Impact of Health IT on Quality Assessment:

Innovations in Measurement and Reporting

COLLIN BUCKLEY: Welcome to the AHRQ Webinar on impact of Health IT on Quality Assessment: Innovations in Measurement and Reporting.

At this point I'd like to introduce today's moderator, Jon White, who's the Director of AHRQ's Health IT Portfolio.

Jon, the floor is all yours.

JON WHITE: Thank you so much, Collin and welcome everybody. We're very excited to have you join us today for this very interesting topic and this outstanding panel of presenters.

The topic as Collin mentioned is the Impact of Health IT on Quality Assessment: Innovations in Measurement and Reporting. The old curse goes, may you live in interesting times, and boy do we ever live in interesting times with the passage of the Recovery Act and the Affordable Care Act.

The focus on Health IT and its use for many things, but in particular for the measurement of quality of healthcare has never been stronger or higher. We are anticipating in the near future the release of the first round of meaningful use, final specifications for 2011 and quality measurement will be part of that as was mandated by congress in the HITECH act and the Recovery Act.

And we are extraordinarily pleased that in 2007, AHRQ made funding opportunities available for grants for investigators to look at enabling quality of measurement through Health IT. And the folks that are on the phone with you today are some of the experts who purport outstanding applications and have used those resources to be able to give us some of the answers that we need at a time when we're looking to enable quality management using Health IT.

So we're very excited that these folks are here on the phone. We really have a crackerjack panel of folks that are doing field leading work. So we're excited that they're going to be able to share that with you today and that we're going to be able to have some interactive back and forth after the presentations.

We have three presenters with us today. I'm going to briefly introduce you to them, although they are well know.

Denni McColm, M.B.A., is the Chief Information Officer for Citizens Memorial Healthcare. She's been at Citizens Memorial since 1988 serving as Director of Human Resources and the Director of Finance before moving into the CIO role in June of 2003. Ms. McColm served on the Certification Commission for Health Information Technology as the Commissioner from 2006 to 2008, overlapping slightly with my time there as well.

She also served on the Davies Awards of Excellence, Organizational Selection Committee from 2006 to 2008 and again 2010. She's a member of the Editorial Board for Healthcare IT News published in partnership with the Healthcare Information and Management Systems Society, or HIMSS. Ms. McColm holds a Master of Business Administration Degree from the University of Missouri Columbia.

Our second speaker is Karen Kmetik, Ph.D. She's the Vice President of Performance Improvement at the American Medical Association where she provides strategic leadership for AMA initiatives and Healthcare Quality Measurement and Improvement.

She also leads the activities of the AMA Physician Consortium for Performance Improvement which recently celebrated its 10 th anniversary, through continued development and effectiveness testing of performance measures, advancement of the integration of the measures and Health IT, and the implementation of a variety of programs.

Doctor Kmetik is a founding member of the Collaborative for Performance Measurement Integration with the HR Systems, co-sponsored by the AMA. The National Committee for Quality Assurance and the HIMSS Electronic Health Record Association.

And the final speaker on our panel is Henry Fischer, M.D., who's an Assistant Professor at the University of Colorado Health Sciences Center and a practicing internist at Denver Health Medical Center.

He's Director of the Diabetes Collaborative at Denver Health which serves over 7000 primarily indigent adult patients with diabetes. He was the PI on an AHRQ funded study of the automated distribution of the individualized diabetic performance report cards to patients by mail and at the point of care. And the electronic distribution of provider performance report cards on diabetes measures with patient level data.

He's currently studying the use of text messaging to help manage diabetes out of clinic visits in a primarily low income population.

So Denni will begin the teleconference by providing an overview of the three year quality management project at Citizens Memorial Healthcare. She'll discuss the challenges involved with applying quality measurement and ambulatory care and describe how they were able to achieve their goals.

Karen will describe the Cardio-HIT project, whereby different practice sites with different EHR's, exported data to a warehouse for the calculation of national performance measures. She'll also describe current efforts to design major specifications to enable integration of measures in EHR.

And then Henry will conclude the event by presenting on the use of an integrated diabetes registry to improve the quality of care for adult diabetic patients with, in a safety net system. He'll describe the effects of providing both patients and providers information via report cards, and the benefits and challenges of this process.

So as you can see, it's really a great group of talks, and really at a key time, to be able to hear about these innovations.

So we'll go through these presentations and then as Collin mentioned, we will have some questions from the audience and perhaps from the panel members for each other. So let us not wait any longer. Denni, the floor is yours.

Standardization and Automatic Extraction of Quality Measures in an Ambulatory Electronic Medical Record (EMR), Denni McColm, MBA

DENNI McCOLM: Great, thank you, Jon. I'm going to lift the first slide there. And thank you everybody for joining us. We're sort of passionate about quality measurement and reporting at CMH, so we like to share this story of this little part of what we've done. Going to go on.

So just to lay a little bit of background, Citizens Memorial Healthcare is a rural healthcare network, we're located in Southwest Missouri in the Springfield region, just a little north of that in Bolivar, Missouri. We have acute care, emergency services, a line of homecare and hospice services, long term care, residential care and then ambulatory practices as well as outpatient services. So this is kind of our network from which we operate.

Our sort of claim to fame I guess would be that we have implemented one electronic medical records system that crosses that entire continuum of care. So each patient has one record in our EMR that includes their visits or example on this slide, this patient has had a long term care visit, they've been in the hospital--just a test patient. That they've had emergency department visits and if I wanted to view this patient's record across visits, across studies, and their lab results from 2003 to the present, I could do that. And so it's a very powerful tool.

Our providers all use CPOE, the closed medication loop, the bar coding, and we've eliminated paper charts in all of those care settings. The hospital, homecare, long term care and the physician practices. Patients have one medication list, one allergy list, one problem list and one history that's common across all of the care studying. So it is a powerful tool for our providers as they're providing care.

Once we got that implemented, we wanted to start extracting quality data from our system and that's when we proposed the study that we did with AHRQ.

Just for a little bit of background on quality measurement, you probably that initially CMS had the Physician Group Practice Demonstration which was a demonstration program. And they moved for a few years into the Physician's Voluntary Reporting Program which a few thousand at least providers participated voluntarily without any kind of incentive to do so.

And then in 2007, Congress passed legislation that enabled the Physician Quality Reporting Initiative, which is where we started in 2007. And it was the last half of 2007 that the legislation enabled a bonus for reporting of quality measures. So to take the PVRP program and say, yeah, if you will participate, we'll start to pay a little bonus for doing that. That first period was the last half of 2007 and then again in 2008/2009, and now it's been reauthorized for 2010, and I think, you know, the hope is that it will be but there's no guarantee that it will continue to be reauthorized again.

It does offer a 2% bonus on Medicare fee schedule services for providers who report at least 80 % of the time on three or more measures that pertain to their particular practice during whatever the reporting period is. And there are some nuances to that, but mainly it's that 80% of the time for three or more measures. Plus there's an additional 2% bonus for ePrescribing. And that measure we didn't study in this study.

So the reporting for these quality measures is done three different ways. One would be on claims using a special code, quality measure code. The other is through a registry and back when we were doing our study, it was just a pilot with electronic health reporting, but I believe that they have, are now accepting electronic reporting from EHR's or some specific vendors.

Initially when we made our proposal there were 47 measures proposed. The figure hadn't been finalized at that time. When it was finally announced there were 74, and then it continued to grow. There are even more than 150 for 2009.

And the challenge that we wanted to address having gone , having gone paperless and having started trying to capture quality measures from our EHR was this whole false impression that just implementing the EHR will cause the quality measurement to just happen.

And this sort of impression still seems to persist today. I think particularly most people haven't tried it. But just putting it in the EHR will make it easy to do quality reporting and that's not exactly true because documentation even in electronic health record tends to occur in many different places within the record, which complicates any algorithms and confuses results and then I think even more importantly, the clinical documentation that's needed for the quality measures as they're currently defined is often in an unstructured format or almost a large percentage of it in a non-standard nomenclature.

So we proposed that we thought we could do it. We hypothesized that we could establish standardization, we could facilitate documentation by the physician. In the back end we could extract out those quality measures if we could build it all in the front end in the right way, and then we believed going in that we could show that that, for doing so. That part of the impression that everyone has that it's more efficient and accurate to do it from an electronic health record. We believed that to be true, but we wanted to show that that was true.

So we were excited to be funded by AHRQ for the study. When we started we already had implemented the EHR, the pre-standard EHR in the market. And we were already paperless, so this was all within one EHR. And so here's what we did. Over the three years, the PQRI changed. Okay, the PQRI measures changed. And we did update what we were doing with our quality data extraction because we would have to do that in the real world. The quality measures do change from year to year, that's how it works. They're going to evolve and we hope they evolve and get better and better as time goes on. So we did change.

There were 62 of the measures that were available in 2009 that pertained to our specialties that we have here at CMH. We have a large number of primary care providers, but we also have endocrinology, neurology, orthopedic surgery, general surgery, neurology. So we had a variety. We had primary care and specialty measures that we, that we utilized.

And as we got into it, we looked at each of the measures at three different aspects of each of the measures to try to figure out where was the best place to get them out of the EHR. And one aspect is the eligibility. Does this measure apply to this patient based on – usually some demographics, sometimes a diagnosis and did they have a visit or did

they have a procedure that was coded and billed for. So there would be a bill or a claim to submit the measure on.

The measure itself, did the provider do or not do something for that patient. And then if there is an exclusion, a reason for not doing that, what's the documentation of their reasoning, which of the exclusion reasons was it that applied.

So the eligibility information for the most part was the easiest part to get. A lot of it is demographic data and came right out of the administrative side of our ambulatory electronic health record system. It was pretty straight forward.

There were however, some expert qualifying conditions that were a little more challenging. Some of them because well a lot of them we knew weren't going to be in a standard field, but also because they weren't standardly or usually documented by physicians, like the first use of a medication. It just wasn't common for our providers to say, this is the first time I'm prescribing this particular antibiotic or this particular medication for this patient.

So for most of these sort of extra qualifying measures, we had to build a field to try to capture those. Which you'll see is a theme, we had to build a lot of custom fields over the course of the study.

The measures themselves and we broke down into types of measures so that we could try to figure out with our providers where they would normally document that or where they would be in the patient's record in the visit, in the encounter, when they would perform that action. Or they would be thinking about that action in order to document it.

So we broke them down into things that providers needed to assess. Either assess with the result, assess with the result and plan, but assess. Things they just needed to be documenting like the medication list or some communication that they had with the patient.

Immunizations, medications, did they give them or did they not give them because some of the quality measures say that you should not give this medication and you have to say why you did if you do.

A plan that they have for the patient and that they've discussed with the patient or tests. And sometimes it was only a test. There was a couple where you either did a test or they had a medication and some that had a test result which are challenging if you don't get the test result during the encounter, so they'd have to somehow be added later, counted later.

So we took those measures and then also looked at some other attributes to try to determine how to build it in. And one of those that played in was reporting frequency. This was also one that sort of confounded our coders with keeping track of those measures that needed to be reported, one per reporting period. So if the patient with diabetes comes in five times during the year, you really only need – have to do an A1C one time according to that measure. I think that's right.

So how you keep track of whether it's been done and whether it's been done in 12 months of the current -- the visit, the encounter within the period and so this is a little bit challenging. Some of those we ended up putting in a health maintenance type function where there would be a reminder and an automatic sort of tracking if things were done during a period of time. So it had to be done each occurrence of some diagnosis, some – every visit like the blood pressure. And then some were initial and/or each visit that were also sort of difficult for the coders to do and for the system actually.

And then we put those into this sort of usual time in the course of the visit. So did it happen during the nursing intake, like the blood pressure was collected during the nursing intake. Did it happen during health maintenance, so verification that an A1C was done for a diabetic was done in the health maintenance. Or was it done when the physician did the review of systems, the exam or the plan and then tried to put that in the right place as they were moving through their visit and the electronic health record.

And then there are the exclusions. And I think other people are going to talk a little bit about exclusions as well. If – the exclusions apply if for some reason one of the valid reasons, the provider decides not to do whatever the quality measure is. So maybe the patient refused or it was contraindicated by an allergy. So there are sort of like standard exclusions, medical reasons, patient reasons and system reasons within the 62 measures that we studied.

They look like their standard is, good that they are all sort of worded the same way, so that the provider gets use to what is a medical reason, what is a patient reason, what is a system reason. But in fact for each quality measure, a medical reason has a different code because there's only one code reported for the quality measure. And so a medical reason for not getting an anti-platelet to a patient with coronary artery disease is a different code from the medical reason for not giving antibiotic to a patient with pneumonia.

So they look the same and they can be billed the same and it can look the same on the screen, but they had to each have a different code associated to them so that they could tell which quality measure those apply to.

And there were other documented exclusion reasons. These were, the exclusions were for the most part the biggest area where the information wasn't already in the standard field anywhere, and these all had to be billed and linked up. And so 21 of the measures we studied didn't have any exclusions at all. 29 had one reason, 3 had 2 reasons and 9 of the measures had 3 reasons.

And so that's how we built those in. And then we mapped every one of those queries to the state extraction system. It's a data extraction system that we use in the acute care side of the hospital to extract quality measures for, for measures as well, and so we extract data out of the EMR already for that purpose and cue up those. For an abstractor, he still has to look at those before they're submitted for the core measures program. It's the same type of system, they look through our EHR, look for these eligibility requirements and then look for certain queries to see what code would be applied. And we use the codes even though we weren't using it to report for PQRI so that we could use it to report for PQRI if we needed to.

And then we were able to get remarks back which was enlightening for some of our providers. This is just a sample report for one period where, of all the diabetic patients and how many had an A1C over 9 and one of – you can see that one's in dark. We had a little bit of difficulty with. There were 406 patients in this period that would have been eligible for the footwear evaluation, the dilated eye exam and the foot exam, and none of those were documented. I feel certain a lot of those were done, but none of those were documented because it was, it was early on in the study especially and the physicians were just not accustomed to going to looking at that query field and thinking I need the document back somewhere for a quality measure.

And then the reports drill down. So what's cut off of this report is the patient identifier, but they drill down so that you can see by patient for each of the criteria, which ones they met and how they met the criteria.

And so this is what we call the exception approach. In our system if the provider did do whatever it was, if they did prescribe the antibiotic, if they did assess the oxygen saturation, they don't have to do anything else. The system will pull that data and that will satisfy the quality reporting. If they don't do that whatever it is in that measure, then is when the exclusion would have to be reported. So only in the exception . So there's only a couple of exceptions. For mammography, bilateral mastectomy or mastectomy and so that the provider codes it for provider, but if the provider has done a mammography, they don't have to document anything further if they ordered the mammo.

The other approach which was used by our vendors, they took this out to other, other sites , was the checklist approach which was, for example and then how the alcohol use screen on a certain type of patient. Even if they did that someplace else in the record, under the quality reporting section they needed to say yes and that's what dropped the code to the claim. If it wasn't in there, some medical reason exclusion altogether, so it's sort of the checklist even if you did it.

And both of these are flawed in a way. Under our approach a provider could do something and then tell us why they didn't. Or they could not do something and not tell us why they didn't. And in the checklist, they could not do it but say they did. You know, if they can see their flaws. And hopefully the future, and already we've been able to build in some of these into our system where, you know, sort of proactively alerting this patient has X and you haven't done this already.

Part of the problem with that is a lot of the information for – to know what needs to be done for the patient doesn't get done until the very end of the visit or sometimes in our case we have centralized coding. That code may not even be

applied that's needed to determine what was necessary during the visit for 24 hours to that claim before it goes out. So we haven't gotten there yet, but we hope the future is some kind of combination.

And then the other sort of affect of the whole thing that came up was the need to balance the quality of the note with the quality measures extraction. A lot of our providers said that when they used the point and click note, they were worried that the next provider that sees that patient wasn't really able to understand what they were thinking about what was going on with that patient because the sort of machine like, the sort of all looks the same and the same terminology. And even a year later when they see the same patient, if they've used a fully templated note, that they can't remember what they were thinking about what was going on with that patient. And that they have the same experience when they get completely templated notes from other providers.

So as we analyze what data we did need, initially we thought, you know, we just need to have them do all point and clicks and we realized that we didn't really. We provide a lot of point and click options for the providers all throughout their visit, the three present illness, the review systems.

But we also and we have the, you know, the extra measures that we need for the quality to get these exclusions and these extra criteria. But we also made a special effort to make sure that all throughout the note, there are places for the provider to put things in his or her own words and they can do that using speech track ignition. They can type it, they can have their canned text that's in their language. And they can even use dictation and transcription. That will be blended with their point and click note to help enhance provider's perspective at quality of the note that was produced.

And so the results were, we were able to pull 62 quality measures that pertained to our practices. We built them into the documentation and work flow. We were, our study was just to do that. We didn't go further and say, you know, how many times are they used. We could report on all 62 measures -- if they failed to click enough buttons, they would fail the measure, but we could report on every one of the measures. It was significantly and almost embarrassingly more complete and accurate than the centralized manual coding.

We set the coders loose, gave them the instructions and were not eligible for most of our clinics or PQRI. A lot of them are certified real health clinics and were not paid on the Medicare fee schedule. So we would have been eligible, but we wouldn't have qualified either because their reporting compliance using the coding method was so low that keeping track of, have I done it for this patient, for this diagnosis, for this period, and all sorts of things kind of worked against them. And so we weren't alone.

CMS published sometime in 2009 that in 2008 about 162,000 providers who reported to PQR at least one time, only 85,000 of those actually did submit enough reporting to meet the 80% and received the bonus, but our, our outcomes were pretty dramatic and that it was not only more complete, we were able to report a lot more of the time, essentially 100% of the time using the quality data extraction system, as compared to sometimes as low as 25% accuracy. But also the extraction system was so much more accurate. The coders make a mistake here and there and there's, you know, when you're doing only coding, that's to be expected.

So the other thing we learned was that we had to build a lot of custom data fields to make this work. So I'm glad that we got that experience, we know how to do it now, depending on what comes out in the meaningful use requirements, we'll sort of know how to do that. We hope in the future that, you know, quality measures are built, sort of rebuilt in a new way for data extraction, that there will be less reliance on custom documentation queries. We had to build 102 custom queries for the 62 quality measures I think that were already in the record some place.

And then we were able to – our vendor used this concept to build for the toolkit that was distributed out to a whole lot of other providers. So we're excited to see how the measures are redefined and transformed now as we move into a more electronic environment across the nation and hope that our findings will help with that.

So that is mine, I'll pass over to Karen.

Integrating Quality Measures into EHRs: Lessons Learned and Next Generation Measure Specifications, Karen Kmetik, PhD

KAREN KMETIK: Thank you. Hello everyone and thank you for participating in this webinar.

I first would just like to say that I come to this as Jon said with the perspective of a group who develops the measures and the measures specifications for use in various programs such as Denni just described.

So from our perspective I wanted to share with you the model that we're using to help advance quality measure reporting from EHRs . And then I wanted to share a little bit with you about our AHRQ funded project that we completed called Cardio-HIT. And I do have to say it was quite visionary of AHRQ to have this program because this was all pre-era, and so thank goodness or we'd be further behind in trying to make this happen.

Now I'll talk a little bit about what we learned regarding data entry, data validation and exclusions or exceptions. I'll talk about that language and Denni spoke of it as well.

And then what we're doing to try to advance and build on our specifications. We call them next generation measure specifications so that they are more useful in an EHR world.

Just by way of background, the group I work with, PCPI, we have over 170 member organizations that we bring to the table to review the evidence, to review data on gaps in care, variations in care, appropriateness of care, to develop these measures. We've got them in many different clinical areas now and as I said, we worked to specify them is our term for creating the codes and algorithms so they can be used with different data sources such as the EHRs.

Again just to put it in context, many of the measures that are in CMS programs. The PQRI program that Denni spoke of. The proposed rule for mean, for use, of course we don't know what will be in the final rule forthcoming, but many measures named there were developed by us, by the PCPI. Some of our measures are also in medical board MOC programs, in different CME programs and are being used by private health plans.

So when we started thinking about this several years ago, we said we we've been one path to develop quality measures and across the way are some very smart people working on electronic health record systems, but we haven't been talking to each other and we probably should.

So about five years ago we started meeting in earnest with the EHR vendor community and got to thinking about what should we put in place so that eventually these measures could be reported on through the EHRs. And so we've been following this model and it'll be of course revised and enhanced as we learn more, but we said well we got to start with developing the measures of course and we wanted to think about leveraging the clinical data and EHRs for next generation measures. In other words hopefully we will not be reporting on the same measures from a claims role as we might in an EHR role where we can utilize much more rich data.

And then we wanted to develop these specifications I mentioned to enable the measures to be used in EHRs and we call them Level I and Level II and I'll talk a little bit about that.

We want to share these specifications with users and the vendor community before they go live to get some feedback and we put in place a collaboration through which we do that.

And then we actually want to be a part of real-world implementation or incubator groups we call them, to test the feasibility and validity of these measure specifications and the two that we talk a lot about are Cardio-HIT and a project we did with qualified health centers in Chicago and today I'll focus on Cardio-HIT.

Another thing that we are trying to do is track our progress. I mean it seems to us that in parallel to the meaningful use criteria to come out, we should be tracking for our measures. Do we have the full complement of measures that we might want for conditions such as heart failure? Do we have the Level I and II EHR specifications? Have we vetted them with the vendor, community with the physician and other user communities? Have we tested an incubator group? Are the fields there that can be queried, are they using standardized coding in the EHRs to enable the collection of the data. And so we're hoping to be tracking this and eventually putting this on our website so, excuse me, folks know where we think we are in keeping up with where the nation wants to go and reporting on quality measures from the EHRs.

So a little bit about Cardio-HIT then which gave us a chance with this AHRQ funding to look at different practice sites with different EHRs. So our goal was to say, let's go to some different practice sites with different EHRs and give them a set of national performance measures. We looked at coronary disease and heart failure, and find out some things about whether this was in fact doable.

We actually did it in two phases. I'm going to talk about phase two today. And phase one was all about feasibility. And we did much of what Denni said where we had to go to each site and map the data elements required for the measures to their system and there was quite a bit of customized field developments like Denni had in her experience. But at the end of phase one, all sites were submitting data to a warehouse, a data warehouse and receiving back feedback reports on how they're doing against these two national measurement sets.

So with that in place and they kept sending data quarterly, we went to phase two and we said well let's dive in a little deeper and figure out exactly which data are not available in EHR. Are the data fields queriable? Are they using standardized clinical coding? What is the agreement rates between automatic reporting of EHR versus if we go in and manually review the EHR. So is the automatic query working? And a particular interest of ours is how can we move forward toward more granularity in exception reporting. Something that we think is of great interest.

So you know, Denni mentioned HVA1C. In our experience the poster child for data not being routinely entered into an EHR is the ejection fraction that we found. We also found significant discrepancies between NDC codes that we would list on our measured specifications for drugs and the NDC code updates that were being conducted in the practices.

And so the practices would get their updates for NDC codes, but they would load them at different times and so we often found missed matches between the codes in our measured specifications and the codes actually used in EHR. Now RxNorm we believe will solve much of this going forward, but at the time we did our work and I think still true today, RxNorm is not widely used yet in all the EHRs.

So then another question we asked as I said is well where is the information. And we focused in this phase to on the exception reporting. So we wanted to know if, as Denni said, if a measure was not met, why not? And where is that information recorded? And as you can see here, just an example, it's pretty much all over right now. People were entering the information for this particular measure in the problem list and the allergy list and of course also in free text.

We also found that if it was entered in the problem list, it was likely to be in a standardized code. Whereas if it was entered in the lab field, it was least likely to be in a standardized code. So we also tracked in each of these locations whether standardized coding was used.

As I said we also wanted to validate the data and so when we looked at the data warehouse and it was shown that an exception applied. When we went into the manual review of the EHR and we looked for that exception and we also compared it with an A-priority list of acceptable exceptions, we found very high agreement. So that if it's reported, it actually is in the medical record.

We also found that if the data in the warehouse indicated that the measure was actually met and that could mean either the numerator was achieved or there was a valid exception, that when you go into the manual record, that's there as well. Pretty high agreement there.

Where we were a little surprised is that if the data in the warehouse indicated that the practice failed the measures, there was an apparent quality failure we call it. When we went into the manual review of the EHR, we only confirmed that in 19% of cases. Meaning in the majority of the time, the practice actually met the measure. Meaning on our manual review we either found that the numerator was done or that a valid exception was there. But that information was not being picked up by the automatic query.

And there are several reasons for that. Again the NDC coding issue is one, time, time being linked to the action is another, and we have a list of these that we're now working on with practices and with the vendor community. But this was very important information for us to understand in order for everyone to have confidence in results that might be

exported from an EHR.

As I said a big focus of this investigation of ours was exceptions and I use the word exceptions for a couple of reasons. We try to distinguish in our role and between exclusions and exceptions and I'm not sure if it's something of interest to many, but those of us geeks I guess in this world, we think of exclusions as something applied to everyone. So for example if a measure is for people 18 and older, then we're in essence excluding people younger than 18. In other words it applies to everyone. And we use the word exceptions when we mean things that are unique to patients. So a patient may or may not have an allergy. Another patient may have a comorbidity. That kind of thing. But granted those words are used interchangeably in many circles.

But when we were looking at exceptions, we said to ourselves, as Denni outlined, right now there are these broad categories that we've identified, medical patient system. And we did that mostly so that it could work in a claims environment.

But as we get into EHRs we like to be able to capture that data in a more granular way because that information we never had before when we were doing measurement in a claims world and it's a good place to sort of focus efforts to look at variations and determine is it explained or unexplained variation.

And so part of what we did in Cardio-HIT in doing that manual review of the EHR, enabled us to identify for example, for measures that are about drugs. The primary medical reasons are really, can really be categorized into four subclasses. Clinical contraindication, drug allergy, drug intolerance or drug interaction. And so we're trying to do more testing to understand where there are most common subcategories within medical patient and system so that we can advise those who are building the systems what additional categories they might want to list.

We can also talk to those groups who own and develop vocabularies to request additional coding to enable us to capture these additional categories.

So that was a various information to us as we seek to try to continually improve the measures and measure specifications, and as I said, leverage data that are in these EHRs.

The next thing I want to talk about briefly is, so what are we doing now to try to improve the way in which we make these specifications available to users. How can we eliminate any ambiguity from the specifications, and it's through our collaborations and our testing projects. But in particular we've come up with this nomenclature of Level I and Level II EHR specifications. And the way we think about it is, we call Level I specifications that anybody could read. It's in English if you will. There's coding of course and there's algorithms and diagrams, but you would not need to be a sophisticated programmer to understand it.

Level II specifications are designed more for software experts and programmers, to be able to take the specifications and see them in a machine readable form. This is sometimes called HQMF or an eMeasure to enable more sophisticated streamline integration of the measure specifications into EHR.

But just to share with you briefly what these Level I specifications look like. They have three components. There's a visual representation of the measure logic, a flow diagram. There's the mathematical calculation itself. And then there's the different value sets.

And so you recall that Denni showed a template that sort of asks the questions to figure out do you have a patient in this eligible population, did you meet the numerators, do you have an exception. We're just trying to take that now and create the same thing, but a little more focused on an EHR world.

So the first piece, the visual representation looks like this. Members of our team developed this and they affectionately call these different columns swim lanes. And it's intended to be read from left to right just to give people a visual representation, a pictorial of what you look for first, the patient population, then identifying the denominator, did they meet the numerator and if they did not meet the numerator, do they have a valid exception. So we're creating these visual representations now for all of our measure specifications.

The second piece is the mathematical calculation, is really just fractions. But what we're trying to emphasize is to not just be able to calculate the performance rate, but also to calculate the exception rate and report that alongside. That's not data that should be lost, but rather data that we want to shine a light on.

Also part of what we're doing now with specifications that we learned through Cardio-HIT is to really be pretty specific about what we mean in cases. Which blood pressure reading to take, etcetera. And so all of those definitions are now added in a more, I think complete way than we did before.

And then the last piece of it is the value sets that have the code lists in them, and so when we say you need value set one, which would enable you to identify people with heart failure, we then provide you with a list of those codes for people with – with those codes representing people with heart failure.

And I think this notion of value sets is something we're all going to hear more about. We would like to share these value sets with others. It does not make sense for many groups to keep creating them, but it's something that I think would be great for us as a community to share going forward.

How about I just comment on what we're doing now to try to enhance our measure specifications. We know that an EHR is, we're all anticipating that there will be additional code sets used that were used in claims and are used in claims. But we're in various stages of adoption of those clinical code sets and EHRs. So for a time period going forward, we are going to continue to include all types of code sets in our specifications. And this is just in recognition that, you know again, it's going to take time for, excuse me, the nationally accepted code sets to be used in all EHRs. But we do want to help transition to that time of using more clinically relevant code sets.

In terms of our priorities of developing the Level I EHR specs, obviously we're starting with ones that are used in programs now, particularly the EHR reporting feature of PQRI. Any measures that we happen to have that do find their way into the final role. We'll look at those. We are marrying our work with the efforts of the NQF providing quality data set, we're using the same terminology as them. But the idea is to really round out our portfolio with these types of specifications.

Just to say a little bit on these Level II specifications which is a little outside of my league given it's rather technical, but it is referred to as I said HQMF for eMeasure. This is something that came about as we're talking with the EHR vendors years ago when they said well Karen, it's really nice that you give us these EHR specifications in Word documents and Excel files but each one of us, each vendor takes that and turns it into code that we can automatically feed into our system. So we said well we could probably do that. And so we came up with a template and XML which we call it HQMF and we developed a prototype and then we said to others, you know, this probably needs to become a standard. And so interest took that work on and it went through an SDO and actually was recently successfully validated and it's now an HL7 draft standard for trial use as of the fall.

And so we will also now be working to take these EHR specifications that we have in Level I and turn them into this machine readable form called Level II or eMeasure.

I hope that makes sense to folks. We'll find out in the Q and A.

So I think that we've actually come a long way in the past few years. I feel like at least we are on the same path. There's a lot of pointy things on either side of the path, but I think we're speaking the same language and we're all working towards the same goal.

These are just a few references and in particular the one I star'd by Chan, Fowles and Weiner if you haven't seen that. It just came out this week. It's nice to see that we actually are building a literature base on this such that we can have a review article on literature out there. So if you haven't seen that, you might want to take a look at that. Thanks very much.

JON WHITE: Thank you so much, Karen.

Automated Diabetes Registry Tools to Enhance Self-Management and Provider Feedback, Henry Fischer, MD

HENRY FISCHER: Thank you, Karen, this is Henry Fischer and thanks everyone for joining us.

I'm here with Josh Durfee today. Josh helped us with the quantitative analysis for our intervention as well as some of the technical sides of the implementation. So questions arise in those areas, he can help us answer those questions.

And as Jon White said in the introduction, we work at Denver Health Medical Center. It's a safety net hospital here in Denver. We serve a bit over 7,000 adult diabetic patients through eight community health centers. And in this intervention, it was a one year intervention. We used our diabetes registry in two ways. One we used it to feedback data to patients on their performance. On the A1C, their blood sugar control. Their blood pressure control and their lipid control and wanted to see the impact on their ability to work on self management of their disease and diabetes outcomes.

The second aspect of our intervention was feeding back data to providers. And in the intervention we fed back to all of our providers on a quarterly basis throughout the year, performance data on their diabetic panel, compared to the average at their clinic as well as to other providers. And then in the intervention component of it, we took half of our providers and additionally drilled down to provide patient level information on patients that were, we thought could be targeted for better performance.

Just a couple words on background. As far as self management, there are a lot of studies out there on diabetes self management. They tend to focus on the hemoglobin A1C. They tend to be effective. But one thing is they're often time intensive. Often in a group format, sometimes taking 12 hours or more of education and support to an individual patient.

As far as provider performance feedback, that's also pretty well studied and it tends not to be so effective. We find that with provider performance feedback, we often can impact process outcomes like checking blood pressure, checking A1C more often, getting patients to come into visits, but we have less of an impact on intermediate outcomes actually, improving blood pressure and improving glycemic control; however, now with our advances in health information technology, we have the ability to provide automated targeted information to providers on their diabetic panels.

So our objectives in this intervention were two fold. One was to focus on patients and using a tool we called the patient report card. We had two questions. One, if we mailed these to our patients on a quarterly basis throughout the year, could we impact process outcomes? In other words could we get patients to come in more for lab checks, to come in more for visits. This was randomized at the patient level throughout our healthcare system such that half of the patients received the mailings and half did not receive the mailings.

The other question as far as the patient report card was if we distributed this at the point of care, could we impact immediate outcomes? Have a little bit more of a robust impact and effect glycemic blood pressure and lipid control, so that this randomization took place at the clinic level. So of our eight clinics, four clinics were randomized to the point of care distribution of the patient report card such that at every primary care visit, the diabetic patient had this report card printed out at the time of registration. It was handed to the patient as they waited for the provider and observe it as a tool for communication between the patient and the provider.

The second aspect of the intervention had to do with the provider performance feedback. And here again we randomized at the clinic level such that four of our clinics had just a standard provider performance feedback, and the other four clinics had the standard plus what we call the enhanced provider performance feedback.

So the standard feedback gave information to all of our providers about how they're doing on their diabetic panels compared to the other providers at their clinics. The enhanced provider report card gave him additional information. Every quarter we picked a preselected criteria based on A1C, blood pressure or lipid performance, and gave an individual provider up to 10 patients who are falling short on that particular measure.

This is a pretty busy slide, but I just wanted to show it so you got an idea of what our provider performance feedback looked like. This was generated electronically. All of our providers receive this sort of a report. It was kind of the standard report given to all providers. And so this is at one of our clinics and it's looking at performance on A1C. And

if you look at the pie chart in the upper left corner, their difference is the A1C and for each his own, the percentage of patients that fell into each zone such as A1C less than 7, between 7 and 9, between 9 and 11, greater than 11 or no A1C.

And then next to that you see the performance of the A1C zones over time at the clinic, trends over time. Below that you see the individual providers and how they performed on the different A1C zones and compared to other providers at the same clinic. And then below that is a table for other data breaking down for individual provider performance.

So the intervention group received these report cards as well as drilling down as mentioned before on the pre-selected criteria for each provider delivered electronically, a list of up to ten patients that were falling short on that particular measure.

The next slide's again busy, but just to give you a sense of what our patient report card looked like. So at the top of the patient report card, we have a description of the ABC's. A is for A1C or blood sugar control; B is for blood pressure; C is for cholesterol. And then on the table below that for the individual patient, it would give the target for each of those measures, it would give the patients' performance on that last check on those measures and give it a grade anywhere between excellent, good, fair to poor. And then they would get the results of their previous measure as well as a grade and when their next test was due.

And then a bit more information upon that. The Framingham Risk Score, the risk of a cardiovascular event in the next ten years. And then some information on how they were doing on some education modules that we recommend in our healthcare system.

And then below that encouraging the patient to pick a self management goal and work with their provider on it, whether it has to do with taking their medications, diet, exercise, attending appointments or another type of self management goal.

So our study population came from our diabetes registry which consists of patients over age 18 that have had an ICD9 code for diabetes in the last 18 months, as well as a visit, a primary care visit in the last 18 months. We excluded patients that were over 75 as we don't have a lot of data as to what we should shoot for in our quality measures in these patients and not a lot of consensus among the experts. We also excluded patients without a working address as there was a mailing component to this intervention.

And then finally we only included patients that spoke either English or Spanish. That made up about 95 % of our patient population. And just as a matter of resources, we cannot expand to other languages for this intervention.

This left us with a bit over 5400 patients with the ethnic breakdown you see. 62% Latino, 16% African-American, 17% Caucasian. Most of our diabetics are either uninsured or on Medicare or Medicaid.

So again our intervention arms, just to review again the methodology and I would say this is one short coming in our study so I'm going to go over it again because it's kind of confusing and a little bit complex.

So on one hand we had a randomization at the patient level, for the patient report card mailings, in which half of the patients to receive these quarterly mailing over a year and the other half did not receive the mailings.

The second part of the randomization was at the clinic level. So if you take the point of care patient report cards, four of our eight clinics were randomized to have this point of care distribution and the other four were not. We further stratified by size. We have in our healthcare system, four of our eight clinics are relatively large and four are relatively small. So that left us with two large and two small clinics that received the point of care patient report card and two large and two small that did not.

In a similar way, we randomized at the clinic level for the enhanced provider report cards. Again two large and two small were in the intervention group for this and two large and two small were not.

So as you look at the clinic randomization for these two different interventions, you have four groupings. Each group

had a small and a large clinic. So one of the groups had neither of the two interventions, one of the group had the point of care patient report card distribution. A third group had just the enhanced provider report cards. And the fourth group had both of the interventions.

So what were our findings? First of all turning to the qualitative analysis. And I think in the end we found the qualitative analysis the most useful as far as interpreting our intervention and we obtained this analysis in a couple of ways.

One was through one on one interviews, the diabetes champion at each of our eight clinics, tape recorded interview. And the other way was through surveys that were mailed to our patients with their report cards, so it was mailed twice over the year to the entire 2700 or so patients receiving the mailed report cards.

And the survey address self advocacy, patient satisfaction based on Lipid scores as well as have space for open ended comments from patients.

The two teams that came out of this was that one, both patients and providers generally embraced the patient report card. Patients felt that it was a useful tool, that it motivated them to manage their diabetes and help them pick out those. Providers also by in large felt the patient report cards were very useful also and that it served as a plan of discussion in their visits with patients and help them come up with a plan for patience.

Another theme that came out whether providers were at a clinic with the intervention or not, was general frustration with just the way we manage diabetes. Our traditional disease management strategy in which the diabetic patient, if we're lucky, they'll come in once every three months, maybe every six months, maybe every nine months. And there's so many competing issues on the table, if they have 15 or 20 minutes to work with a patient, they're also working with other issues like chronic pain, healthcare monitoring , acute issues that are often bringing the patients in so in a way the providers feel like they don't have a lot of control often over the diabetes outcomes in their patients and cite frustration with our traditional way of managing these patients.

So our quantitative analysis. First for the patient mailings, again we were hoping to impact process outcomes and the bottom line was we didn't. We did not impact process outcomes. We looked at this a couple different ways as far as sub-analysis. We wondered well what about those patients that weren't performing well. Maybe it served as a motivator to bring them in to clinic, to re-engage them with healthcare. Well that wasn't true. Or maybe it turned them off and they were discouraged by their performance. That wasn't true as well. We did not see any impact on process outcomes of the mailed report cards.

Now as we turn to the clinic randomization, we looked at the data a couple of different ways. And as you look at the top half of this graphic, this is looking at the randomization for point of care patient report cards and in purple bar, those are clinics that, where this took place, the point of care distribution. And in the bluish bar and then the more reddish bar is the clinics, the control clinics that did not have an intervention. The bottom half of this graphic was for the enhanced provider report cards.

Again the bar on the left is for clinics where this intervention took place and then on the more reddish bar on the right is where clinics where it was just the standard provider report card.

And as you look at the groupings across through the outcome measures, A1C to less than 7, LDL less than 100, blood pressure less than 130 over 80 and as you look at the very last set, it's the absolute percent change from baseline and the percent of patients meeting the outcome measures.

So for instance if you had in a particular group a patient population that had 34% at goal for A1C less than 7. At the end of intervention there were 37%. That would be an absolute percent change of 3%. And you know, the first thing you notice as you scan through this graphic is that whatever group the patient was in, there was improvement. And we found that encouraging. This is something we hadn't really looked at so much in our healthcare systems as our diabetes registry or dynamic, you also have patients kind of coming onto the registry, falling off the registry. But as we follow fixed healthcare over time, we do see improvement over time.

However somewhat discouraging as you look at the intervention on the top for the point of care patient report card distribution, you see more improvement in the clinics that did not have this. And significantly so, for A1C less than 7, the start items as well as for blood pressure less than 130 over 80. And a bit the opposite on the bottom half when you're looking at the provider performance field back.

Although the only change that was significant was for keeping A1C less than 7. So we'll come back to this just briefly in the discussion, but in the end, we didn't really believe the results so much. You know, we felt that we had trouble really capturing the effect of this intervention for a number of reasons.

Another way we looked at the (inaudible) was for the providers, for the enhanced provider report cards, we compared those patients that were identified on the provider report cards, so that would be 30 providers every quarter had up to ten patients on their report card identifying. We compared those to matched controls that also met the preselected criteria, but had not been identified on that provider, enhanced provider performance report card.

And again the outcomes are the same as on the last graphic. You see along the horizontal axis and then on the vertical axis, again the absolute percent change from baseline, and you see that those identified on the provider report cards had better performance than those that were not the matched controls; however, it's only statistically significant, the star'd item and the A1C less than 7.

And this is a final way that we looked at the data. You could imagine any given patient could have had a zero, one, two or three of the interventions. In other words a given patient could have received mailed report cards or not. They could have been at a clinic that had point of care distribution of the patient report card or not. Or they could be, have been identified on a provider report card or not.

So on the left side, those are patients with all three interventions, the bar – purplish bar on the left are those patients – it's before the start of the intervention, and then the bar right next to it, the red bar, is the percent at goal at the end of the intervention. And this is for A1C less than 7. And as you go across, there are different permutations and how many of the interventions they had until you reach all the way to the right and those patients had none of the intervention.

And the bottom line is, as we looked at this patient level analysis, there was improvement in every group over time. A1C less than 7 as well as the other measures, the LDL and the blood pressure. However, it was not statistically significant as you compared the groups to each other as well as any group to the control group that had none of the interventions.

So a couple of discussion points. One is that, you know, we found there were limitations to randomized control of, control of trial of looking at disease management interventions when randomized at the clinic level. We feel like it's worth studying, but there are some real challenges to it. You know, as we look at say two clinics, one that had the intervention, one that didn't, it could be hard to control for things like the charisma, the diabetes champion of one clinic compared to the other, or the involvement of the staff as well as patient population characteristics. Different community resources, different ethnic breakdowns, different baseline performance.

Another challenge was the concomitant QI initiatives that were taking place across our clinics. We didn't discourage these. It would have made for a more clean intervention, but we did not discourage it. There were all kinds of interventions that were different at different clinics. Some using patient navigators, some using case management strategies. There were also a number of computer changes that were rolled out to clinics at different times, such as medication reconciliation.

A further challenge at randomization at the clinic level was the power analysis and our ways to try to increase the power in a way that could be rather challenging. So how do we improve process outcomes. This was very valuable to us to see that the patient mailings were not effective at doing this. It just tells us that mailing out to 2700 patients on a quarterly basis throughout the year is not going to impact them to come into the clinic and to get labs checked more often and to reengage them with healthcare. We can talk more about that in the discussion if anybody's interested. We are having some ongoing study of that and some ideas about it.

How do we improve intermediate clinical outcomes? Well it ties into the last point that the provider's frustration about

the way that we're traditionally caring for chronic diseases like diabetes. And two themes have come out of it. One is it's – it shouldn't just drop on the providers lap. It works much better if it's a team based approach and some of the clinics with enhanced provider report card, one of the clinics in particular did take a more team based approach in which a clerk, a nurse, the diabetes (inaudible) were involved and outreached to the targeted patients and tracking them over time. There was more satisfaction at that clinic.

The second theme that comes out of it is that it makes sense for chronic disease like diabetes to make it easy for patients to interact, engage with our healthcare system outside of the traditional face to face visit. You know, on a weekly or several times a week basis to check in about their blood pressure, their blood sugars, their medications.

So in conclusion we were able to successfully visualize feedback and to automate it to our providers and patients by mail and at the point of care. It's not clear these patient report cards, there's brief self management facilitation improved outcomes, but they were certainly very well received by the patients and the providers , and we took a little more stock in the qualitative analysis and at this point those have been rolled out to all eight of our clinics and is an ongoing process of care.

Targeted patient-level provider feedback. A little hard again to interpret the results. May be an impact in glycemic control. But in the end, some of the provider frustration that we have learned more and more about during our interviews, just point to the need for novel ways of taking care of diabetes and other chronic diseases.

And I'd just like to thank AHRQ for funding this intervention as well as the other members of the team. And we can open up to questions at this point.

JON WHITE: Excellent. Well thank you very much all three of you for outstanding presentations. Really appreciate the thoughtful, insightful work that you've done and your very timely presentations. Everybody kept themselves to 20 minutes, so bravo.

The slide that you're seeing now is to remind me that there is a feedback that will pop up in a few minutes. We really genuinely are interested for our audience in knowing what you thought of everything about the conference and how we can serve you better. So please take a moment to fill out the survey. We really do listen to them and we try to make changes based on your feedback. So thank you very much.

So moving down to the next slide. Let's go to questions and answers. So I have a couple that I've got and there are some that have come in through the question line. I will remind you that you use the question tab if you've got questions for our presenters.

I will first ask our presenters if they have any questions for each other based on what you heard from different presentations.

DENNI McCOLM: This is Denni. Jon, I had a question for Karen.

JON WHITE: Okay, go for it.

DENNI McCOLM: I just wondered, where can you get a hold of the value sets that include the code lists that you referenced, Karen?

KAREN KMETIK: Yeah, probably shortly after the final rule for MU is available, we will put information on our website. We just didn't want to put anything before everyone knows where that is going. But whether our measures are in there or not, we'll put that information on our website shortly after the rule is released.

DENNI McCOLM: Okay. Thank you. That's all I have.

JON WHITE: Good question. Karen or Henry, any question?

KAREN KMETIK: Not right now, Jon.

JON WHITE: Okay. Henry, did you have one?

HENRY FISCHER: Yeah, I'll just open it up to the general audience.

JON WHITE: Okay. So I have a few like I said that are cued up here. I'll read them out to you. For Denni, there was a question about the productivity of your employed positions. Has the productivity of the employed positions increased or decreased, and if so, do you know by how much. Thanks.

DENNI McCOLM: I don't know whether that question's referring to productivity with the use of the EHR in a paperless environment or with the quality measures. I'll address that a little bit.

With the ease of the EHR, we did see, and that was actually studied in a previous AHRQ grant, we did see a different productivity. It varied by provider. As we implemented but we saw improved productivity after a few months of the implementation of the EHR system and going paperless.

With regard to the quality measure reporting, we didn't see any, we didn't study that but just from looking at the data, we didn't see any decline from asking them to code quality measures in the context of the visit. They didn't do it that well either. I'm not saying that if they had done it well, it would have affected the productivity or not. We didn't see any – just looking at the numbers.

JON WHITE: Okay. The question had imbedded, after productivity, it said number of patient visits in the office. But again, you know, not specific between the paperless versus the quarterly measurement so.

DENNI McCOLM: Right. And so no, No. Yeah. Then same answer.

JON WHITE: Okay. And Denni, folks want to know who your vendor is.

DENNI McCOLM: Our vendor for EHR, ambulatory EHR is LLS Data Systems which is the partner vendor with Better Tech (phonetic) for the LLS Data Systems and the vendor for that distribution of the quality measures is Zinc Health.

JON WHITE: Okay. And on a related note, Karen, you got – oh wait, I'm sorry, that was Denni. That was that question. Okay, so we got that, good.

So question for Karen. How are active patients defined in the EHR?

KAREN KMETIK: Good question. I'm trying to remember. There was a – boy it's a great question, we talked long about that. I believe if they had visits within the time frame that were indicated for our data collection protocol. So during a certain time period, if there were two visits, then that patient was active.

JON WHITE: Gotcha. Okay. I actually wanted to make a side note, Karen, about your presentation. You mentioned HQMF and as you know, Karen, but folks on the phone don't necessarily know. We, AHRQ also supports work in clinical decision support which, you know, folks can probably understand is related to quality management, defined under quality management whereas quality management is, you know, after the fact.

And in the work that we've supported, we've become very interested in seeing how we align codification of clinical decisions report and clinical recommendations that eventually lead to quality measures. In terms of HQMF, the vendors have said pretty clearly to us, we really don't want to code everything in different ways. Can you try to link these together.

So HQMF is an important concept and an important format that we think as it evolves is going to streamline our paths to making all this work well together.

So for Henry I have a question. Given the body of literature, indicating that reminder letters are an effective way of getting patients back in for services such as immunizations, why do you think this technique didn't prove effective in

this instance?

HENRY FISCHER: You know we're honestly not sure. We are a bit surprised by it. Especially that it was not a generic letter that we sent out. It was a customized, individualized letter that was sent out. And we're not, we're honestly not sure.

Other things that we're exploring right now are using other modalities for reaching out to patients. Even our safety net population, there's pretty high cellphone usage, usage of text messages and we're lucky enough to have some funding from AHRQ to explore this more using other modalities in reaching out to patients to try to re-engage them with the healthcare system.

JON WHITE: Very good. Henry, actually you also had a question about your – the population that you're working with. And the asker wanted to know has the diabetic patient population compared to the overall population in the Denver area, in particular in terms of percentage of Latino population and was curious to know also if you had any insight as to why Latinos have such a high diabetes rate, the folks that you work with.

HENRY FISCHER: Those are good questions. It's a pretty similar breakdown in certain ways. Our diabetic population compared to the other, the rest of our safety-net population, a pretty similar breakdown as far as the demographics, the city. I can't quote you the exact numbers, but not drastically different.

And why Latinos have higher rates of diabetes compared to other communities, not sure either. You know, we've explored this a little bit as we've seen other, other things arise based on ethnicity and diabetes and other outcomes and it's hard to explain. For instance, our African-American population has a higher rate of hypertension even when you control for a lot of other factors including medication use, prescription patterns from providers. And I think there are unanswered questions as to why this is.

JON WHITE: Okay, very good. I'm not sure who this is for. But it may be – well I'll just put it out there.

Were there any measures used based off national benchmarks like NCQA diabetes programs or do you create your own measures.

Anybody want to take a hack at that?

DENNI McCOLM: This is Denni. We did not create any of our own measures. we used all of our measures for measures that were part of the PQRI program.

JON WHITE: And Karen, I think know where your measures came from. Henry, how about your measures?

HENRY FISCHER: Our measures were fairly focused and focused on the ABC's and just based on expert recommended guidelines from the American Diabetes Association.

JON WHITE: Okay. So you had a base that came from clinical recommendations? From folks like the ADA?

HENRY FISCHER: That's correct, expert panel, expert panel recommendations.

JON WHITE: Gotcha. Okay. So a question for Karen Kmetik. One of your categories of exceptions or quote system exceptions unquote, can you provide some examples of these and did these exclude the patient from the measure or are they used to provide feedback to the provider?

KAREN KMETIK: Great question. So right now we think of system reasons as something like there is a shortage of flu vaccine. No, I don't have the flu vaccine to give. Or there is a piece of equipment that we don't have in this office for a particular test. And I will say that just like our work on exploring the medical reasons, we are trying to figure out what are a more granular way just to represent those system reasons so there is not confusion. Because I mean of course the word system can mean a lot of things to different people.

And then what happens is that, you know, again if the patient meets a numerator, takes in a numerator. If they don't meet the numerator and they have a valid system reason, they are removed from the denominator for calculating performance, but they would be reported out in the exception rate calculation.

So again data not lost, but it's reported as an exception rate calculation and you can report those rates by medical, by patient, by system rates.

JON WHITE: Very good. So I think I got a quick question shot to you. Please could you clarify the definition of the term granularity in context. That's a good one.

KAREN KMETIK: Yeah, I think that's me. I watch my words. What I mean is, the words medical, patient and system are pretty broad. And so we would like to identify subcategories for each of those and that's what I mean by being more granular, more specific, more subcategoried, so that in time when everybody's going to need to EHR and we're all able to export data on quality measures, we would know a little more than medical. We would know for example allergy, clinical contraindication, intolerance, interaction. That's what I mean by being more granular.

JON WHITE: And that's, that's just – to be fair to you, that's a term that a lot of different folks use and I think it's good to provide some granularity about the term. So. Our position.

So we actually had two questions. They're sort of related. One is, will the recorded presentation be available on your website to hear it at a later time. And the other question was will you make the slides available after the presentation.

The answer to both of those is yes. It takes a little while to get the slides available, but and Collin, you can correct me if I'm wrong, but I believe that these will be available in the near future at HealthIT.AHRQ.gov. is that correct?

COLLIN BUCKLEY: Yes that is.

JON WHITE: Excellent. So we would not let such wisdom go un-captured for posterity so.

So I don't have any more questions in the cue, but I would like to spend our last couple minutes here T-ing up some thoughts from you about where do we go from here. So this is an excellent discussion of how you actually kind of get into the nuts and bolts of these things.

You know, we're coming up on a time here of, you know, increased national expectations of usage of these things. And so how do you think it's going to go? And I will start with Denni. How do you think it's going to go.

DENNI McCOLM: Oh great. Well I think obviously from our study we think it makes sense to do quality measurement and reporting, you know, sort of extracted. Institute For Health Metrics was our partner that did the extractions and Doctor Anita Karcz is really active in making this happen for us. And I think that method and that methodology has proven. I mean we've reviewed it too ourselves and whoever wants to read our story, that it's more efficient and accurate. We're a little late from having measures that Karen's going to help us develop to be able to do that in a standard way. But we're excited about the possibility. And I really feel like that's going to move a lot faster now, that means we use – it's out there sort of as an incentive for us to do that.

JON WHITE: Okay. Good answer. Karen, what do you think?

KAREN KMETIK: Yeah, I think it calls for more webinars, Jon. As, I mean I'll just say that I think this is a tremendous opportunity for all of us in this country and we're all going to go into it and it's going to get better every year. And the best thing I think that can happen is we all keep talking and sharing. I mean obviously ONC has established the regional extension centers, the Beacon Communities, AHRQ has its practice base research network. I mean somehow we just need to continue to have these forums I think where users can just hear from each other. You know, oh, that's how they built it in, you know, in Denni's location. That's how Henry's group did it. I mean I think there needs to be a lot of sharing in the next few years.

JON WHITE: And we are grateful that smart folks like you all are willing to do that sharing, so thank you.

Henry, how do you think it's going to go?

HENRY FISCHER: Yeah, I agree as well with Karen and Denni that study of different uses of our health information technology of measures for diabetes registry and see what works and what doesn't. What we're excited about is our ability to track patients through our diabetes registry, to see patients that are overdue for labs, patients that are late for medication refills and finding ways to kind of reach out to these patients between visits and see what's going on. See what the barriers are, see if there's depression. And just making it easier and easier for patients to engage with us outside of these face to face visits where it's hard to make appointments and takes waiting in line and planning ahead time. You know, ways that are easy for patients to engage through the telephone, through text messaging, through email, etcetera.

JON WHITE: Okay. Good stuff. So we've got two quick questions that I think we'll be able to finish off with.

The first one, Denni, would you repeat the name of your EHR vendor?

DENNI McCOLM: LSS Data Systems.

JON WHITE: Okay. Very good, thank you. And then finally, and this is – all of you can relate your experiences if you wouldn't mind.

After an EHR vendor closes a sale, how receptive are they to working with buyers to tweak the software to make it easier to do quality reporting and analysis?

DENNI McCOLM: This is Denni. I would have to say our vendor, LSS Data Systems, because I can't seem to say that clearly, have been fabulous. Have been fabulous. I don't have experience with others, but we've had great experience. They're very interested in helping us do quality measurement reporting.

JON WHITE: Very good. Karen? How about the folks you work with?

KAREN KMETIK: Yeah, I would say for the project I described, it was mostly work of the practice sites that had to consult with their vendor, but actually do the adding of the fields. But keep in mind, that project was pre-EHR and I think you'll probably begin to see more experiences like Denni had.

JON WHITE: Henry.

HENRY FISCHER: That's an area that I haven't had much experience with.

JON WHITE: Okay. Alright, and that's fair. You know, if I had to guess, I would probably say that for quality reporting and analysis that's required to be able to achieve meaningful use, vendors will be falling over themselves to make sure that the folks that they sell to will be able to do it well, because it wouldn't surprise me if that was some sort of condition, a term of the condition, you know, condition of the term of sale.

For other quality reporting analysis, I think it might potentially be variable. I think there are going to be some folks, like the folks that Denni have worked with, that are excited and engaged and some folks where it's more challenging. You know, just a guess. I don't know anything specific. So.

Alright, the last question that came in. What was the reporting engine used to extract the data? And I'm not sure who that's to but.

DENNI McCOLM: That may be me, Denni. Because I use that extraction term all the time. The Institute for Health Metrics is a service that does that, and they extract it out of the proprietary data base directly from our system, and they only work with hospitals who have the Meditech software and the LSS data software. But Institute for Health Metrics.

JON WHITE: Okay. Alright. Well thank you. So with that, I think we will close. I want to thank immensely our three

guests, Denni McColm, Karen Kmetik, Henry Fischer.

This is a wonderful webinar, Karen. I promise you we will make more opportunities available. We have the program at AHRQ and we also work with them on Health IT Research Center. So we will look to see if we can make other opportunities available through that as well.

So thank you all so much for your time and for the hundreds of people who dialed in.

Collin, would you like to T up the next event?

COLLIN BUCKLEY: Yes, thank you very much, Jon, and thank you for the great job that you and all of our presenters did today. Thank you all for attending.

Watch your email and for notice about the next event which is going to be a webinar examining health information technology and safety. That should be coming up in the very near future. And as Jon did say earlier, the recording of today's events and the handout will soon be available on the AHRQ National Resource Center website within the next week. Just go to http://healthit.ahrq.gov. This event was brought to you by the AHRQ National Resource Center for Health IT. Again we want to thank you for attending. Have a great day. This does conclude the event. Take care.