elements. Going forward we might but I'm not sure.

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[ Indiscernible - Speaker away from microphone ]

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Thank you very much. Sorry, this is Sally Morton. I want to kind of understand how you are envisioning the competitions working. Not so much during the competition but what happens subsequently? Someone creates a visualization so are you going to disseminate or use that to provide information for future grant efforts I am kind of confused.

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We have two different challenges. The Pro challenge I will have to look to my colleagues. Arlene perhaps could answer the question of the output of the Pro challenge but the other two I can speak to. The one that focuses on social determinants of health, the goal is to learn and to the point that there is something that is something we cannot disseminate, we do have a website that the HHS maintains. Every product that comes out of a challenge

is supposed to be posted. If we think the winners create a map, I am making this up because it is a broadly defined product. We use the word visualization because it is a broad word but specifically we don't say graphic or tools or maps because we did not want to sort of decide what the product would be because again we don't know. If folks are able to create or tool or product that is useful to the field we will certainly find a way to disseminate. If we think it is a steppingstone to something like a next face approach we would make a decision as to what the next appropriate mechanism would be. Is it a contract or grant or something else? I don't think we have decided that the intention is to use the price commodity challenge to either inform ARC on a series of next steps , the total self might be the something we disseminate. But it is a bit of an open question. I think all of this will be made publicly available on the challenge website and on the ARC website.

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One other point because the challenge winners will have intellectual property rights associated with what they develop, it is a neat opportunity for public and private partnership in terms of how we did dissemination around the winners and the products that come out of this competition.

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Thank you very much. Can you go to the previous slide. This is Mike from NIH. On the bottom you have a discussion about how access is provided to the data centers and you talk about seats so can you talk about how people get access to your data?

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It will depend on which data. Obviously we have public use available data on the website. We have different access points depending on the maps. So, we have a number of public use data files that are on the website. For what we will call nonpublic data elements those are accessible through the ARC data center and there is a process on the website where you submit the request and there is a internal process and then you are given access, I think you have to come here at one point in time to fill out some forms and then you get access points and it is done remotely. We have a slightly different process where there are public, a national public database which is available where you submit paperwork and take the data confidentially training and you are able to access that. So this is not really owned by ARC it is a collection of state databases that are in partnership with the states. To access those you to go to the central distributor which is a central point of access which is also available on the website. I think we are now working on trying to identify other mechanisms by which we can provide additional access to both data sets. We recognize there are other elements that could be of use to the research field and I think we are now looking at different ways of doing that.

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That is terrific. Do you have any sense as to how well your data or how much your data are being used and if the data used, whether it is through your seats or special forms, is it as much you were hoping for but do you think you need to market it more?

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I think it is in high demand. We get requests all the time for special request of special data sets where we end up, we might have to run it ourselves because we don't have a mechanism at the moment to provide that data. I think there is a growing demand for more data and it is on ARC to find ways to provide access to that but still maintain our confidentiality in our agreements. That is one of the issues. In parallel to this work is something I did not talk about but we have a team of folks working on data governance issues specifically trying to make sure we have policies governing decisions around assessing what types of data we can put out. Who has access and what time which will protect that ability. But still maintain the ability of access. That is a process we will be undergoing over the next couple of months. With the explicit goal of providing more access points to data but still protecting the data as much as possible.

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Just adding one more point. There is one other access point through the grants program in which applicants and grantees will propose and use for public use and identify data.

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Okay this is Don again for those who are on the phone. I think that was really very helpful. Three of the priorities from that report have to do with data. One is data from patients, one is data from the routine delivery of care and one is data about social determinants and other factors that are important in health. So that is great you have touched in some way on all of those. One of the jobs as the chair of the NAC is to synthesize what is being said and provide direction for ARC so I'm going to do that. The synthesis could be wrong but there are four dichotomies that need to be reconciled. The first is platform versus data and method. So you can have an app for

collecting patient reported outcomes but the question is what data? What are you talking about? Is it promise or somebody else's idea? So that is always attention, are you interested in the technical platform or the actual methodology and data collected? I know you have thought about that but I want to highlight that. The other is private entrepreneur versus public and it is easy to talk about the potential for partner and public partnership but when somebody thinks they have a hot app there interested in who is going to buy them out so that is the second attention. The third is secretion versus creation. One way to look at this is to see the data source and create them into something that will hopefully not be some sort of half animal of various types. The others to create a new vision for what all the data should look like and then work hard to beat the existing data into that form and potentially have some new sources and the last one is barging versus harvesting so right now you're on what I call harvesting expedition. Putting out a challenge and hoping that the response will be representative, innovative and therefore helpful. The response to the challenge was quite good but the question remains what are you missing? Who for whatever reason does not want to bother coming to you because they have their own idea? How are you going out to find those ideas and not just harvest what happens to come to the door. So those, platform versus data, public versus entrepreneurial and private, creating and foraging versus harvesting. If you can solve those problems you have a great paper in health affairs. Thank you. That was very helpful. I don't mean to diminish the work but we are probably all sitting in our little brain bubbles saying how are they going to deal with that? Okay if there are no further comments on that, in my bold attempt to synthesize and challenge is not going to provoke any going up around the room I am pleased to introduced the director of the center of evidence and practice improvement at ARC and she's going to talk about the very important issue of opioids and I trust we will use this to get through the various things for whatever issues come forth.

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So I'm going to try to show what we are doing with opioids and relate to our other work. I don't have to tell the people the challenges the opioid crisis, there are -- there are 11 million people in the U.S. misusing opioids in one year and 2 million had a formal disorder. What I wanted to point out on this slide, the main reason for opioid misuse was pain in almost 2/3. 62%. So, ARC, in terms of its bucket is doing a number of things relevant to the opioid crisis. In terms of research we have a group of grants that I will talk about in a little bit more detail to support rural practices and delivering medication and treatment. We have a special emphasis notice that is looking for opioid work in a number of different domains and we are doing systematic reviews and it was some of our federal partners. In terms of practice improvement we have developed pain management dashboard with clinical decision to so -- support. We have a web resource for primary care practices on pain management with opioids prescribing and I will talk about that a little bit with the grants. More on disseminating building blocks for primary care practices work with patient safety organizations and clearly as you have heard data presented a lot of this work last time but there are some Neustadt briefs in terms of providing the data to inform the opioid crisis. So our grants which are leading in two weeks so we will mail more on how they are going but basically focusing and identifying and overcoming barriers regarding primary care and developing practicing tools policies to spread results. It is the last year of a three-year $12 million investment in demonstration and dissemination grants and the states funded are Colorado, Carolina, Oklahoma and Pennsylvania. They are all taking a little bit of a different approach and then we were able to fund a fifth grant through our regular grant funds in New Mexico they are in the process of their second year. You know what is exciting about this is how do you support rural practices? A lot of the projects are using variations of telehealth and Telemann touring to do this and how do you integrate behavioral health and primary care in a remote setting? Hopefully there will be a lot of learning around that. It is a challenging area to work in and we are learning a lot in terms of who is able to do this and who is struggling. So I think that will provide a host of lessons learned. The other thing is to support this we have the Academy for integrating behavioral health and primary care and they have a host of tools and evidence on the website about how to do this and we are in the process of utilizing that so it will be easier for people to find and use the tools. And we have a playbook on the integration of behavioral health and primary care. This focuses on common problems like depression and we are adding a module around managing opioid abuse so I think those will be useful tools. In August we released the special emphasis notice and we have been quite successful with the special emphasis notices and attracting the kinds of grants we want to fund. There are three buckets. One is evaluating estate local and health system policy. Efforts to address the opioid crisis, the other developing and evaluating interventions around prevention of opiate abuse and then finally understanding and addressing the rapid increase in opioid -related hospitalization among older adults and I will show some data about that. Our EPC program is doing quite a few systematic reviews around pain management and you know opioid management. This report came out earlier this year. On non-pharmacological treatment of chronic pain

and it took five conditions including back pain, osteoarthritis of the knee and looked at multiple interventions like back pain, acupuncture, physical therapy and really is an amazing synthesis of the evidence there. I spoke to the national advisory Council for the national Center for integrative health at NIH and they are using this to inform some of their research agenda setting and may be planning some trials on where we found insufficient evidence which is quite exciting follow-up and CMS has been very interested in the report. And the challenge of covering these therapies and their using this to inform their thinking. I know have talked about systematic reviews before and they are dense and big. Hundreds of pages that are hard to get to and I think this is exciting. We are looking at different ways to make them accessible and improve data visualization. Will use the nonpharmacological management of pain as the example and this is just a mockup. We are exploring, this is a proprietary software we are exploring some open source software to make it sustainable but if you look here you will see this is just for lower back pain. The outcomes were pain and functioning. You have all of the interventions where they looked at exercise and etc. So it is really easy, what outcome are you interested in, what condition, what interventions and then navigate the report easily. Hopefully this is something in the future we can do more broadly for the EPC reports. And then you can click on this so if you hover over exercise you will see the results of the different trials and the strength of evidence. I think this is really exciting. It is not on the website yet. This is a prototype. It will be. That is something we are working on developing, coming soon. So yes it is in the developmental phase. This is a prototype. It is quite exciting. So, we have done a host, the nonpharmacological management of pain was done in partnership with the CDC and was used to inform work they are doing. We have a history of doing a lot in the past of systematic reviews related to back pain. I'm not going to go through these but we have some that I thought I would point out which are interesting. Last year we did one on management of suspected opioid overdoses of Narcan which was funded by the national Highway transportation and safety administration. We have really been successful in supporting federal partners and we are doing more and more systematic reviews on a host of topics for our federal partners. We are doing several now around caregiving and Alzheimer's and then we have actually a series of four that are being fast-track to inform the updating of the CDC guidelines. CDC is funding them so we will do updates on work on opioid and non-opioid pharmacological treatments. Will update the non-treatments, that is one area where there is a lot of work and the literature is expanding quickly and also looking at acute pain. How do you manage acute pain to prevent it from becoming chronic and leading to an opioid problem. So those reviews will all be out within the next year. So I'm going to switch into clinical decision support work. I know I have presented about a year or so ago about this program and this is really taking off. It is a multi prong effort where we have the online repository for public use to keep artifacts to allow people to share for efficiency. We have developed an authoring tool to make it easier to go from a guideline to software from a guideline and we have a number of grant portfolios around this. The reason I am talking about it today is because last month we released the new opioid clinical decision support so we are basically doing these as use cases to get the software at the site to make them useful at the same time. These are new decision supports to help clinicians manage their patients with chronic pain. We produced a pain management dashboard. I will show you a little bit what this looks like. Basically it consolidates into a single field data scattered across multiple screens. So it will give all of the diagnoses. The medications, the risk factors for abuse, pain scores and the idea that came from that was user driven. I will share that in a second. It includes technical files, fermentation guidance and open source code. It was piloted in epic but it was using fire so it can be adapted. So initially we were thinking of doing traditional clinical decision support but did this in partnership with a network of you know qualified health centers in the Northwest. Basically the clinician says we don't really want another annoying group it is hard to find the information we need so this was driven by users in terms of the products that we develop. So this is a summary that shows exactly what is included in the dashboard. So we are planning for this year to build on this. And build it out to add more features to it and some support for implementing the CDC guidelines and we have not determined exactly what we are doing so we would welcome ideas on how to make this more useful for people. The agency also funded this team-based strategy called six building blocks which is a team approach for opioid management in primary care and we have a two-year action three task order to spread this more widely and implement it. So it was developed for rural practice but this will be spread to a total of five areas soto a total of five areas so how do we take this work and spread it? And Jeff Brady talked about patient safety organizations and their having one of there in person meetings in a couple of weeks as well and then they will look at joint solutions for getting the PSO involved in opioid stewardship. So I will kinda finish off with some stats briefing and so this was looking at the changeover five years in the rate of hospitalizations and emergency room visits for people with people over 65 related to opioids. There were 124,000 admissions in 2015 and you can see a huge percentage increase. Also even though

it was less across all age ranges among 85 and older. I think the elderly are particularly vulnerable because they have chronic pain, they are at risk for drug interactions with disease interactions if they have cognitive impairment and they start taking opioid risks or falls so I think this is a major public health issue we have not paid enough attention to. The other thing we looked at, people, older people who were admitted, there was increased opioid hospital admissions over the five years and a decrease in overall admissions for this population. They were also more likely to end up in postacute care after their hospitalizations with longer length of stay. So this is one area that is ripe for where ARC could do some work. The other interesting thing as we looked at chronic conditions is 95% of them had two or more which is the definition of multiple but 70% had four or more. So this is a frail high needs at risk population that has not really been addressed. We are spending money on opioids but I did not see a focus on this anywhere. We looked at regional differences and the top is inpatient stays the bottom is emergency visits and at the top what is interesting is the West had higher rates of opioid -related admissions but lower non-opioid -related admissions. This is also being used to look at opioid prescribing and you can see that there is some disparity associated by income. So the poor and low income people were much more likely to fill in during the year and get four or more. So addressing disparities in prescribing is another important issue. Finally this date it was done for the CDC. This is a painful slide to look at, but there was a tripling of infants born over this period with neonatal syndrome so it is pretty sad. I will stop there and these are my questions. How should ARC set priorities for the new investments? We have a little bit of targeted money to do something new around opioids so I would like your advice in researching and addressing the opioid crisis to make unique contributions given health crowded so is there something we could do strategically to make a difference? And then what opportunities are there to increase dissemination uptake of tools and data resources. So including the pain management dashboard and the tools on the Academy.

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We will stop there.

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Great presentation and you have received immediate curiosity.

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Very good. So have you worked with any pilot sites with the content on the web and what it is implemented in their system? That is sort of the key issue so we have these tools so we have to start the internal conversation with the I.T. group so is there any sort of reference point for systems trying to put this in and the degree of difficulty because that is important? Has there anything gone live yet? The pain management is of the pilot phase?

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That was one of the questions that we have. Are there things we could do to kind of scale or spread them more quickly and one of the capacities that we have is to do that through the action network. The same thing with the tolls on the Academy website. There is a rich list of resources honestly it is a laundry list right now and I think did utilizing and making it searchable will help but I think putting it up is not enough. We need to actively implement that and it is the same thing. When the playbook is developed there is opportunity to spread. We are doing that with the six building blocks so that is one example of how we are trying to spread one of them.

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So in any mechanism to track that in terms of labor load, the number of hours or specific programming steps even if you're using epic, epic implementations are different so as granular you can get will be helpful for others because what you find it feels like everyone is starting from scratch which is just a shame because there is a handful of platforms and we should be able to do a better job of sharing that knowledge.

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That is exactly the goal and it is actually growing fairly exponentially. We have another study that is being done through the action work to look at this cost savings. If there is efficiency so every system does not have to start from scratch and some of the proprietary stuff. Are people willing to share what they developed if they can get access to everybody else has developed? So I think that is important. Just as an example the CDC has developed quite a bit of clinical decision support and they will host it on our website. You know again this is funding through the trust fund that is going away so we are very actively looking at ways to sustain this type of infrastructure so we would welcome ideas about that as well.

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Sally, David and then Tina.

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This is Sally Morton. Thank you for the presentation. Having been an author on numerous of those reports and being part of the evidence-based practice Center since its inception. It is wonderful to see how you are trying to bring them and make them useful. We just heard this presentation about the data enterprise. I want to emphasize that as evidence reviews moved to individual patient level data which is where we want to get to, these pieces are really going to meld together so it is important the agency not see these as separate enterprises. So where the signs and statistics are going is to the individual patient space and knowing the program as I do, I know you have a lot of people thinking about that but we cannot have those if we really want to make this research useful. As practitioners.

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[ Captioners transitioning ]

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Do you want to add?

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Four

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[Indiscernible - speaker too far from the microphone]

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And then just to add something I will be reaching out to you and we will put together a state-of-the-art conference for next September looking at opioid use. Have previously done one on nonpharmacological approaches the pain and I think we have sort of identified three areas. One is questions around dealing with known opioid use disorders and approaches with MAT and other things. And people that are dealing with chronic opioid, what are best approaches and then the most problematic one is coexisting pain, chronic pain and substance use disorder. How to deal with that. I think the area that is ripe for ARC is how do we integrate treatment of substance use into primary care. And are there models for doing that. We tended to compartmentalize substance use as a referral base kind of program and folks are shipped out. The VA has had a lot of success in intuiting mental health and primary care for depressive disorders but we are wrestling how to do it with substance use and as we start to get people into MAT, primary care prescribers prescribed MAT and how can we integrate the more complete set of substance use treatment. I think there's a concern that we are just focusing on MAT and forgetting about the behavioral component of treating substance use.

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Good point. David, they're organizing a meeting next month on use of federal data to study the opioid crisis. This is for the core fund and i don't know because VA doesn't usually participate in that funding, if VA is represented or not but I can look at it. I can try to get you the information because it would be of interest.

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Tina Hernandez. Great presentation. Thank you and having a ARC funded I'm looking at pain management and we have contributed to a lot of that management your showing but I wanted to emphasize some of the things that Sally said and when you're looking at your unique contributions and merging that with the conversation we just had about social determinants of health I think very little evidence and we know that's very correlated so the contribution and personal factors that go into even the initial exposure of opioid use is an area that I think is understudied right now and it could be unique contribution that ARC's thinking about certainly when you're already thinking about social determinants of health and the merger of those two fields it's really an important area and going down to the patient level so building that evidence for patients with particular aspects of social determinants and what is the probability of becoming addicted and giving this information before they start the use of opioid I think that's an interesting area that could be a unique contribution.

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Great suggestion and interestingly, among the elderly, we looked at differences of the distribution like income and by ethnicity and the majority of them are white get admitted, and the same thing for income groups. The opioid crisis at least in the elderly is a little different because I think it's just the whole host of different risk factors probably a lot related to pain.

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In the elderly I think it's a unique population.

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Palma can't.

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I thought it would be good to mention for people who don't read laws a lot that there is a new support for patients in communities act with legislative proposals and changes are happening mainly which will affect Medicare programs. One of the provisions is monitoring out providers and taking what I would call a less regulatory approach of identifying informing and educating them in order to try to implement their behavior in the future. We have tried doing that ready with pilot programs and with some success. There's also support for technical assistance in terms of opioid use disorders and technical assistance in the legislation. There is a new map bundled payment program that's required that would be implanted in the 2020 rulemaking cycle and there is legislative changes easing restrictions on telehealth for substance use disorders particularly in rural settings. I think the act moves us forward in terms of the regulatory and implementation aspect of the research findings.

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Thank you. I just wanted to further the comment that David Atkins had on the prescribing of MAT but primary care and add that there is specials that also could become part of the prescriber base and again, the clinical decision support and ability to draw in resources that wrap around all those components is extraordinarily important. One other comment I would add is the emerging field of trauma informed care and one thing we might want to think about is how do we begin to capture those adverse childhood or adult events that are data elements that may have an association with some of the factors that we are talking about and want to study.

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Fabulous work. You should be really proud and I'm excited about the new product for display of the evidence report. Really excited to see that. I'm wondering how are you letting Congress know about this important work?

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So we are not. I will be very honest, I think we fall short. In some ways we cannot speak for ourselves but we would welcome your ideas because I think people need to know that, even with this spending being spent on opioid, I think we are doing unique stuff that nobody else is doing and would not happen if we did not do it. I don't know how to get the word out but I would love your ideas.

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If you thought about the ROI , you are doing tremendous work and I would like to find ways to get the word out about that. I know a couple of years ago through Academy health we did -- it was a meeting where people staff are invited to come in and they talk about ARC funded research. Maybe there is ways that we can find partners to shine a light on some of this work.

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I think NIH does that much more skillfully than we do

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Beth, can I ask a question. I think you said you [Indiscernible] rules Americans and have a small place in Vermont which is rural and beset by substance use problems, how are you seeing the impact of ARC's work . You mentioned program of study in rural health. What do you see?

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I think ARC has an opportunity to share their information in a more user-friendly way. I do not believe that it's getting out to rural America. The last slide he said mama was most devastating for you with the neonatal syndrome, that's hitting ruler of America at that time because -- rural America big time because they are seeking the opioids, the young mothers and they are delivering in a rural setting. We need resources to help us because we don't have the same resources that urban settings have. As if you have to figure out how we're going to do that. We talk about telemedicine all the time. You across the spectrum of rural health, how many organizations have incremented telemedicine and have implement that well. There giving grants to buy the equipment and how to utilize the equipment and how to defend providers with propriety met support for the equipment. There is a lot of variables out there that have a huge impact on us because all of the -- a lot of them think we have this great support, we don't have the human resources to back up the equipment.

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Great discussion.

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Just following up on Lucy's question and maybe this is more a question for you. Are there limitations in terms of congressional outreach or our reach to other decision-makers? Are you limited in any way other than your time and -- but the Betsy Friedman center is much smaller but we occupied similar roles. We are limited in the outreach we can do to the legislature or policymakers but making that case and demonstrating -- I listen to these presentations. I'm not a researcher by training but we are utilized there is -- utilizes of our resources and it's the

incredible breadth of resources . It's remarkable and that's why I'm very happy to be here and support what you are doing in any way. I agree. I don't think it's whether the provider community or anywhere else that dissemination piece is perhaps whether it could be and then getting the support and funding to do this work. I think there's probably a really strong case to be made, sort of an educational piece you could be doing, and I know we could be doing at our level but probably there is an opportunity there. I'm wondering if any limitations there are in actually doing that.

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I think you raised a very good point and perhaps -- NIH is an expert in terms of being able to get the message out and perhaps one thing that ARC can learn is how to make that happen.

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Is probably best for us to have conversations off-line. This is not a setting where we should be talking about how we lobby Congress because we are not supposed to do that. But I would be happy to follow up on that.

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But I think Lucy's suggestion about using your friends of ARC. We at the VA have done that where you can put on a for him at the hail -- forum at the hill nice by friends of ARC develop research and products and that they way to get things before a congressional audience.

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We are allowed to educate. We have to make sure we are not lobbying.

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Every year we submit a roster called A 19 propose legislation so staff see things that they believe would be in the countries best interest based on the data and the work they do, there is a process to go through and they are not always accepted. Last time with tried for 10 years and finally got through after 10 years but a 19 legislative process is something we are very active in.

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It's been a great conversation as promised I have four points to ponder. The first is there's a big difference between being clear and lobbying. Clarity is really important and we receive I'm told a number of proposals to help people work with people and get paid for actually opioid stuff. I always try and say okay, where is our -- what is our overall theory about what we need to do and how we need to do it. Every agency, I don't think you are an exception, has all the things they do and I'm sitting here in my mind trying to integrate it into how this makes for a logical approach in United States to deal with this problem. I keep calling for that. A driver diagram showing where your work fits and this is interesting because we believe that doing this role solves this problem. The three questions that you don't have to answer now, unless you want to. One is there is a proliferation toolkit and ARC is really good at toolkits. I never know to what extent those toolkits are used and to what extent they are used effectively. Some data around who is actually not downloading our toolkits, who is using them and has results and who is finding them effective. I know you had a study under action to look at Medicaid readmissions toolkit and see whether it was being used but I have never seen the data for it was not publicized where I was. Something to consider I always thought CMMI did demonstration project so will be used -- would be useful to have a demonstration to what a project means to HRQ and where that fits in healthcare resources and on that side there was something about dissemination almost all the time you read about it and says what's the dissemination plan. I want to know what the scale of that plan is. If this works, how do we think about scaling. Is this going to be the next NSP, DPP, because I think you have to think about scale up at the demonstration point, not after that. Finally, the decision support sounds really great. I know at least four companies that make their business doing that. One is apps go in there option great which I walk through. And it's a best evidence based that I have seen. The send me to my primary care doc. They have a salesforce. You have a salesforce that way. How do you sell this?

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Those are all great points. Just very quickly. I think we have under invested in our evaluation and also dissemination of some of the product and I think what we need to do is prioritize which ones we have the most impact and figure out how to get them out there and evaluate do they make a difference. We are actually doing that and want to share has been widely adopted and it's a generic approach to shared decision-making in fact is. I know the VA is using it around diabetes work and we have never evaluated it. We actually this year we put it out for proposal and we got a more rigorous evaluation to share so when we have the evidence, if we get evidence that works, we can disseminate it more widely. The difference between CMMI and ARC and I think evidence now is a good example of that but what we're really doing is marrying a quality improvement with the

implementation science. We really want to learn as we do these things what works and what context and how to make it work. I think it, elementary. I don't think it's a duplicate to the work that CMMI DOS.

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I think it's really important because if I hear again about a learning network or a collaborative network or whatever without specification, I'm going to go crazy and the same thing could be about we are going to a demonstration but my boss will not allow me to use that word because he does not understand or he thinks it's soft. I don't know why he is so [Indiscernible] about it but people don't specify what they mean by that. So Francis, you will make some final comments.

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I want to touch bases on the driver diagram to point out that with HHS, the assistance sever for Terry -- secretary of health has a plan for how we deploy HHS resources for this crisis and within that plan we articulate a role for the operating divisions, ARC and others and it includes milestones and tracking. I'm not sure if we have -- I will be happy to make sure how ARC's role is articulated in this space.

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I would even put it forward that when we start a discussion on anything we have to start with the big HHS plan and where it fits and it puts us in a position because we can do this to advocate and say this is critical piece being filled by ARC or ARC needs more funding to step up and do this critical piece.

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Lucy?

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I think you have a salesforce. People it -- people who are funding are your salesforce and I know when I was when I was still in Utah , every time I was in Washington DC to talk about the important work and they were watching. And know when we got our CMMI innovation challenge, we got a letter from Senator Hatch's office so they are looking at who's getting from that and what areas and jurisdictions.

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This has been really fabulous. Thank you all and everybody's contribution. I think one way or another we have got everybody to say something which is always a goal of mine. Now we are 10 minutes late for a break. What we do? Do we still take 15 minutes? We still take 15 minutes and get some coffee. It's pretty good coffee. Tell me of the Korean rice bowl guy showed up.

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[ Event is on a 15 min 15 min break. ]

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[Captioner standing by]

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May I have my gavel please. So we have to get back to business. We have a very full agenda and the next item on the agenda is an update on ARC support for one of the priorities in this case it is value. We're going to -- she has a lot of titles. She's a director division of priority population research, Senior advisor for value transformation and child health in QI. And that's enough. You can tell us something about yourself. We need to pay attention. Value is a tough term to get your arms around and we all talk about it so there will be a big discussion after this I'm sure.

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Thank you. Morning and thank you for having me here. I just wanted to start out I giving you a little bit of background about the value transformation effort across HHS. First I will give you some general contextual information about this and the way that HSS is thinking about this in the secretary's thinking about this and then I will give you specifics around where the secretary started and where things are headed now. In terms of the space. I want to spend most of the time talking about your thoughts and the space and as mentioned, it will be -- we are working on a framework so I think as he mentioned, as a logic model and trying to think about since were so early on thinking about goals and how do we evaluate if we did what we set out to do. We are at a very early spot. I think it's different from where Arlene and Joel are in terms of the other two priority so it's a great opportunity to speak with you.

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By way of background I wanted to jump in in terms of framing comments. As you know payment focused predominantly on fees for individual services. There is a lack of transparency with regards to pricing and quality of care. Assistance of Carrer's are not centered around patients and their needs. There is a lack of focus on

prevention and diverse perspectives on value depending on the vantage point. We don't even have a clear definition which leads us into an interesting spot for this work. These challenges among others have kind of left us at the agency level and also at HHS level thinking about this shift towards value-based care which redirects incentives from volume to focus on better outcomes, reducing costs, and better quality. This not knew what in fact, the secretary in his speeches very often references prior work that has been done in other administrations but he has created a sense of importance and urgency around this work I think. I will start with giving you some background on the overall goal which is transforming our healthcare system into one that pays for better -- pace for value and better healthcare at a lower price. The secretary laid out four main areas to realize the school. The first is maximizing the promise of I.T. to give patients more control over their health information. That is trying to put hand -- the information into the hands of the consumer. Second is transparency around price and quality. The third is bold new models and Medicare and Medicaid so this is really a lot of the work that CMMI is doing. And lastly, removing burdens that impede care coordination and some of this work is around regulation and others around care models. Since laying out these goals a few months ago the secretary appointed Adam, he is also the director of [Indiscernible] but the senior advisor for value that is overseeing this transformation efforts within HHS. Since Adams has arrived, nothing he has taken those broad goals and really try to marry them and thinking about it from the four piece perspective. I will walk through a little bit these pieces but it's making patients into empowered consumers coming providers into accountable navigators of the health system, paying for outcome, preventing disease before it occurs and progresses. I will dive a little bit deeper into each of those actually and take a minute to walk through them. They are loaded and I would like to say we are at the beginning I think thinking through these in terms of working with Adam and I think since he started working with him over the past few months, there has been sort of a change in the way that these are focused. I can give you sort of the information that I have but also I caution all of us in thinking about this as a moving target a little bit at this point. In terms of making patients into empowered consumers this relates more to increasing use of health savings account, offer greater flexibility to cover costs in terms of past the deductibles. Also these are efforts in sharing data and information with providers and patients. Those are two different ways of looking at this bullets I wanted to show you both of those. I think what's going to happen now is thinking about those are the goals and needs, how do we drive towards seeing that happen and I will get to the next one. Making providers into accountable navigators. This will not surprise many of you that this is focused around payment models to promote primary care providers and there is a shift away from fee-for-service model and this is really thinking about models like the copperheads of primary care plus, CPC plus model and some structures to that's with honest early that model but think about that model and what works as part of that model and building from there. Also there is a focus in reducing inpatient services and thinking innovatively about how to deliver care in other settings and when we met with Adam the first time, I think this is something that is really important to Adam and his team thinking about complex patients in particular and what are other settings in which we can provide care that would promote quality and reduce costs. That could be a place where I think he knows a lot. In terms of paying for outcomes, the main focus here is payment models, that's what we have seen. Getting the quality metrics right to incentivize the focus on outcomes and really being able to measure impact and value. I think we are far from that and I think there's a lot of thoughts around how to measure value and we have helped a little bit with trying to figure that out but I think that's definitely a place where I think we can continue to contribute. Also I want to highlight in this space the models that the accountable care communities model. These are models that I think Adam and his team are really thinking about critically and really think about what has worked in those models as well. Because especially for folks with chronic illness, they really feel that many aspects of those models which actually address social determinants of health are going to be important for really thinking about how to pay for outcomes rather than just paying for volume, right. The last bullet is preventing disease. Again, the accountable care community is actually a large aspect of that and the secretary spoke yesterday and spent a lot of time talking about social determinants of health thinking about how do we work directly with communities particularly do we need to be a middleman, should we pay for things like [Indiscernible] directly, nutrition directly, all these things are things that he is thinking about and he is thinking where is the role of the physician, and all of this. Where does HHS fit in where does the government fit in and thinking about that. I think there's still a lot to consider. This is I think the first part and what we really want to hear about is what your thoughts are in terms of aligning and these are the key areas that we thought about in terms of developing our framework. Healthcare delivery, systems research, nullity measurement and improvement, data infrastructure, analytics and tools and primary care and prevention. These are things that we talked about and talked with you about and I think the next step for us is really trying to think about how do we take those areas and really think

about aligning those with HHS. So how do we think about the work we are doing and our framework and a logic model and thinking about the four priorities. There is likely places where we already are doing some work that we can sort of leverage and continue in that area but I think in talking with Adam, and with others, I think we also want to think about other areas where there is potentially gaps we could be filling and new areas we could be forging.

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Comments.

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I think this is exactly -- and I can speak from a large integrated delivery system standpoint for those on the phone this is [Indiscernible name].'s value proposition and organizations are changing the mission statement of corporate value in terms of what they need to be focusing on day-to-day. I think there is a change when we look at intervention we always look that does it affect something very gridlike readmission or how does it affect the hospital episode of care and diversity things headed instrument to measure the impact on total cost of care. We have pretty good data in terms of what we get back from CMS but one thing that I would really like to see is other ways we can start to measure total cost of care for populations in general because I think as we look at intervention is the designer care pathway there is increasingly recognition that things that you shave down the cost in hospitals may actually have a problem. And really driving the length of stay you can see an inverse relationship with readmission rate. And only now restarting the system as we moved to these value-based payments, BPCIA is one of them. We have to change the way we think about it and current cost of care is pretty much limited in many cases what we see from CMS. That would be a general comment one area that in terms of how HR Q evaluate grandson proposals, those that both things to start to expect that.

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Just a comment. One is focusing on providers in that language has direct meaning but it's really physician focused and as you think about a lot of the work we have been trying to do is to get people to practice for the top of their license so it leaves out other clinicians that are prescribing and I think it's really important and I'm not a clinician of any kind but those people do take a [Indiscernible - low volume] so I think that's an important point to make and then in terms of how you think about this I agree with Mandy on the total cost of care and I would like to emphasize that but the piece we tend to be forgetting for not have the date on is the out-of-pocket spending in the increases of the out-of-pocket spending that are serving to be a huge barrier in the keep coming out that these studies were people don't have 400 extra dollars to spend on healthcare since becoming a limiting issue in terms of access per.

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First I want to emphasize the importance of this area we have to continue to wrestle and there's three points that came out. First I don't think we have done enough in terms of figuring out how value is achieved and understanding these accountable organizations and communities how do we achieve value and what does that mean in terms of quality of care and total cost equation because you can have things that work well but simply cost too much and then my second point is what you do when the trade of and the price is very very high and you have this trade-off and how you achieve value when the cost is so high. But it could be that the new approach of technology and treatment are quite affect the last point is what is the impact of adoption of new treatment and treatment approaches in and thinking in the cancer world, average cost per month is $30,000 but the use of these drugs and the excitement about it may actually impact quality and low rate and increase not only cost of the drug but total cost and toxicity and long-term effects that come from its I think we have a lot more work to do in understanding how values even achieved especially in the space of new innovation.

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I want to share a couple of thoughts on the perspective that the previous speaker brought up in the first is as you think about total cost of care and thinking about value the length of the episode will matter and may impact that. And one of the things that we will need to consider as we lengthen the episode is the continuity in the payer source so that will impact the data availability and I think to Lucy's point is folks pay for things out-of-pocket and there are particularly some examples of a pharmacy app and often times has lower pricing then you can achieve a receipt for your actual PBM, that will be another place where data is siphoned off and again not available as you're starting to think about defining value and calculating value over the course of the episode of varying lengths.

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I guess it's a comment or question but to what extent -- this is a question you might want -- might not want to answer. To what extent does policy drive research or to what extent does research drive policy? In your statement, for example savings accounts which I would just say something that would provoke a lot of discussion both political and evidence-based and there are several references to pay-for-performance and I would argue that the evidence so far is pretty overwhelming, they're paying primary care physicians for performance. That does not have lasting effect on performance in NHS is clearly shown that. HR QI guess can have a portfolio based on the directive but we are going to do research which we hope will inform policy provide no it's a balance and is not a question you may want to answer but I'm curious as to how you think about that.

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In speaking with folks we just talked about this because a lot of the focus the countable community we talked a lot about what is the data you are using. What has worked and what has not worked and how are you using the data that's come out of the demonstration project for instance so I was trying to understand what is the role in the research and what we are learning and how does that feedback into the way we are doing our work. I think some of that has been done and I think there is a role for us and thinking about which way that era goes and I would suspect it's not probably -- I think it's going to be a little bit of both in the way of the urgent need to be doing and there's also an urgency in learning I feel like both those things are recognized for the smaller teams that we have been working really closely with and I think in our conversation with Adam think they recognize that as well. Identify answer your question.

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There is no answer but Francis is going to say something.

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I want to tease out something and not just in the context of value but I think it's not a silly how does research inform or draft policy but how does the data analytics inform policy. I think when the research agency talks about five year project in two years after that for publication is not relevant in the timeframe of the policy development needs to happen and especially in the case where the policy needs is urgent so I think you think about different models of developing evidence to be able to inform policy but it is breaking the model which is the standard a way that we think about research as a research agency.

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I was about to say -- you are right that this moves in both directions. Your data platforms and resources that you have developed and you are developing and making more available as well as your systematic reviews is a critical part of this. Hopefully what they're doing is they're helping making policy better informed that they otherwise would be.

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We talk about value I think what's important is that we set the context. And we are talking about value and healthcare or are we talking about value in health and as we are moving into the population health and social determinants we are talking about the latter and that the fundamentally different way to think about it and who are our partners in doing that. We just held a meeting in Oregon and a lot of this is going to start to be more evident an important and local policies and state policies so we actually can mean the community-based organizations and all of the health systems and I think the real threat is that each health system is going to think they need to figure out how to solve these problems when it's multiple health system so we try to say that a lot of these social determinants problems are much bigger and cannot be solved by an individual organization but how do we work together as a community psychic it's going to shift the dynamic of where the changes are happening both in terms of research and in terms of policy.

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I was going to say something similar. One way to look at this which this is personal I would highly recommend is to think about the response I got in England when I talk about the United States value-based payment and models and the people I talked to say we don't talk about value, talk about values and values are inherent in the value and starting with the idea that we need to achieve equity and population health and building the case from their I think it's a far more effective in social good way to think about it and I been trying to figure out how this healthcare system can partner with X, Y, and Z to achieve some sort of cost quality equation so I think that might just shift the dynamic of the creativity by thinking we have to achieve equity and equity means the best possible health for everybody.

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I have a proposition for you, it's not my personal proposition but I think it's a good idea that bubbled up from ARC and that's this is such an important policy issue that a subcommittee of NAC that will include SSN -- as I understand none NAC members. Some of you may be saying another committee but I think this is so in a way contentious and even political that a sub group of good thinkers who think about this in a way that does avoid the politics and focuses on evidence and demonstration and agility would be useful. Do we need a motion for that? We need a motion. Can we have a motion? For civil does anybody have any questions about that and perhaps Paul and Francis could answer or and then I will entertain a motion whether you agree with this so first any questions? What I described was pretty vague and would one of you guys maybe like to --

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As a committee there two pathways to establish a committee and traditionally across the executive part of government use subcommittees to drill down on specific topics. Occasionally director will empower impanel a committee and that the committee that reports to the director or the chair such as the NAC can empower and impanel I think is a better word is subcommittee and reports to the chair. We think that there is some longevity that we would like to take advantage of and thinking as it relates to value and value-based and this is an evolving priority in terms of HHS's approach to it. We felt like establishing a subcommittee would give us a space for folks to give us feedback or a and report back to the full NAC. Most likely as we have done in the past for the national quality and other kinds of subcommittees we have established.

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And Bob, to get a comment.

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Guess two. One is what you're talking about right now I would be very interesting and participating so you can consider me but my comment is slightly off but since you grabbed me. Think about leveraging resources going forward a large amount of dollars and improving the value of healthcare reside in the healthcare system and seems to me that better leveraging and partnering with the healthcare system could be a good way to spread your dollars in meaningful ways, learning healthcare systems is growing, it's real and meaningful and a number of us have robust programs. Having a piece of evaluation and method development alongside the work that could be funded by the health system can go along way of accelerating what we need to accomplish. I just throw that model out there for us to think about in this particular space I think you could have a lot of takers and you can make a bigger impact with the limited dollars you have in regards to your proposal I think it's a great idea.

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To keep you active on the phone, would you like to make a motion?

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So moved.

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Second. I see a couple of second. All in favor please signify by saying I.

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Anyone opposed?

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We are going to have a really vibrant subcommittee with some longevity that will have other people involved so you will have a good broad spectrum of input.

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So we are catching up, we're not too far behind and it's my pleasure to introduce Steve who is going to be filling in for Joel: and he's a senior economist in the division of research and modeling the center for financing access and cost trends which has the acronym of CFACT and he's been leading data quality improvement efforts and Survey and other responsibilities and he is going to talk about something which I actually think has bipartisan support so we may actually get to that. Tell us about drug pricing and ARC's role to that.

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I just wanted to the Joel: could not make it, he has a health family health problem. The drug pricing, America has a drug pricing problem, the American innovation in the pharmaceutical industry creates a lot of life-changing medications but as many everywhere friends are facing rising crisis high out-of-pocket costs to type of drugs have been identified,. Particularly high-priced and those that have no competition. The department has a cumbersome -- comprehensive approach and those are increasing competitions, better negotiations, creating incentives for lowering list prices and reducing patient out-of-pocket spending. Within those broad themes there's a lot going on so this slide has some of the many efforts. The FDA has a lot of activities around moving

generics to the market and Biosimilars more quickly. CMS has proposed reference pricing for part B drugs. CMS has proposed to require list pricing -- list prices for drugs and advertising and the lowest-priced act of 2018 prohibits Medicare plans from inhibiting pharmacists from helping consumers find the lowest price for example by buying something outside of their Medicare plan. ARC has a long history of activity related to drug pricing. The medical expenditure panel survey has been a field since 1996. The survey collects and disseminates nationally representative drug data. The high-quality policy relative -- relevant research for spending and out-of-pocket costs. The staff of the center for finance cost trends leads ARC's activities and drug pricing because we have the medical expenditure survey. We also have senior analyst with expertise in prescription drug pricing and research related to prescription drug and out-of-pocket costs. The focus of our support has been using ARC data and analytics including new analyses of prices and out-of-pocket spending and prescription drug data by payer, by patent status and over time. In the future we plan to measure the concentration of drug spending within the population and over time more spending has been concentrated in a smaller fraction of the population and we plan to invest in the role of specialty drug. The household survey is supplemented by going back to pharmacists and pharmacies and other providers to get information on the services used by sample members. The data comprises all payers, especially private insurance, Medicare and Medicaid. Data includes the people who are uninsured and otherwise lack drug coverage. The data collected -- are collected inconsistent manners across payers so that you can make comparisons across payers. Payment data and drug details are collected from pharmacies and in that respect it's like claims data. The total payments from each third-party payer as well as out-of-pocket costs and drug details include the national drug code, dosage form, strength, and quantity dispensed. We also merge on generic drug name and therapeutic classes. The MAPS itself contains a lot of personal and family care [Indiscernible] like income, education, health status and functioning. The sample size is smaller than claims data, about 55 thousand persons per year, but a 320,000 fills and refills so it's best for studies focused on prevalent chronic conditions and drugs used for that condition as well as widely used classes of drugs. One limitation is that it does not -- this is drugs provided by pharmacies and does not include drugs administered in hospitals and physician offices which is relevant when we are thinking about cancer drugs. Some of the analyses was produced and retail unit price is the price per pill or other unit dispensed. 80% of retail drugs are pills so this price per pill. Each patent status meeting retail, the median -- we start on the right, the median price for generics are pretty similar across payers . The mean prices for generics are pretty similar across payers, of course the uninsured are paying a little less and for brand names the median price is pretty similar across payer. When we look at the mean price for private insurance, that's about $100 per pill and that's more than three times -- is about three times what the uninsured are paying for pills and more than twice what other payers are paying per pill. The constant dollar mean price across all payers for single source of drug has tripled from 2011 to 2016. Price movement for generics have been much smaller especially at the end of this period. Generics account for most prescription drugs and the average in purple is what closer to Derek's -- is a lot closer to generics. This slide shows what consumers paid out-of-pocket per pill. For a single source brand name drug on average, for a company in Medicare part D they were paying $3.88 per pill. If you think about a 30 day supply that is $116 for that and in contrast if you look at the mean -- I'm sorry, that was the mean. But the meeting is much lower, $.33 per pill. So there's a lot of variation across drugs that have to deal with. And of course the prices are higher for single source planning drug out-of-pocket. The uninsured are paying the most followed by private out-of-pocket and for Medicaid, the typical out-of-pocket price is zero.

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Just a quick question, Steve. These comparisons by payer are adjusted at all?

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No.

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And it's only for medications they're actually paying for. So the fact that uninsured are not able to pay for really expensive drugs. Your comparing different -- the drugs used in those groups are actually quite different mix of drugs.

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Yes. Different from that people use and part of the reason that --

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It's not really comparison of prices. It's a comparison of spending.

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Yes. For example for private [Indiscernible - low volume] they may have better access to specialty drugs or they are just using different types of [Indiscernible - low volume]. Thank you. That's a good clarification. This is the trend in out-of-pocket spending for pale overtime. There's a lot of volatility for the single source drug but you can see it did not triple the same way that total payments triple. This next slide. The HHS senior advisor and drug pricing asked for estimates of net pricing. We don't have data that takeout rebates but instead we were able to give him estimates related to the wholesale acquisition unit cost. This is the list price the manufacturers charge wholesalers. This slide shows how the retail unit price is related to the wholesale acquisition cost for single sort -- single source brand name. The typical purchase, the markup above the wholesale unit acquisition unit cost is about one or 2% regardless of payer. Some of the markup is going to pharmacies, some of it is going to the wholesaler, and what is shown here is the variation from the median for example the mean overall is about 8%. CMS has announced its drafting regulations that would require that this includes the wholesale acquisition cost to the consumer knows how much the drugs are costing. Summer likely to focus on single source brand name drugs so that's what we're showing here. The expectation is that putting this in ads with put downward pressure on list prices and also give consumers more information. To make better decisions. CMS announcement was after we gave them these estimates but there's many factors involved in choosing the wholesale acquisition.

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Does this mean that the net profit for the retailer is 1%?

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Is the list price and the wholesale acquisition cost but they may be variation from the list price. This is thought to be -- the wholesale acquisition cost is thought to be closely related to the true price than the unit price but there may be additional -- if you think about these drugs, these are single source drugs , they are more expensive so if there is $100 per pill, one dollar per pill.

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Per pill. That makes a lot more sense.

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But they are definitely different margins on other drugs.

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That would mean that if you're selling a bottle with 30 pills, one pill per day, that will be $30 of profit. That makes sense.

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Thank you.

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My colleagues including and Miller sitting over there examined the reasons for some of the growth and expenditures and over a longer time period and here it is the time period into a two-year period, 99 and 2000 are grouped together and 2015 and 2016 are grouped together. They divided drugs into four categories. The blue line at the bottom is single source of drug that have -- that received -- that went on a market within four years prior to the year on the graph. The redline is single source drug that have been on the market longer than that and that also includes some add on drugs. Chemicals that have already been on the market and then they got release or something like that. The greenline is the brand name drugs that lost their exclusivity within the last three years as well as any of the generic competitors. We are calling those newly multisource. The purple line is the drugs that have been multisource for a longer period, longer than three years. You can see over this period, the role of older multisource drugs has grown a lot, 52% to 82% and the role of the older single source drug has dropped dramatically and by the end of the period, new single source drugs accounted for only 1% of all the pills in the retail market. Over the entire period, my colleagues found that per capita drug spending increased --

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Can I just ask for clarification. I understand the graph but I cannot make sense. What do those trends mean to you? I don't know enough about this to really understand the implications.

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This is kind of setting up the next thing about prices and spending per capita but it suggests that the pipeline of new drugs is diminishing. At least in the retail market you can see that and I think this is been mentioned by other people.

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There's a lot going on in the doctor's office and oncology that were not capturing. Yes. True.

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We are trying to provide new information. The yellow bar is the increase in spending per capita and is more than double, even up 134%. In the next step is how much of this is attributable to changes in the population. The next bar you can see that the very top his social economic factors, really small. The orange segment of that bar is treated condition. Spending per capita rose by 51% to two more conditions being treated. The bottom part was the largest part, 77% could not be explained by personal and family characteristics. Then they went to the right bar to break up that 77% by the types of drugs that use on the previous slide. At the top you can see the new single source drug, bigger factor but the older single source drug accounted for most of that growth and that's because although the pattern here was decreased and how many pills they had, the prices per pill were growing rapidly for the older single source drugs.

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I'm trying to understand the speakers is because people laissez with hypertension are more likely to get to pills and the one pill or is it because the cost of the pills are getting for their hypertension is going up or combination of both?

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If you think about total spending, more pills and more price. And then I don't think this parcels out all the details you are asking for but the answer for single, older single source drugs is higher prices. The answer is we look the next bigger category, the older multisource drugs that's about volume. People are taking more drugs.

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For example for hypertension it's one conditions of the number of treated conditions remains the same but because doctors are treating it more aggressively and prescribing more medication, that's what's happening there?

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Right. On the right it's treated conditions and on the left is saying we have a lot of increase in treated conditions.

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To that so we have done so far. We can talk about the things we are working on immediately and we are planning to track markups over time. We are working on assessing the capacity of VA -- MAPS . We hope to be able to see some patterns by aggravating and then we plan to describe consumers in the middle of the spending distribution and consumers at the upper tale so they differ in terms of their insurance status, how much whether out-of-pocket burden for purchasing their drugs, the types of medication they're using, and their health condition. That's short-term. And long-term we have some questions for you. How can the MAPS prescription drug data be even more useful and what types of research on drug prices should ARC conduct ?

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Lucy, you are quick this time.

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This is an area I know very little about the probably should not be asking this question but one of the things that concerns me a lot is [Indiscernible] population with dementia. One of the things that's become apparent to some of the data I looked at and some of the personal experiences I've had is that people start experiencing symptoms of dementia long before they're actually diagnosed so there is a change in insurance status over that trajectory. For many people because of their health failing status loser job and they're not eligible for Medicare and I'm wondering those drugs are very very expensive that are being released and are those considered specialty drugs in what you're presenting. I don't know the answer but I think that will be an area with a huge patient population is at risk.

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I don't know if you're able to use MAPS to drill down and understand better about the payers beyond just private Medicare. If you can tell whether Kaiser is doing a better job at controlling price or Medicare advantage and Medicare fee for service to get more drill down information on whether to pay or do a better job of controlling out-of-pocket costs for consumers. Concerned that these rising prices are widening disparities because they just can't get them. And that would be beneficial to look at the impact. There is no information providers and I think that is a key part of the scribes and why and it will be important in the last area on appropriateness of care we don't know 50s drugs are correctly or appropriately or somebody starts a drug but where they started toxicity they don't get enough of an efficacious those but in the meantime they spent $50,000 on these therapies.

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I just want to reiterate that I think the specialty fees and how health systems are thinking about that cannot be underestimated or overestimated. That is a problem for every health plan in every organization and I think when

we look at the opportunity to align works that may be occurring in different components, think that's for the comparative review is and the appropriateness of this guideline particularly for these in your therapies as they come on the market I think there is an opportunity there. The other thing is going back to the value proposition when you therapies come on the market, there is going to be a higher upfront cost of that technology and again it's looking at the population impact, total cost of care over time and some of those longitudinal models and the overall impact thinking about Biologics and chemotherapy drugs. Things we don't have a lot of visibility so strongly encourage as we can start to accrue those types of data that's going to be a vital piece. But that represents an opportunity to align other work that's going on within ARC.

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This is also another area I deal with a lot since the VA has the luxury of single formulary but it seems like there are two issues. One of the very expensive specialty drugs especially in the oncology space but the other where I think would be an opportunity is looking at new drugs coming in for common chronic diseases so hypertension, diabetes, and for you have a baseline of generic drugs but you have expensive insulin, you have new lipid drugs and you still have some brand names hypertension drugs and looking at the patterns of use and that because are re-overprescribing expensive new therapies when we have cheaper options. The other question, I don't know, do different state Medicaid programs have different formularies? And if so, is there an option to look at that. Have different states taken different approaches through their formularies and can you learn something from that that some states have been more effective than others and obviously the potential downturn of an overly restrictive formulary. But have they actually done a decent job in controlling costs without driving people off the treatment at all?

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Any reaction to any of that so far?

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I think these are all great comments.

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This is Karen. We just call attention as we are looking at some of the data that we have on some of the drugs we are considering to be clinically equivalent has been collected more short-term and it may be that we have this opportunity to look at clinical equivalence for a longer timeframe and it may be that the lower cost is actually not just thinking about that perspective as we think about pricing and clinical efficacy.

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This is really terrific. Is a fascinating data. Do you have any sense -- I know you pointed out that any limitation here you don't have data on drugs that are given in the doctor's office. I can take a PTS canine inhibitor which causes tremendous amount of fear because of the concern of how expensive they are and some of these new anti-inflammatory drugs that are used for conditions other than inflammatory diseases. Do you have any sense how big, what kind of a proportionally represented of the overall expenses? Does anybody have any sense of that at all?

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I can say that CMS has done a little bit of analysis for part E claims data and I believe specialty drugs account for 1% of the bill, but I cannot remember the dollars. If I say number, it will not be right.

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Certainly an important part of this discussion.

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Since I know nothing about economics, I only have three a set of four issues I would like to raise. One of them, it's a technical question actually. When you do the survey, do you repetitively sample demographics to make sure they are included like rural people? There some oversampling.

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's Americans, Hispanics, and Asians, that's definitely a example that we drop.

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Knowing how hard it is to reach people by conventional surveys these days, how do you know this is a representative sample that truly shows what America is going through and drugs.

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We are meeting would be standards for our response rate. -- OMB standards.

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How many people live in the city of Detroit, African Americans, single mom would you have to call to get one.

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We don't have the capacity to drill down for more than a few state and if you metro areas but not necessarily --

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I get it. I'm making a point.

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I think it's very clear that the samples and excludes people in long-term care facilities and exclude -- excludes people in prison, and we are excluding the homeless. These are very clear decisions about the survey design that have been consistent over time.

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And you are using the latest technological thinking to reach people who don't have a phone anymore or a mailbox or whatever.

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It's an in person survey. We get a letter announcing that were coming and then our contractor goes to them and has a laptop with them and specifically for the prescription drug portion we are asking them to show us their pill bottles and that's typed into the [Indiscernible].

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Not everybody knows that they do that. Actually forgot so that's a really exotic credibility. As far as I can tell CPC+ does but does not tell you who is on an expensive drug and should be a cheap one or who is not getting a drug they should have so having seen the data on Hepatitis C treatment, I know for fact that even in that population the percentage of people with hepatitis C getting proper treatment is very low and in prison it's a zero but we don't care about that. That's the first. And this is recommendation. Having just gone through the part E choosing process. I think you should put yourself in the position of doing it. Go to part E, fill it out, look at the tears and prices and options and try and run the algorithm and it's totally inscrutable. I have a post doctoral degree it is impossible. And the usual answer is we will get a consultant. If it's on inscrutable to the patient is going to be inscrutable to understand what MAPS says. I would highly recommend that and then something we did at Boston children we did a Pareto chart. These graphs are really hard to understand. A chart can help you to do you can do this is you can create personas for the basic types of people you're dealing with and stratified the data by persona and then you can take your groups of drugs very high cost biologic, high cost new cancer nanoparticles, whatever they are and do a Pareto chart and showing what accounts for the disproportionate spending. We have done for example [Indiscernible] was prescribed three times and use up half of our drug budget. I cannot see that from those slides. The user centric way to look at these data from the point of view of the patient and people who have to worry about their global budget like Medicaid and -- this would be really really helpful.

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Thank God.

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Thank you.

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I think the whole drifted you're talking amount HR Q being really clear for people who set policy really clear for people who have to deliver the money and service of better care and health and to the people who use it namely the citizens of the United States so I always take those lenses out and say how am I doing with this. The data is great. MAPS is probably the most detailed and rich data source you got so that will be helpful.. We have 20 minutes now and I'm going to ask -- what we're supposed to do now is think of across priorities, resident silos so we can have a very rich discussion about opioids and we will be here about -- until midnight . What you just re-articulate the priorities for us so we know what we are working across.

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First and foremost for [Indiscernible] is to make sure we are being -- all our resources to help the secretary with his [Indiscernible]. You just heard my colleagues talk about these areas and we have aligned all these resources to work with the secretary senior advisor in these three areas so we have used whatever limited resources we have to help support that unless the number 1 objective. The second thing we're doing is we're seeing how can ARC in the age we live in, and the digital economy and health ecosystem position our core competencies and health systems research and data and analytics to have an explanation impact going forward in the future. So that we ultimately help the professionals and health systems better deliver high-quality, high-value care for the

patient so that's really our focus. Requires a new way of thinking. We want to take a step back and say how can we reposition our cells as an agency to meet those kind of needs that exist in the marketplace and the healthcare system as it evolves over the next coming years so we have to be agile and coming back, how do we use more effectively our data capability and research and improvement and at the end of the day core competencies we have to leverage.

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This is the matrix between core competencies you have and the priorities. This is a matrix between competencies and priorities and how does that match and we are there gaps because the priorities a competencies you have you may not be fertile enough for the future.

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You summarized it well. We are looking at this in terms of our work. We really are a research organization for care and the reason I say that is it's different from research for cure which is NIH domain. Research for public health is CDC's domain and research for drug safety is FDA's domain so if you look at the quadrant, we are research for Karen when you take that care model and you say what is that mean? It's all the way to palliative care. Is preventive care and how do we take a horizontal approach as you pointed out where the competency can come in and play a role for research, practice improvement and data and analytics. The agency would like your guidance on how to think this through and especially if you go to the hill let's say and what you said to me, which I said, I will repeat, we did what you told us, we spent the money, we did it efficiently and here is the three charts and we will never meet the needs of the future. We will be stuck in a revolving wheel where they give us what we deserve which is the continue. If we can think creatively across priorities and what competencies or what does ARC has to expand, this is a very open discussion. If it's around data or whatever it is. I don't have any answers this time. I don't have four things. Kathy is going to help us.

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I'm afraid I'm just going to add a question which is how does health equity fit into this research research especially as we think about priorities around valiant pricing and the widening disparity. Where does equity fit in in terms of the mission and core competencies around research and care.

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We are one of the projects under our data enterprise core group and we are focused on social determinants of health. As a way of making the case that equity is core across both are competencies in these priorities we are focusing on for the secretary and the contract but we also think that the medical model as a starting place for addressing health equity we don't believe that [Indiscernible] are in the medical model but thinking about where are the data to help us get inequity and what can we learn outside the medical model and it's really cuts across the competencies and as we think about what we may do in the context of the priority and in the context of the opioid crisis and the deputy assistant for minority health, has charged HHS to do which is to come together and drill down based on social economic factors, race, ethnicity and through her length of health equity and how we have taken a frame and drill down from the departments perspective.

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I would add a question to the conversation she is to think about where the data stewardship ownership critical mass of data is going to exist in the future and how ARC can create a network or leverages where that data exists. The question really is around do you set your priority based on where you think the talk is going to be in terms of data nothing building on Bob's comment earlier about leveraging the help system as data becomes increasingly big and full of mass, there may be some and in competition with your K-12 strategy there may be a nice collaboration in that sphere.

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Thinking about previous conversations, the data is a huge aspect of HR Q. When you start thinking about care and thinking outside the box a lot of different data sets, data sources that currently exist that can be leveraged by ARC in conjunction with some of the data we are already collecting for example the inpatient data, ED data, what about other data sources that are also statewide so you have education data sets and foodstamp information and all these other different types of data sources that can get it things like social terms of health and can get access utilization that could be predictive thinking but critical analytics that ARC has really thought about how can you pull this information into your data warehouse into the H cup entity and use that to start thinking about some of these questions are trying to get Ed regarding equity access utilization etc. I think it's an opportunity to start thinking about, not just the system and healthcare but what are these other pieces of information already collected that can be leveraged by ARC to bring insight into the data we have.

If I may add, looking at the future, and looking at what the big challenges we are talking to and thinking about we know that we are dealing with multiple chronic conditions and that might be a big area where we need to focus or think about and that has been talked about for many many years. What I'm going to identify or get your help is to figure out what are the big gaps, big challenges and problems as opposed to just -- so we can position those for the future and [Indiscernible - low volume] so if you can help us with that.

I'm going to give my ideas. Others who have not spoken to this? It's a big challenge. You are asking people to imagine the future and understand all the competencies and initiatives of ARC which is hard because they may not know all that but if Gopal were anointed tomorrow to create a new vision and somehow we would try to find a way to retrain everybody, any ideas for what is the leap that might need to be made. Maybe there is no leap, maybe everybody is happy. But what about that?

Paul, what do you think? You have a huge responsibility at CMS and you're looking over at ARC and you would say if only ARC words.

I have some thoughts about this but I'm glad you asked me. We are doing our strategic planning for the QIO statement report which through a legislative proposal we changed from a three-year contract to a five year contract the number of years ago so the period of time we're talking about is 2019 to 2024. I would say we could talk for the rest of the day about this but I was if I was going to put one thing on the top, we are very close partnership at HR Q that's focused on patient safety so the lesson I'm about to state, we learn from this close collaboration but I think it applies everything we talked about today. Including by the way drug pricing. That is the people that we work with for the quality improvement programs and this program which is statutorily required, it's been there for 40 years they -- I have been at CMS for 16 years working in that program -- I would characterize the culture as a culture of CMS's big house on the hill and it has hundreds of millions of claims and we need to download the data from CMS to see what's happening. We do the best we can to comply with that need. But as everyone here knows and the researchers, it is really terribly imperfect. The big idea, Dawn, for revision -- for a vision for the future and trying to do this with the leadership is to turn that paradigm in exactly the opposite direction. We are the friends of large-scale national scale I HI style collaborative improvement projects to improve quality and we would like to see in the next five years the adoption by all types of providers, whether as clinicians in the community across ulcer nursing, of a data culture that uses the advances in health information technology to adopt their own measurement. And there is many people doing this already. But we would like to see this on a national scale where providers do not feel dependent on either a HR Q or CMS for data but rather embrace their own data system to engage in continuous quality improvement. You're probably familiar with them yes our system. This is the first of small steps we are taking the pasty safety realm and hospitals to try to move the conversation in that direction. That's a completely different vision than this continuous dependency on external sources of care. It is rather instead of us getting data, it's people in the field having the data and actually giving it to us up and there's all kinds of ramifications for alternative payment models. I think it requires a shift in the paradigm and I think HR Q could be a great leader and already is. I think it has very incomplete penetrance in the United States right now and I think most people I work with don't think in this way. They still think in the old ways that we have data systems that have to be accessed as opposed to a rich environmental data that we can access literally every day in our clinics and hospitals.

You're getting at what I'm trying to get out so David, you guys have spent a lot of time rethinking how the VA discovers information, new evidence, new models that will help your constituency. What would you recommend for Gopal if only ARC would .

Picking up on Paul's comment, I have been in the VA for 10 years and is much as we like to think of ourselves as a learning healthcare system, we still have this divide between part of the organization that is responsible for looking at its data and creating dashboards and identifying low performing hospitals and then a research enterprise which is involved in trying to test new things out and then when it finds something that works, trying to push it uphill into the healthcare system. We are trying hard to think about how to bring those closer together and I think we are working with Camilla on a conference grant that ARC and now we are going to fund to talk about this embedded research and the learning healthcare system. It is about -- and I think the K-12 award is a

great stake in the ground. How do you develop the capacity for people who are applying research skills but not in the context of a three-year, for your research grant. But in the context of daily looking at the data learning from it, making changes based on the data and then completing the cycle on testing, so I think we're still trying to figure out the phrase I heard is the world of little R research, not big R research. And how to bring those together. Whether it's using research dollars to study the natural experiments of the healthcare system so not waiting for some research develop something but to actually bring research methods to test what the impact of new policy are or what the impact of changes in co-pays are. Or testing when we have new initiatives, testing them in a randomized fashion. ARC is already doing it but if you could be a leader in helping both research funders but also help systems think about how do we develop this cadre where Garcia -- more of our research is getting into practice but more of the practice is performed by high quality research metrics.

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[Captioners Transitioning]

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That is great and it may be it may be worth taking a look at what joint property action lab does and globally to test new ideas that are rigorous and why having, I am having a mental block but, they have done hundreds of trials of promising interventions under the underserved and it would be worth looking at that. The cure, we are going to curate. -- Cure it.

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The all of us program that previous was copper says and measured -- that was called precision medicine is funded by Congress which is enrolling 1 million people in a very well-defined highly engaged cohort and so far I believe they have already partially enrolled over 100,000 and there are tens of thousands who have fully completed the initial enrollment process and that is as of a month or two ago so it is probably more than that. This may be a great opportunity because we will have electronic health record data and we will have biological samples and that means, there is a whole host of data to be available and one might imagine this could be potentially a great opportunity for a platform for how services are searched and I am not sure how it will look but it may not just be 1 million people it may be two or 3 million people, it could be a very large sample of population. I think one thing is it meet be a great opportunity for certain kinds of health service research which we have not thought about before, and maybe an opportunity for also linking up with some of the other data sets that you do and we have heard about this morning and the other thing is, one of the reason why I am excited about this program is if you have 1 million or 2 million Americans who actively participate in a government-funded study, there since about government-funded science is something which is totally different than something they may occasionally read about in the newspaper or hear about on TV or the radio. It is something which has become personal. Because it has become personal, there is, it is like the different level of engagement you have with sports. If you are on the court, if you're at the game, if you're watching on TV or if you only read about in the newspaper and those are different level so if you are on the court or on the [Indiscernible] you care great deal about what is going on and if you are further away from it. I think that is something else we need to leverage and that is not only important for cures for disease but that is figuring out the best way to provide care and I know you are involved in for Corey is involved in I think this could be potentially a great opportunity to do something very cool.

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Do you like to be called Andy or Andrew? For my candy.

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Go for it Andy.

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We will talk off-line about that [Indiscernible] and I think two concepts come to mind in terms of how HRQ can help particularly delivery organizations and the first is a learning health system which we talked about and I think specifically in terms of the facilitator obviously [Indiscernible] and giving a framework to do that and rich wrote a platform years ago and we need to murder -- move and have a participation in it cannot be by outside groups and it has to be hardwired into the operation and I think HRQ for the systems and the other thing this is what we hear in a very huge issue and provider burnout in general, nursing staff and things we have to document and measure and I also could envision all of the things that CMS is looking at and the national quality forum we are overwhelmed with measurements so potentially there is an independent broker and other groups of look at that, I think there's a general consensus of measurement fatigue and particularly the process managers --

measures where looking at, looking at the horizon for how they can help these global problems I think an independent evaluator is what outcomes are important to look at I think that would potentially be helpful.

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This is Sally Morton and I think my comments have been superseded by the most previous ones and I think it is important to remember sample size does not overwhelm design so keeping these context of your during a natural experiment but at the same time side-by-side bias of a randomized trial which are calibrating the two, research is often seen as a stumbling block and obstruction by someone else and not relevant to us and these pieces you are doing to really bring the relevance of the research to the patient as Mike said into the practitioners don't forget the importance of the design and the structure without being obstructionist if I am making sense here so I am often in the word of big data as a statistician it scares me and many ways because the data does not deserve remain good data as we all know and it is important to remember that but in these ways if you're doing Pirlo studies for example where your calibrating the observational study with a randomized approach, that is a standard that takes a lead on now but continue to do on.

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I think you are next in and Barbara.

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I think one of the areas that we're struggling with as a nation now particularly in learning health systems we all recognize the importance of social determinants but there really aren't standard measures that were using and because there are not standard measures we do not know the science behind a lot of the use of the data in PRAC ends for example, if you look at quality of life, what if there is a change in quality of life measure so what is the threshold by which there should be a therapeutic response? I think the fundamental science is not there but we are deploying these measures in the practice without understanding how to use them in PRAC this and how to explain differences in outcomes of care.

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This is Barbara Fain and I think it is a good set of questions you are posing and I am struggling to think about this in terms of patient safety and when I think about the impediments on the safety front, it is not, well I mean we need the data there's no question about that but I do not know, I would not say it is the lack of data that is holding product -- progress back it is the learnings and I think IHI has been on the forefront of this and if you want to move the needle in terms of outcome on safety is leadership and changing culture and I do not know what an organization like ARC [Audio disconnected - please stand by by while reconnecting] return not data

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what does it look like to look at the priorities in terms of equity? Would [Audio disconnected - please stand by by while reconnecting]

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Were going to take a half hour for lunch.

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[ Indiscernible - participant too far from mic ]

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[Event is on lunch recess for 30 minutes. The session will reconvene at 12:45 pm Eastern Standard Time. Captioner on stand by]for 30 minutes. The session will reconvene at 12:45 pm Eastern Standard Time. Captioner on stand by]

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[Standby Music]

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let it be known to all they ran out of Ross bozo noodles before I got there and Lucy got the last one and if I would have known that I would have pushed her out of the way or distract at her. They say she is okay but if I am still helpful data shall be tomorrow I would recommend it.

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We are all good. Is everyone here? Andrew, you are hiding behind Barbara. This is an open discussion by members of the ARC community but it is really important and something we keyed up briefly the last time and hopefully you were given some thought to and this is to give advice that France's and Gopal and the staff and what we mean by partnerships, obviously partnership have to be partner base and they have to have a goal and usually you do have a goal and in my case my goal and my partner in life was to have a romantic and fruitful

and loving relationship and have children. Partnerships and health service research are likely to have recent goals and that.

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Gopal or Francis? What ? You want me to dial down the romantic nature?

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Are you encouraging me. Let it be known I am giving a lecture on Monday on tuberculosis and Romance in reality. Actually it is pretty poignant because if you were born in the 19th century TV was considered romantic with all of the poets and Shelley and Byron and the many black Chopin and [Indiscernible] and they were involved with TB and look, it was a combination of anorexia but on the other hand there were people suffering and dying in workhouses a.k.a. sanatorium who did not have quite that view of things. You may argue partnerships deal with the reality which would be extremely valuable to do if you are in Africa or India or other parts of the world but that decoration, having been encouraged by Mike, so France's or Gopal, can you, I know there are a number of partnerships you have including people, I guess Richard didn't make it [ Indiscernible - low volume ] but he did not make it but other partners, maybe in like three or four minutes how do you leverage those partnerships now and then we will get into what other partners there may be.

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I would say a couple of things. First, some of our partnerships are opportunistic and some are strategic. Opportunistic when we go through meetings and other connections with either our sister operating staff and divisions we realize we have a common goal an opportunity to share and grow and we partner and in some cases they are strategic and we have competency we may bring to bear and those are leverage with partners and outside the organization, we talked this morning about the health system K-12 program and that is a true example which we were strategic because they trust fund gives us space to do work and training future researchers in the Institute and it is running a lot of research and training and they want to join us in supporting training and systems and certainly within the department CMS and others we picked though opportunities to forge partnerships but with addition with opportunistic were strategic is a goal and we have public output and we track and make sure we are getting where we need to go and they are missing the boat in terms of what the objectives were. We had a previous conversation where we touched on how we do it and how we may do it differently and better and there was a document put together in your folder which is really high level, not exhaustive but descriptive examples of partnerships in various levels partnerships within the department or as of the department in the objectives of the partnerships to give NAC you have an opportunity to have a flavor of what it looks like and we want to use that as we are just darting conversations to digest that as you give suggestions how we may do that and it would be better in the future.

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[ Indiscernible - participant too far from mic ]

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it is in the right-hand side at the back of your folder.

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[Captioner Standing By]

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Does anyone have a spontaneous quick reaction as you read this, what went through your mind. Lucy?

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The other thing I did not see the action network listed.

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I can respond to Lucy on your point. We did not include grant and programs that have legs that we find overtime so you are not seeing a lot of things that and solve -- involve partnerships like action network as a partner but there are a number data

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we gave up.

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Well there are a number of organizations in our contract work but you will not see here., Others? Any other surprises or why don't I see?

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Barbara?

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More of a question, how many were initially [Indiscernible] and initiated by partners? They are pretty diverse and I don't know if it is opportunistic when someone comes to you or --

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I would say yes.

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It is a little of both but some of this is more the strategic partner and ephedrine organizations and saw the department and outside recognize some competency we have that may complement the work they are doing were moving towards a specific or common goal, I will give an example and one we saw before they evolve, some years ago, probably now more than eight, legislation gave CMS the opportunity to develop quality measures with children in the CHRP and Medicaid program. Because our colleagues at CMS said we had evidence is and quality measurement and improvement we took a meeting and the program evolved first into developing grant work to develop called phase 1 two what we call quality measurement program which is [Indiscernible] after the legislation into to take the measures and actually implement them within CHIP and Medicaid programs to improve quality and measure the improvement of quality in children . While CMS brought their leverage with those programs, they also leveraged our competencies and quality measurement and improvement and of course they had the funding, which was instrumental, but we both rolled our sleeves up and the program which is more than eight years now and we are at a point where we are in the middle of phase 2 and we are doing that work and CMS is doing the tracking part and making sure they can measure the extent to which measures we develop and phase 1 are developed into phase 2. This is an example of where we are within the department rather than being implicated of and complementary in bringing together the strengths of two organizations.

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Go-ahead.

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I did not see is perhaps, I thought the VA but not Department of Defense and they have honestly their own grant program and they administrate healthcare for large populations. Are there other things that may not have made the list?

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This list is parsimonious and we did not want to everyone -- overwhelmed with everything but I don't know that we have strong partnerships with the Department of Defense that would represent an opportunity.

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[ Indiscernible - participant too far from mic ]

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yes we do.

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They have a lot of new technologies.

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Yes.

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Do you want to say a word or two?

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Thank you for mentioning that. TeamSTEPPS, I think most know about that and actually it is one of the most popular products I am sort of encounter where I talk with folks who maybe do not know what ARC that they know what TeamSTEPPS is which is basically a platform of encouragement of teamwork and coordination with an healthcare clinical teams mostly and we develop that jointly with the Department of Defense and have evolved and expanded it over the years and adapted it. I think it is the perfect example of a shared need and interest and also it drew from our share and capabilities and the DOD outside of healthcare actually has quite a bit of teamwork and training experience and so just the initial TeamSTEPPS is an adaptation of teamwork principles that actually began outside of healthcare. Thank you for bringing that up. My deputy is reminding me that simulation is another area and I guess thinking methodologically or actually the current president of this society for simulation and healthcare is leading the DOD center simulation of how we visited and you may remember it is a tremendous I think methodologic capability that is relatively underutilized in my opinion in quality and safety but here I am talking more about simulation and a practical sense and sort of the actions within healthcare although simulation and modeling is also another strength that we have and we have supported

the other kind of simulation in research and wethers is individual skill acquisition of the skills of teams and teamwork and not just manual skills but communication skills between providers and between patients and providers and we have actually saying the nations of teamwork and TeamSTEPPS with simulation methodologies and that is in general a pretty rigid area that has had a pretty big footprint in our program for several years.

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Any other comments?

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I have a question maybe simulating further dialogue but what are the current guidelines and strengths that you face that you wanted to get a true public partnership, website with Merck, how are you, I have a specific example in mind how to use so that is why I brought up Merck but what can you do?

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I cannot speak to the legal requirements we are establishing with public and private partnerships and how there are vehicles that allow us to partner with the private industry whether they be for-profit or not-for-profit. The structures, I would not say they are [Indiscernible] and there are structures for doing that in the federal government.

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I ask you have maybe the ends at the hospital improvement or whatever the network is called and a lot of the stuff around sepsis or whatever, it has an industry that is interested in the same thing so how do you do that?

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How do we achieve the partnership?

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How do you partner with industry?

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We operate under the principle that Ames create a system and instead of going about it and sitting down and trying to design a system, we sit down and that is what we're doing for this next period and I was talking about we completely ignore what the components of the system may be and instead asked the question and run on the question what outcomes would we like to see achieved over the next five years. We spent probably three months during that and shifting and providing and running them bite leaders of the agency and then we protracted of the last five years from the Innovation Center mechanisms of contracting that are agnostic with respect to participants and the work that you referred to is a perfect example of this footwork and we are also doing it now and the project in the transforming discussion of the hundred 40,000 clinicians during the [Indiscernible] is a mental and we set up the aims and goals we would like to achieve and because we have a pretty efficient contracting system at CMS, we have a lot of experience to calculate an estimated budget to achieve those goals and then we put out within the limits of law of course under a procurement and ask bidders to step forward and submit proposals to achieve the aims and that is how that

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if for example Pfizer, which for all I know it makes the latest inhibitor had a national effort as part of their do good perspective drive down mortality which is one of the options I think currently, could you partner or how would you acknowledge it?

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The actual contracting is quite complex. When you go that far into industry the connection is not obvious to me but I know the competition is open to anyone in the United States who wishes and complies with the regulations to submit an application.

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That is true for QIOs.

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That is right and we have worked for the last five years is to create a more open system of procurement and as you know in the early years the procurements were strictly limited only to entities designated and we are moving toward more open systems of quality improvement would encourage wide range of applicants and one that you just cited as a spectacle of possible applicant and I would say on the extreme fringes of what we would expect to happen I've never seen something like that happen but it is sort of definitely something we would like to work toward to make it more open as opposed to the target.

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Let me we want to others.

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Well it may just send this point they potential public-private partnership is neutral but you are at one end of a potential spectrum organization who we partner with and typically this starts with a understanding of organizations and of course there considerations for confidentiality and conflict of interest related to other work we may do with the organizations but obviously they go [Indiscernible] but it starts with a memorandum of understanding which articulates what both parties bring to a potential collaboration and then it is specific to the organization they may be involved.

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It may be helpful for NAC to have a use case of how you actually go about this whether you have to put out a request for proposal and consider everyone which sounds like a QIO or whether knowing that an organization is really run on your sweet spot on's pricing or whatever, I just don't know but a use case may be able to put us and inform us better.

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[Indiscernible]

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I was going to pose a different question to maybe reframe the first question so what type of organizations do ARC pursue for partnership and is it undertaking challenges such as dissemination from knowledge management and dissemination of information and one thought that I would want to ask the team to consider is a organization like McKinsey and [Indiscernible] have to manage knowledge and disseminate it and the question is do they have practices that would be worthy of partnership and potentially useful to the other partners that ARC has for use material?

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I would like to make a quick comment, I have found this to be extremely difficult and IHR has a playbook or care for patients with complex needs and right away that is a good example of a foundation partnership and getting let's say premier to share its extensive knowledge and tools and methods and models has been impossible and I even went down and flew from New Orleans or wherever Atlanta for a one hour fireside chat in an effort to create and I have gotten zip on the playbook and that is a rare, not impersonally asked not to them personally --

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Don we partner with them extensively and it shows the different approaches and user structures that may produce different results.

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We can get to the other comments but did you partner with them to say we are on the same page do the same thing or did they give you their IP tools and whatever that you could then use?

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They participated, let's just use the [Indiscernible]'s example and they participated in the first round as a theater to achieve better aims that we set out and they sent in dozens and dozens of proposals.

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Did they show their methods?

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They have been very active.

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But is encouraging. I'm not beating on them.

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I think what we are all doing is looking for adoptive and it active ways to establish networks I think that is a great question and I think they are very powerful and just on tens point I would say, yes in terms of opportunities to partner in the dissemination of the space, one of the things that is unique about what we're saying the legislation include specific dissemination authority which is embedded on all of our grant contracts on work we do which gives us nonrevocable exclusive RP routes and disconnecting that with what we connected on earlier on the challenges with focus on patient reported outcomes where in order before we establish it has to be under contract mechanisms and we had to lay out expectations for sharing and that is a little different for us and gives us some authority to disseminate no matter how the partnership is established but it is embedded and all of our partnership documents like Memorandum of Understanding.

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When we go around. Sally?

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I think you may have already answered this and my question about dissemination and I think one of the challenges is to show relevance the uptick and what impacts are having but my question was, you may have already answered it, which of the partnerships that you listed or consolations you think is best to help me with dissemination aspect of your work and again I think that is what you probably want to but additional partnerships for my perspective and other ones that have been really good at doing that and why?

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I don't have a systematic answer and I will have to wait till Howard comes to the microphone and he does a lot of work but what I would say is we have, I think, I chose to develop specific metrics of success as it relates to the impact in particular and often the metrics are specific to the project that we are dealing with and often times they are not systematically collected and there's an opportunity for my perspective and going forward how we both leverage our DNR resources and especially the dissemination of resources but also how we strategically measure and demonstrate that impact and I am now on a silly talk about impact from AP value perspective but rather impact from the users and those who pay for the resources and that is a whole different impact measurement. How are did you have a comment?

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Thank you and certainly I would add what Francis said by thing I think the most productive partnerships are where we are able to gather with an organization represents a key stakeholder or potential user of our resource to identify a need they have and shape the work that we do to address that need in a way that allows them to have an investment and how that is then shared with their constituents and are able to track over a period of time they work they and we do together to implement that. When we are able to do that, I think we both help them and in a way allows them to have some skin in the game because it is very focused on what it is that maybe there needs and then also allows us to bring our resource or our other capabilities to bear on that and I'm certainly, some of the work you have heard mentioned is and our safety space and thinking about activities we even recently had done with the society for proving diagnoses in medicine are examples but there are other work that we have done two that reflects the work and health IT and help share some of our evidence-based information for improving primary care that would fall into those categories as well and again I think identifying needs upfront and working with the organizations proactively so they are involved in helping to think about what they dissemination and implementation activity is and being able to track that over time if they carry out the activities that are agreed upon, certainly where we are far best at I think measuring that impact is uptake and I think Francis was attempting that hinting at that and looking at the gold standard as what might be the impact in terms of patient outcomes is something we are always looking to get but if at a minimum we can track what might be uptick in use we can in some instance try to extrapolate from that and make some judgments about where changes in patient outcomes and health and wellness may happen.

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You want to say a word about how use impact case studies quick certainly knows.

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Certainly they are used by contract staff and others to allow us to look at specific examples of where and when research findings or tools of the agency have been used and we then profile those and put them on our agency website in order to provide examples of how it is for groups in order to disseminate and implement the agency resources and those are available on our website for folks to check out.

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Can I ask a clarifying question? With the society that is something.

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Society for medicine, Jeff and Erin can speak to that in more detail.

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I just want to make sure I knew and what other professional societies have you worked with?

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It is a very long list and there about three dozen organizations with whom we are in regular contact through our offices division of outreach and Stakeholder Engagement that represent the range of all of the agencies and the key constituent then research they include medical professional society and health systems and health system leaders and others. It would be one of many.

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If I went to ACC or whatever it is and said to me about your partnership with ARC they would know it as -- I was talking about?

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I think you were talking to the members of the Sentinel program staff what kind of things are you doing with Tran when they would be able to speak that both ACC and SGI and and ACP and Aman AANP, those are all groups that are and that sort of same cluster of organizations that represent.

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For communication? There's no way in the world I would know that so I have this thing here that has [Indiscernible] in it but you're working with scores and data

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we are working with many.

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Somehow they are the engine and clinical medicine in the United States and it is somewhere, it is in people's mind but not where I can see it. You have to make that much more exclusive I think.

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So noted. Thank you.

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Barbara.

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I want to make a plug for working closely with the agencies who are closer to the ground and federal agencies, we interact regularly with hospitals and other frontline providers and I think the challenge of doing that is sometimes at the state level. The veteran centers is one of those and we invest in [Indiscernible] in the quality safety improvement agencies that are not regulated and they do some work in the space. Sometimes this works on the quality safety improvement and then through [Indiscernible] and associations at the state level in Michigan is probably some good example but let's think about who does the work that you do but closer to the ground and we actually have worked with various teams and I think successfully and I have way and hope to do more in terms of things approved and integrating those into our own questions about providers at the state level and I think there's a greater opportunity for doing more with that but when I say small, I think we are now 12 and we have a budget of $1.2 million but we cannot do it all and we're actually working for those resources and to make them as is and roll them out and away they can be effective and sometimes you want to take them and integrate them into our own toolkits or initiatives and again I think there's quite a bit of potential.

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Lucy? By the way it is interesting and I happen in my email open for a legitimate purpose and how can I be getting an intriguing [Indiscernible] from Barbara Frain as you are talking?

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[ laughter ]

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should I go get my flu shot?

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[ Indiscernible - participant too far from mic ]

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very impressive.

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[ Indiscernible - participant too far from mic ]

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great, Lucy?

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As I am listening I want to remind [Indiscernible] but we seem to have ignored the partner and there is a really good fold in the real areas is a natural extension and also some states they are very strong.

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In terms of partnering with ARC . The area health education Center.

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[ Indiscernible - participant too far from mic ] we have to look at agencies and collaboratives that are collecting data and University amidst test -- Minnesota and North Carolina and they have data so are we pulling that data

into the ARC data and are we helping filter that out and when I look out this year I think you ask what your initial response was and it says to make sure the evidence is understood and used and I think mostly evidence and all of the data that has been collected by the initiatives have been used and of course this is just a no-brainer with the patient safety and partners.

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I had one quick comment on the earlier discussion about partnering with industry and I don't know, Francis, does ARC have authority ? We use cooperative research and development agreements with private partners to work out the terms of agreement especially if there may be some intellectual property as part of it and we did the large cooperative trial that got the early vaccines to market because it was developed and they were willing to provide it for the trial and there may be other places like that. I think the thing and partnerships is, you have to be sort of careful about what exactly you are looking for for the partnership and sometimes you're looking for resources and you're looking to partner with people who may have more resources than you and we have benefited at the VA from partnerships with NIH because they bring more money to the table and we can, we are part of a collaborative on non-opioid treatments for musculoskeletal pain and veterans but probably more often for ARC you're looking for partners who are your vehicle for taking whatever you develop actually and to practice and partnerships take time to do well and ARC has limited staff and I think it would probably be good and strategic planning to think about the specific different roles of partnerships and I can see places where we could partner with ARC as a fender and we have opioids as one and we have, we are interested in a bunch of opioid questions and ARC is interested in those and we can study those at the VA and ARC can study those outside the VA. We have done historically, there have been VA ARC partnerships because, we cannot actually blend the money if it is logistically different but it has worked well with NIH and we keep our many separate and show the review and we get better bang for the buck by putting out a call across a larger pool of research. That is a very different sort of question about who are the partners we need who are actually going to take and tell us what we should be doing and actually take responsibility for running with it once we have funded it. I can see, and that is only two of many different sort of sources of partnerships.

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That is a point worth bookmarking is to define the purpose and taxonomy and price of partnership. It reminds me and I will get you in a second but it reminds me of, the 100,000 lives campaign, which I came on as it was about to be rolled out and actually stopped the campaign because the evidence and one of the how to guides was was incorrect. Just the health services research was clearly was not my role but what was important, the campaign was not going to go forward because The Joint Commission and IHI could not agree on framework and a partner with joint commission strategically on that initiative was absolutely critical and there was no way to rollout a national campaign without The Joint Commission and I spent an entire day at joint commission hammering that out so they could sign on and the same thing with the American heart of the cardiovascular and things that were in those campaigns and the same thing with the Society of American Society of healthcare epidemiology but all of those partnerships and summer scientific, somewhere around measurement and influence, some were because they were not included in they would try shoe so one important lands to use I think is the reason we have this partnership is to, the reason why we better partner is because they could be [Indiscernible] and I think that is an important part of standard work and not just to define [Indiscernible] but what define [Indiscernible] but what to say if they were not partners in the portrait analysis partners in the portrait analysis .

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It sort of raises the question like what designs partnerships because I may have missed it but I did not see the preventive services task which a lot of it and the impact is because they work closely with the primary care specialties but I do not know there is a normal, for my memory there was there is a partnership but they were working and they were attending all of the meetings and provided input and there was a lot of consultation and it did not formally send something to agree that we are coproducers of this or endorse it. But clearly was a critical example of something that was responsible for while the task force got so much attraction.

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Well the strata, I am sorry, the strata of levels, we have often called people who think like us and they strategic outlaws is something as being official or a coalition in the 100 healthier lives and I think 800 members who basically looked on and cheered and the finding is important so, go ahead. You want to go to microphone.

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I was going to point out the partnership with the USPSTS is unique and that ARC is mended by Congress to support them. We do not have an official partnership with them and we are in support of their work.

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David you said one of the thing I thought was worth bookmarking for ARC. You said these relationships take time and at IHI I was responsible for all of our strategic relationships and have a folder with about 29 or 32 things I was going to keep up with with very little support staff to do it. In order to have an authentic partnership, as you know, this is really getting to know each other and spending time and taking in and looking at their website every week to see if the CEO has been fired. It is worth, when I heard scores I began to think about the relation so that was a good point.

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Tina, finally.

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I will bring up a point that I previously brought up and [Indiscernible] I wondered partnerships that were in place to acquire different types of you have a very strong relationship with the department and 48 steps but you are only collect thing admission data or inpatient emergency department etc. that you can collect Reagan develop partnership so for example I'm not sure what data you could collect like ZIP Code level data but it would help augment some of the resources and you already have the partnership developed and we talked about how it takes so what can you leverage some of the partnerships that are already developed and thinking about as I mentioned, can you partner and expound these states partnerships to capture more data resources with some of the information you already have?

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Hello I am Jenny of the [Indiscernible] project and we have a mix of partnerships to answer your question which is yes but we have two thirds partners which are state agencies a public health and one third our hospital associations and we want to on a regular basis as partners for any new data collections they have other kinds of data they added an when it is feasible and boarded we bring that in that we have in the last year so for additional kinds of data to incorporate it and it is not always fit and the people who administer the admission of hospital data are not always the one most knowledgeable about what else is happening in the state agency and think about ways to amend that and get better information so if you're open to any ideas on that we want to have richer information and leverage such relationships we already have.

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Other comments?

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I have prepared a provocation, I will start with a very provocative thing and this is with respect to my friend Paul who has been with CMS and what he does and I will put up a provocation where the researches and where ARC fits in the distribution of federal funds and here's the headline I am reading and this is an entity that will host the meeting card provider strategies of community partnerships and social determinants at this year's [Indiscernible]

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par the interruption -- pardon the interruption [Indiscernible].

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Okay moving on. Here's the headline. They will take a closer look at social determinants developed and the detailed president administrates have focused on the social determinants of health and the impact on American healthcare and social services so they can get $200 off so one could argue that is great and the secretary and president wanted to give money to CMI to look at that which is an important issue, but which agency ought to be, as Lussier Tina I can't remember who it was said who is defining the measurement social determinants of health? Who is determining the effectiveness and using health services research and economic research efforts in the effectiveness of the accountable community which is part of this thinking and with CMMI for example, would they say it is great you think we should do this and we need our health services research partner, ARC, to help with XYZ and I know partnerships exist but there is a tendency to have it go to agency and then they have to somehow work it out so I do not know, what do people think about that? It struck me as I read that there is an obvious role for ARC but it is not articulated and what I read, I do not know what the Secretary has to say about this but I hate to be provocative and I think it will be important to know for the future.

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[ Indiscernible - participant too far from mic ]

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Don, you are picking a example which is a nice one because it comes across the department and I would argue in fact CMMI and IHI and HRQ all of us have a role to play in the different points in the universe, as it relates to social determinants in the context the work that we do I would dare say it is quite appropriate and of course CMMI to think about social determinants and likely collected or connected to the secretary's value which is super appropriate.

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I am not challenging you of being involved but I was just wondering.

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A perfect example that I can relate to there is a mechanism for doing it and it is called interagency agreement and during the partnership for patient's initiative, I did not count them but there were more than 10 interagency agreements with ARHQ and other federal agency and that is the appropriate way to do that. There are very strict requirements and limitations on how the funds can be used in your agency agreement are in that framework but it is not unusual and in fact I would say it is very [Indiscernible].

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The funding, does it follow the agreement? In other words you do an interagency agreement like that, how do you go about retrofitting the funding now that you have met and discussed who is doing what?

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That is what an Entergy -- interagency agreement is an in our example help the partners with us to improve patient safety and we work out through the development of the interagency agreement of what the financial requirements would be to achieve.

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Lastly, to add and now we're getting into the weeds, when it comes to these interagency agreements, the foundation for deciding who does what is going to each agency's authority and weight often partner with agencies like research authority, that is within our authority and that is her contribution in the direction of the money flow and where it was appropriated, the money is appropriated in the example I gave you with the pediatric quality measurement program and the money was appropriated to CMS and they relied on resource authority to establish a relationship that would work and of course the documents laid all this out and fine detail that I do not often and I'm happy I don't have to read them.

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What I'm trying to articulate is a way of doing standard work that everyone knows what ARC special role is in the competencies and if they don't have the competencies and cannot tell the special role they need to go get them so it is not revisited for every major federal issue that comes up so these cases, use case number two is, -- i don't want to get in trouble here . It is prenatal care partnership. This is around AIMS which is a a Cogg oriented bundle for better maternal care so we don't have like woman dying at a much higher rate than white women and overall mortality rate is what it is and some African countries. It is a huge important problem. The partnership here appropriately seems to be with HR essay and a Cogg which is great and $3 million with almost identical [Indiscernible] and they are not here and how would that happen now and I know this because we are recipients of that and I looked at the two [Indiscernible] that were cut and pasted almost .

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I am going to ask because is a program laid working with the team around the project, you can talk a bit about that and then you can ask a specific question.

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This project has been ongoing in the first one we actually have worked alone in our space to work on the actual clinical bundle and the second phase we realized that HRSA was doing the work with aim as a partner and in the middle of all of that what we were negotiating the partnerships we would bring the teamwork and communication and leverage their clinical expertise in the work they were doing and they were already out and doing it and when were doing that there was a lot of confusion between should we go with ARC or AIM and we wanted to get rid of that confusion and I think we did a great job of doing that and Merck in the middle of all of this [ laughter ] and Leadership Team at HRSA came in and worked and I think the next, well we have limited funds on this and they have been incredibly generous and helped us to work this out but I think some of it had to do with funding than what we were able to do on the ground.

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The reason I ask is not that I don't doubt the discussion are occurring and I know they are but it is one of these oh my goodness let's all get together and then being sure, the role is specifically what an in terms of if you have

limited funds?

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What we did because we had limited funds we decided we were going to start in two states and see how it went in terms of over length and teamwork and communication and we're doing it with the states and working closely with them and evaluating which is something that HRSA, they want to do and has asked us to get expertise in that area and I think we bring more communications and we also bring that and with them the idea is [Indiscernible] if we think is appropriate in which case they can be involved or continue to be involved but this is compared would love to go in the future.

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I guess what I'm getting at is there are multiple models for evaluation and I don't know, I do not know how the issue will be but and yet for other valuations for example partnerships for patient's who got the evaluation, what is that? The partnership for patient evaluation.

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Mathematica.

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Mathematica was the newborn. It was a huge contract.

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This is not a small contract but it is with Johns Hopkins and the Armstrong Institute and with the school public health you have that background in maternal health and I think it is a strong partnership and they were part of the phase I planning approach and we had other folks for that larger second phase which is actually going into the field and the issues that were starting small and it is like a proof of concept which is what ACOG wanted and this is , we're stretching a lot of people to come together which is not natural and I think we need to work out those pieces and I think that was probably the way to do that is a pilot or demonstration which [Indiscernible].

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That is great so the final use case and I am not unhappy with anyone so don't get me wrong but I'm trying to discover work actually gets done so that Gopal and Francis can articulate for the funders and interagency folks what the unique role is and what it cost to do that and that is what I'm getting that rather than the backing into it so that there'd use case is diagnostic error and I know you are where because we have talked briefly about this and as I saw the budget HRQ has $2 million to work on this important national problem that is been going on and discussed but I spent some hours on the phone and hopefully [Indiscernible] it was great but we had a [Indiscernible] and a diagnostic error and that was great and whatever reason the foundation would have been $85 million on the table for this problem and when a big foundation or behemoth, and I know you work with RW K, how do you fit the $2 million in the unique contributions of the HRQ into whatever is trimming up?

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[ Indiscernible - participant too far from mic ]

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And have actually joined in the coalition government members. Along with think we are to 35 or 40 other coalition numbers. Medical societies. Etc. So I think that collective and hopefully that is the ways that they are the two doubt is not just commitment to solving the problem but true coordinated approach. And for me what is exciting about that is that coordination in the actual things are happening between different numbers and with the collective coalition, actually represents the system of care that we don't have.

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system of care that we don't have.

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I think we're closer to establishing the system of careestablishing the system of care when we pull different stakeholders and if an organization types, including resource organizations like ourselves. To the table. And as Camila said we bring different competencies to the table. Paul articulated those. And understand data. But our understanding of improving care itself. So we are the care experts. So I think it has been an exciting evolution to

see how we have tackled a new problem like that diagnostic of care. But with a different organizations. Not sure if I answered your question completely, but okay.

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So I would just as for example of Karen is listening to that or Sally or Tina or Lucy or any of you, after having heard that, do you have a clear vision of what ARC's role is in that in mind conversation?

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Be honest. I mean they want feedback. It was fine. But did he portray ARC's contribution in a way that they will all stand up and take notice?

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I think I would say no. ARC really needs to position itself as the leader district [ Indiscernible - low volume ] but sort of knowledge the expertise in the area when they come to people in the different way.

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So it's not a criticism. You were told questions and came up with an articulate response. But I would say that part of the standard works with what I am hearing what I am hearing here. Is that could really help look at that pitch. Take that as a use case, or take the work from others in this other one where you will send talking come up with the national agenda coalition. Which one it was the spec I will find it. The steering committee on patient safety partnership. They're having a steering committee a partnership. So it would be really great to have a five minute slide, text, it whenever that you think would be your best pitch for AHRQ's unique role. There's $85 million here, I do with the society for blah blah blah has. But somebody said to me there's an awful lot of fun sloshing about. So what is AHRQ's role and articulated, and what percentage -- it's like when you do a rigorous evaluation of the program project. You assume that the evaluation will be somewhere between 2030% of the total. They really mix that evaluation. So what would it be for AHRQ to establish the evidence or. The spec a --.

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I'm a big standard work right. So what if our standard parts went into partnership look like. What happens if we don't partner with -- had they tell us if were not nice. What do we do that is unique. What is the cost?

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And I'm sure you have all this in your head, or probably save much much better. It's that we can see that and it would only be a a good ability group to stay I would get the money are yeah, well, go for it. And Academy health would probably benefit and that as well.

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Anyway, I've been, I love use cases. So I'm prepared for it based on -- [ Indiscernible - low volume ]

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Any other comments?

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Yes, I completely agree. And what would be nice, since we're trying to define the focus of AHRQ. And you're really saying it is the care. AHRQ is about the public care. So when you're talking with the goals and the purpose of partnership, I would really like to see that come out . From the care perspective, this is what we contribute. This is what the partnership is contribute or how AHRQ is contributing to the partnership from the care perspective. This is how we are differentiating from the other people in the partnership. I think really driving home is important.

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It's probably not we have [ Indiscernible - muffled speaker/audio ] we have the capability, the resources, the competencies to do this.

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Other, nemesis, the [ Indiscernible ] is going to strike for sure. I think we've had a pretty good discussion. At the time there are no public comments to go through. So we will thank you and go call and Francis, do you have any last thoughts? Do you feel beat up or how do you -- [ Laughter ]

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Once again I would say thank you so very much to all the members and especially gratitude for the ones who are willing off. This is again the spec been in energizing conversation. And Don you know I like to get your invites and input and you want to do something about it. We are doing something about what your insights might be from the feet. And the more we hear you, the better we [ Indiscernible ] so please even though the next meeting will be March, I would encourage you all to keep on sending your ideas to us. So and also you can expect me to reach out to you when you need some guidance and help.

And the ongoing members and the new chair or whatever, it would be really great if -- I heard some agreement about what the pictures. Everybody I have ever heard speak at AHRQ in these meetings is articulate, well-informed, extremely talented and competent, but I don't hear the same thing. I don't think we all hear the same thing from everybody about what the contribution was.

Thank you.

Great job Don.

Thank you Mr. Chairman of course.

[ Laughter ]

[ Pause ]

[ Silence ] [ No Audio ]

[ Captioner disconnected from telephone. Attempting to call back in. ]Attempting to call back in. ]

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