# Health IT for the Care Continuum Task Force (HITCC)

Transcript
April 5, 2019
Virtual Meeting

## Speakers

| Name | Organization | Role |
|---|---|---|
| Carolyn Petersen | Individual | Co-Chair |
| Chris Lehmann | Vanderbilt University Medical Center | Co-Chair |
| Aaron Miri | The University of Texas at Austin | Member |
| Steve Waldren | American Academy of Family Physicians | Public Member |
| Susan Kressly | Kressly Pediatrics | Public Member |
| Chip Hart | PCC | Public Member |
| Sharon Sebastian | MITRE Corporation | Guest Speaker |
| Christopher Moesel | MITRE Corporation | Guest Speaker |
| Lauren Richie | Office of the National Coordinator | Designated Federal Officer |
| Carmen Smiley | Office of the National Coordinator | SME |
| Samantha Meklir | Office of the National Coordinator | SME |
| Al Taylor | Office of the National Coordinator | SME |
| Stephanie Lee | Office of the National Coordinator | Staff Lead |
| Cassandra Hadley | Office of the National Coordinator | HITAC Back Up/Support |

**Operator**
All lines are now bridged.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Good morning, everyone. Happy Friday. Welcome to the task force for health IT for the care continuum. We will do a brief roll call, and then we will get started with our meeting. Carolyn Petersen?

**Carolyn Petersen – Individual – Co-Chair**
I'm here.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Chris Lehmann?

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Good morning.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Do we have Aaron Miri yet? Okay, maybe not yet. Steve Waldren?

**Steve Waldren – American Academy of Family Physicians – Public Member**
I'm here.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Great. Chip Hart?

**Chip Hart – PCC – Public Member**
I'm here.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
And, Sue Kressly? Okay. Maybe Sue will join us later. At this point. I will turn it over to one of our co-chairs, Chris Lehmann, for a few brief remarks.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Good morning, and welcome to the call. I'm very excited that we can welcome today some guests from the MITRE Corporation who have worked with AHRQ on a topic that is part of our charge, as you know. Opiate abuse disorder is one of the items that are on the to-do list for this committee, and we will have some presentations and demos today, and we're looking forward to that. And, that actually also suggests that our work is now pivoting a little bit. We focused on a pediatric EHR format and the EHR

requirements for pediatrics in the last call, and while we will still address some of that in this call and future calls, we are now moving to the other agenda items that we have. And, with that, I'm going to turn this back over. Carolyn, did you want to say some words of welcome?

**Carolyn Petersen – Individual – Co-Chair**
I am just really excited that we have our guests here today to present the demonstration for us, and I'm really looking forward to it. Welcome.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
Thank you.

**Carolyn Petersen – Individual – Co-Chair**
I know Chris is working on sharing his screen for the first section of the presentation, which is two PowerPoint slides.

**Christopher Moesel – MITRE Corporation – Guest Speaker**
Yes. It looks like I am not in presenter mode in Adobe Connect anymore. Is there someone who's able to put me back into presenter mode? I had to reconnect.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Hi, Chris. You should be there now.

**Christopher Moesel – MITRE Corporation – Guest Speaker**
Okay. I should be there. Okay, here we go. "Share." It looks a little different than last time, for some reason. Okay, if someone could confirm that they can see my screen, that would be great.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
Yes, we can.

**Christopher Moesel – MITRE Corporation – Guest Speaker**
Perfect. Let's begin.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
Hi, everyone. My name is Sharon Sebastian. I'm a clinical informaticist at the MITRE Corporation. I have a nursing background. I'm also the project lead for CDS Connect. And, I'm not sure if everyone on the phone is familiar with CDS Connect and the project, so I thought it would be helpful to share just a little bit of background information about the project to provide context for the demo that Chris is going to provide.

So, the CDS Connect project is sponsored by the Agency for Healthcare Research and Quality to advance evidence into clinical practice by developing prototype systems and tools that can help with creating, sharing, and implementing decision support in health IT systems, and to make it easier and more accessible for healthcare organizations. The primary system that we developed is the repository,

which we call CDS Connect, and it's available on the internet; it's a database that hosts decision support logic that's publicly available and free to download and use. Right now, there are over 50 artifacts, which are what we call pieces of logic, that are available and free for any organization to access. We also created an authoring tool that eases the development of interoperable standards-based physician support.

So, each year, we take on a different use case to inform the enhancements of these two systems by developing decision support in a designated domain, and then we go on to partner with the healthcare organization to pilot our decision support so we can document lessons learned, how the artifact performed, how it was enhanced as a result of the integration, testing, and use, and then we share all of that information on the repository, along with the standards-based code.

So, last year, the clinical domain that was selected was pain management and opioid prescribing, and we used the CDC guidelines for prescribing opioids for chronic pain as the evidence-based source that informed the development of the decision support. As you're probably aware, the guidelines include 12 recommendation statements to help providers determine when to prescribe opioids, if they prescribe them, how to do it safely, and then, if the patient begins to misuse opioids, how to treat opioid use disorder.

When we actually decide what we want to express as decision support, we have a few unique things that we try to consider. So, first, we don't want to overlap with any decision support in that domain that's already publicly available. So, we knew the CDC was sponsoring decision support work to express each one of their recommendations as decision support logic, and they were doing a one-to-one correlation – one recommendation expressed as one piece of CDS logic that provided an intervention that was specific to where that would fall in the workflow. And, that work is being co-led by Ken Kawamoto, and I think you're aware of his work, and he may be demoing that sometime in the near future for you. So, since we knew that work was going to be publicly available, we didn't want to overlap with that and do a one-to-one translation.

The other thing is we want to ensure that whatever we develop can be broadly used by nearly any organization. So, for instance, developing some kind of specific PDMP integration and display for a unique pilot site, say, in Oregon that uses NextGen may not be very applicable to an organization in Florida that uses Epic, or even an organization in Florida that uses NextGen, because each implementation can be so different.

So, finally, we also want to be sure that we develop something that providers want – something that makes things easier for them, that's not already available in most EHRs, and that's feasible to be integrated within the timeline that we have.

So, we came up with a variety of options and presented them to about 12 different pilot healthcare organizations, and you can see just a few of our ideas at the bottom of this slide. One of them actually was more closely aligned to ECQM – that's in one of CMS's programs, the MIPS program – but, what came out as the No. 1 request from every organization that we spoke with was a pain management

dashboard that provides a summary view of all the clinical factors that should be considered when managing a patient's pain.

Most EHRs will offer some summary views for really prominent conditions like diabetes or CHF, but none seem to offer one for pain management yet, so we knew we were on to something good, we wanted to do that, and the good news was that we had heard that it would really – as we suspected – reduce the level of effort of a provider having to navigate between the problem list, the med list, lab results, and everything to get a full view of the patient's history prior to making the next pain decision.

If you go to the next slide, Chris, you can see that the summary is divided into four different sections, and they're listed down the left side of the slide. The first section is the pertinent medical history, and that displays conditions that are in the patient's record that are associated with chronic pain – so, things like lower back pain, spinal stenosis, fibromyalgia. In that section, there's also a display of factors that increase the likelihood of harm if an opioid is prescribed to that patient. So, that's where substance use disorder, depression, suicide attempts, and pregnancy would be listed, and all of those factors come directly from the CDC guidelines.

The next section lists pain assessment scores over the past two years, and we really would have liked to have included the patient's goals for their pain, but it was not something that our pilot organization and the providers within that organization routinely captured, and unfortunately, that's pretty common across most practices and most EHRs. If it is captured, it's captured as free text, so there's a good amount of work that would need to be done to get that into a structured field to reason over.

In the summary, we also include historical treatments that have been ordered or tried in the past two years, including medications and non-pharmacologic treatments. And then, finally, any evidence of additional considerations that could pose a risk – things like their MME amount, drug screen results, concurrent use of benzodiazepine, and risk screening assessment scores from things like a PHQ-9 or an opioid risk tool. And there, again, we definitely considered PDMP access or display, whether it was in the risk consideration section or historical treatments, but it just was out of scope for that effort that we did last year.

So, overall, we designed the summary to be clinician-facing, but during the training, we encouraged clinicians, as they became comfortable with the summary and the views that they were seeing, to consider tilting that screen so the patient could see the summary too, and in that way, use it as a way to promote shared decision-making and ultimately get the patient's buy-in to the treatment plan.

Within the UI of the Smart on FHIR summary that you'll see, we did include some contextual flags to highlight areas of concern for the clinician to be sure to notice, but ultimately, the summary itself doesn't make any treatment recommendations based on what's populated in the dashboard. It purely pulls all the information needed for the provider to make the best decision possible. I'll turn the mic over to Chris for the display.

**Christopher Moesel – MITRE Corporation – Guest Speaker**

Sure. Thank you, Sharon. All right. So, what I'm going to do is bring you through a brief demonstration of CDS Connect as well as the pain management dashboard that Sharon spoke about. So, if you're interested, you can go to CDS Connect at cds.ahrq.gov. Here, we actually have a highlighting of several CDS initiatives from AHRQ, but if we click on "CDS Connect," we'll go to the portion that represents our project, CDS Connect.

Here, you can learn all sorts of different information about the project, so if we piqued your interest and you do want to learn more about how we work, about our governance, about our community, this is the place to do it. We also offer an authoring tool to help to create CDS logic, but we're going to dive right into the artifacts, which is the repository portion of this, which is a collection of CDS artifacts that are all derived from evidence-based standards of care, and they're expressed using international data standards – things like HL7 clinical-quality language.

So, at the top, we have some new things, but I'm actually going to scroll down to the topic of interest for this, so excuse my quick scrolling, which probably doesn't share very well over the internet, but we're going to go right down to opioids and pain management. So, here, we can see a number of artifacts. The first one we see is the pain management summary, which Sharon was just talking about, but we also have several of the other CDC recommendations – No. 4, No. 5, Nos. 7, 8, 10, and 11. These are actually the ones that CDC contracted out to Ken Kawamoto, Bryn Rhodes, and that team, and they are hosted here, so someone coming to CDS Connect would be aware that they exist, and we'll actually dive into one of those a bit later.

But first, we're going to dive right into the pain management summary. So, here we go. Here's the pain management summary. Here, you can see a basic summary of what the artifact is. On the top right, we actually have some documentation that is very helpful to people who are considering using this artifact, so we provide things like an implementation guide. This tells you about how we implemented the artifact, how we took it from the narrative content that's in all of the CDC recommendations, and how we worked toward this CDC-inspired dashboard. We also have a final report of the pilot, which tells you how the pilot went, how we integrated at the pilot, and things like that.

So, there are all sorts of interesting data here. I'm actually going to scroll down a bit further. Here, we have some links. I'm going to open these in separate tabs for now, but one is for the Smart on FHIR app, the pain management summary in the Smart on FHIR gallery, and the other one is the open-source code on GitHub, and we'll get to those in a few moments.

Continuing to scroll down, we can see that this is a Knowledge Level 3. So, when we talk about CDS, we often talk about four knowledge levels, the first being "narrative" – so, this is just the prose that describes what we're trying to do or the guidelines. "Semi-structured" is when we get to the point where we are organizing this in a semi-structured way – so, often, those are bulleted lists, but they're a way that you can get a better understanding of the logic without having to parse prose.

And then, "structured" is when we actually use a standard like CQL or something like that to actually make it so that machines can begin to understand what it's talking about. "Executable" is when we actually implement it at a pilot site and make it executable. That might include any site-specific

mappings and things like that. So, most of the artifacts that we try to publish through CDS Connect happen to be in the Level 3 or "structured," as is this one.

As we scroll down, we can see the source and supporting evidence, but I want to show you the Level 2 representation of this. So, this provides a high-level overview of everything that is in the artifact. We know that the patient must be 18 or older, we know that in order to display the summary, we're looking for conditions associated with chronic pain, evidence of pain medication, or another medication related to pain. And, we can see here all of the high-level data that actually goes into the summary and some of the specific details around that. So, this gives you a good high-level overview of what's going on.

Here, we have a link where you can actually download a standards-compliant version of the artifact, so I'm going to open that and show that to you quickly. My understanding is that you wanted to get a better idea of some of the technology and standards behind how this works as well as what some of the challenges are, so this will help to demonstrate that.

This is CQL, so it's intended to be an author-friendly language for describing clinical decision support and electronic clinical-quality measurement logic. It is fully computable by systems, but again, we try to make it so that it's author-friendly so that you have a chance of looking at it and understanding what's going on. In our case, we're using FHIR as our data model, and FHIR 102 is more commonly known as DSTU2. And, we can see here the code systems that we've set up, the value sets – so, we're using value sets from the National Library of Medicine's Value Set Authority Center. Is anybody familiar with electronic clinical quality measurement and CMS's programs there? A lot of this is very similar to how those programs work as well.

Here, we set up some codes that we have to use. Now, this is actually showing one of the challenges that we face right now, which is that a number of these codes here are actually tagged as "local," and what that means is we were not able to find a standardized code for some of these concepts, so we couldn't find a standardized code at the time for the PEG scale, or for STarT Back, or for some of these single-question things, or MME.

And so, this represents one area where there's definitely some customization that needs to happen at every integration to make sure that they're providing those local codes, since standard codes aren't available. Now, we have begun the process of making some of these codes standardized, and in fact, the Pain Enjoyment General Activity, or PEG, codes were just recently published through LOINC, so we need to update this artifact now to use those standardized codes, but this points to one of the challenges.

But, as we get down here, there's lots of code. You probably don't want to see all the code, but here, you can get an idea of what's going on by looking at the inclusions. So, this is the logic where we say, "The patient must be 18 or older." This is where we identify which conditions are associated with chronic pain, and we check to see if they exist. It's the same thing with opioid pain medications. And, we bring those all together – is 18 or older, has conditions associated with chronic pain – into this representation of whether or not the patient meets the inclusion criteria.

So, really quickly, that's essentially how the CQL works. So, what we did was we created CQL standards-based logic to represent all the logic in the application itself and the aggregation, collation, and organization of the data. So, CQL is used to actually pull all the data from the disparate parts of the record and to provide them in a structured way that the pain management summary can then display.

And so, we'll jump over to the pain management summary now. This is in the smart app gallery – and, do feel free to interrupt me if you have any questions. Otherwise, I'm just going to keep on plowing through. This is a smart app gallery. Here, we have a link to click to "try the app." When we click that, it's actually going to launch the smart app for the pain management summary against a synthetic patient named Brenda Jackson. So, for those of you who might not be familiar with Smart on FHIR, it's essentially a way to allow third-party applications to be launched from an EHR and to be able to call back to the EHR and get the data that they need, and it uses the FHIR standard in order to do that data exchange. So, it's a great way to be able to extend an EHR's capabilities without having to do any proprietary work in the EHR, without having to actually modify the EHR code itself, and it's all standards-based.

So, this is the pain management summary. We can see at the top that we have Brenda Jackson. She's 62; she's a female. On the left-hand side, we can see our navigational aids to get through some of those sections that Sharon talked about. Now, one limitation that you'll see here is we have a big banner that says, "Take notice: This summary is not intended for patients who are undergoing end-of-life care or active cancer treatment." When we were working with the pilot organization, we discovered that when you're talking about a primary care office, these concepts – end-of-life care and active cancer treatment – can be difficult to accurately detect. Often, a primary care office might not have any records that would indicate whether there's hospice or palliative care, or that would necessarily indicate the active cancer treatments that the patient is receiving. That doesn't always make it all the way into the primary care EHR.

And, since we couldn't really reliably get that data, what we chose to do was to put this notice up and say, "Hey, clinician, as you're reading this, keep in mind that if your patient meets this criterion – end-of-life or active cancer treatment – this isn't designed for your patient." Again, we'd love to do that in a standards-based electronic way, but we're just not yet at the point where that's possible.

So, scrolling down, we can see our conditions associated with chronic pain, we can see that this synthetic patient has fibromyalgia, post-laminectomy syndrome, and lower back pain. We can see a status, a start date – some important things around that information. This is all getting pulled from the problem list, but it's using a FHIR condition query. But, we're also looking in the encounters for encounter diagnoses. Several of the risk factors for opioid-related harms would more likely be found as an encountered diagnosis than something necessarily on the problem list.

If I click on this "more info" button, I can actually see a list of the types of things that we're looking for as risk factors. So, this is where we see depression, anxiety, substance use disorder, suicide attempt, et cetera. So, this is a way that the clinician can actually get more insight into what's being displayed. For

this particular patient, out of all of those, the only thing that was relevant in her record was depression.

Scrolling down, we have the pain assessments, and one challenge that we ran into here is that many systems use Argonaut, which is the most popular flavor of FHIR in implemented systems today. For what we call "observations" in FHIR, Argonaut only defines vital signs, lab results, and smoking history. It does not define assessments. So, when we went looking for the FACES scale, PEG scales, or anything like that through the FHIR API at our pilot site, those weren't available because they're not explicitly defined by Argonaut, so they were apparently a lower priority to implement. This was an Epic system, but I think you'll find this across the board for many EHRs. If it's not specifically defined by Argonaut, there's a good chance it's not going to be there. And so, we had to actually do some custom work at the pilot site in order to expose these pain assessments and other assessments like PHQ-9 and things like that. In order to expose them through the FHIR API, there was some custom work that was needed. It did not come out of the box.

Scrolling down, this is where we can see historical pain-related treatments: Opioid medications, nonopioid medications, nonpharmacologic treatments – so, this is where we can see a patient referral for psychotherapy. This is, again, something that we had trouble with at the pilot site. Getting procedures or evidence of procedures that happened outside of the primary care office was difficult. If we had referrals in the system, it was nearly impossible to determine whether or not that referral was ever followed up on, so the issue of closing the loop was still a problem there, but we did our best to show what we could.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Chris, this is Sam. I'm just mindful that you have a hard stop at 9:30, and it's 9:28, so I just wanted to share that with you.

**Christopher Moesel – MITRE Corporation – Guest Speaker**
Okay. I think I'm almost done here. Thank you very much. So, the last bit is the risk considerations, and here we see the MME, and I know that this is something that was of interest to the group, and we are displaying MME in the pain management summary. This particular patient has a very high MME. We actually flag that. Whenever you see these little red exclamation points, that's saying, "Hey, this is something you want to look at." So, in this case, MME is well above 50, so we flag it.

Now, one important note is that we are not calculating the MME in this application. We are expecting the MME to be provided to us as a value. So, at the pilot organization, they were using Epic, and they were in the process of integrating a capability where Epic could calculate the MME for them and provide a value, and in that case, we would be able to query what the MME is and get back a value, but I do want to make it very clear that we were not calculating that ourselves. We were depending on the EHR logic to do it. I believe that that capability actually turned on partway through our pilot. It wasn't ready at the beginning of the pilot, but partway through, the built-in EHR capability for MME was turned on, but there were still lots of questions and some struggling with trying to understand the results. So, it was another challenge.

Urine drug screens, which show up here – we flagged this because there aren't any entries shown, and we think that based on the guidance from CDC, it's good to have some urine drug screens. Benzodiazepine, naloxone, and then, risk screenings relevant to pain management. So, this is the pain management summary, as it shows here. If you are interested in actually implementing this in your own system, it is all open-source code. It's available on GitHub. It's linked from the CDS Connect website. We use the Smart on FHIR JavaScript client library. We use an open-source library for executing CQL, and it's all here with instructions on how you can launch it.

So, the last thing I wanted to show you – and, I know we're pretty much out of time here, but I'll just show you really quickly – is, again, if you go to CDS Connect and you go to any of these other recommendations here – say, the lowest effective dose – these are the things that Ken and his team have been working on, and there are actually links to their full implementation guide, which provides a lot more information, and one thing I did want to draw your attention to because it was brought up previously is that Ken and his team did actually implement CQL to calculate MME. It wasn't ready on time for us to do our pilot, but they have implemented that, so if you really are interested in how you can calculate MME using standards-based logic, then I think that's something that Ken would be able to show you, or if you go through to this IG, you can actually find the CQL that does it.

There are some limitations there. It can only calculate MME for the medications that it has access to and that it's aware of, and if you don't have something like PDMP support, then you're potentially doing the calculation over incomplete data. But hopefully, Ken will be able to come and demonstrate some of the great work that he's doing with this and with CDS Hooks so that you can get more insight into that as well. And, that's it.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Thank you very much, Chris. We appreciate the demo. I have a couple of questions. So, the use of this particular tool that you just demoed to us – where in the workflow for a practicing clinician would that happen?

**Christopher Moesel – MITRE Corporation – Guest Speaker**
So, our expectation was that this would happen at the point of care while a patient is in the office with the clinician, and particularly if the patient is experiencing pain and the patient and the clinician need to make a decision about how to manage that pain. Essentially, we were anticipating that as happening at the point of care when decisions about the management of pain need to be made, or maybe even when revisiting with a patient who already has some therapies in place, but the clinician wants to review how those therapies are working or whether to make any changes.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
Most likely after an assessment has been performed.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Okay. So, my experience is that things in the EHR are only used if it's tied to some kind of incentive or reimbursement. Is there currently anything that would incentivize a physician to use this tool?

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
Not to our knowledge. There are some pain management ECQMs in the works being analyzed, but it's mostly the ability to cut down on all of the surfing across the EHR to get the information they need, so hopefully, using this is reducing their effort in helping them, which is the incentive.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
It's a lovely dashboard that aggregates all the necessary information, but as I said, I only see people use things that they ultimately can drop a bill for, so that's what I'm concerned about. I love the fact that there will be a central tool to calculate the morphine ml equivalent dose because I think there's no need for everybody to reinvent the wheel if a new medication comes on the market that has a different conversion factor, so I think that's an excellent future development there.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
If I can say one more thing – feedback that we got from the physicians using the tool was that they tended to use it for really complex patients that had a lot of pain, and for whom they had tried a number of things. That's when they really went searching for it. If it was a simpler case, they did not.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
That's what I thought. I thought this would be for your patient who has seen multiple specialists, who might be getting some opioids from a neurologist as well as a PMD, who has a history of multiple diseases and comorbid conditions. That's where it makes sense, because it reduces your cognitive load significantly.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
Do you have any additional questions?

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
That's what I was going to ask. Are there any comments or anything anybody else on the call wants to say?

**Chip Hart – PCC – Public Member**
This is Chip Hart. Because we're so pediatric-focused here, I'm always interested in the pediatric-specific clinical decision support. You gave your example inadvertently when we were looking at the logic in the background. It says "patient is over 18." I was poking around the FHIR app myself just before you got to it, and it really targets an audience that isn't what we're looking at here, just in terms of how pediatricians are always looking for better clinical decision support because everything starts on the adult side. So, when it comes to applying anything we learn here, we've got to boil off anything that's adult-focused, and anyway that we could get a summary of what is specifically pediatric is going to be a big advantage.

**Sharon Sebastian – MITRE Corporation – Guest Speaker**
I hear you on that. And, because we took a more general view of compiling information, we were really hoping to lower the age limit to make it any age, but in directly aligning to the CDC guidelines, they specifically cite that it's for adults 18 or older, and because we added those contextual flags that were

aligned to CDC recommendations, it was preferred that we stick directly to their guidelines, but I think there is absolutely a use for children who are younger. You just might need to look for additional evidence that might be more specific for their age for some of the UI flags.

**Christopher Moesel – MITRE Corporation – Guest Speaker**

And, I will mention that – it's not relevant to this conversation about opioids, but there are some artifacts in our repository that are based on pediatrics. We've received some contributions from CHOP, the Children's Hospital of Philadelphia, so there are a few things out there for you, although admittedly not very many.

**Chip Hart – PCC – Public Member**

It just boils down to there. I totally understand where and why you built this, and what you've targeted it for. It makes all the sense in the world, it's just… With good reason, pediatrics is a bit of an afterthought here, but as we're all learning, that's where a lot of the opioid dependence starts now, and if we could – Dr. Lehmann, I'm saying this to you – since it's our goal to leverage the pediatrics side of this, if we could look at some of these things and figure out what an actual ambulatory pediatrician needs to get them to pay attention to this because we're not generally talking about a patient with a massive history here that we're looking at every day. Anything we could do to go down that path is very much worthwhile.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**

For the pediatric side, Chip, we are more interested in the child with neonatal abstinence syndrome, not the person who's actually taking the opioids, so this doesn't quite fit the pediatric bucket, as you pointed out. I just have one more comment. From a design point of view, I think flagging a high MME the same way as you flag absence of data is probably not the best from a design viewpoint. As a friendly suggestion, I would suggest revising that.

**Steve Waldren – American Academy of Family Physicians – Public Member**

This is Steve Waldren. I was going to mention the same thing, Chris. One question I have – or, maybe it's more of a comment – you mentioned that as you create these CDS modules, they're based on one recommendation from the CDC, so you have a collection of those that I'm assuming are each independent. So, how do you handle the interdependency? For example, the MME – if I had the CDS Connect for Ken Ruben's calculation and yours for the summary, how does the system know to call Ken's first to create an MME and be able to have that available, and then call yours so that yours would have that? If I called them in reverse order, yours would show that there is no MME.

**Christopher Moesel – MITRE Corporation – Guest Speaker**

That's a good question. I think that we have not orchestrated that yet. You could actually – again, Ken's stuff was not available at the time that we implemented this last year, and so, we weren't able to integrate it. Had it been, then perhaps we would have written the CQL to directly invoke Ken's MME calculation, and that's something that we could potentially go back and do now. So, in the CQL, we could make it happen that way. If you want to actually run them as two separate services, then how do you actually indicate that his should be run first before the pain management summary?

That's a more complicated orchestration issue, and quite honestly, it's something that we haven't fully solved yet in the standards world, although there are some things like the application of BPM, which is beginning to be spoken about, that could potentially help with things like that. Another potential approach – and, again, this is not ideal, but I would anticipate it might be a way that it's sometimes done – is that the MME is actually just calculated on a nightly basis or something like that as a bulk job. But again, that would miss anything that happened during the encounter, which is not ideal.

**Steve Waldren – American Academy of Family Physicians – Public Member**
My concern with saying, "Oh, we could rewrite the CQL to include it and do an explicit call" – that puts a lot of onus on the development and management of these knowledge artifacts, so anytime something's new, you'd have to go back and rewrite everything that might use that. When I was doing some of this work, we were using more of a read-based execution model using JBoss's Drools as an example, which allows you to manage that notion that as states change and you have new data, it would reevaluate the availability of these CQLs, as an example – it wasn't using CQL. But, I think from a standards perspective, we need to figure that out because managing – updating everything once we knew something new when a new module creates is not sustainable at scale. Thank you, though.

**Christopher Moesel – MITRE Corporation – Guest Speaker**
Understood. I actually think Ken Kawamoto has done some work, at least, prototyping JBoss Drools with CQL libraries, so he may actually be able to speak to that.

**Steve Waldren – American Academy of Family Physicians – Public Member**
Awesome. Thank you.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Thank you very much. We really appreciate you showing us your toys. I think this was very helpful. It's clear that it's very targeted, but what I enjoyed seeing there is that there's a centralized, standardized way that you created here, so kudos to you.

**Carolyn Petersen – Individual – Co-Chair**
Thank you, Chris and Sharon. We appreciate your time and contributions. Thank you.

**Christopher Moesel – MITRE Corporation – Guest Speaker**
Thank you. Bye.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
All right. I think that means, Carolyn, that we're turning this back over to Sam and Al from ONC for a discussion of some of the remaining supplemental EHR format requirements.

**Carolyn Petersen – Individual – Co-Chair**
Yes, that's where we're at.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**

Thank you so much. So, as part of the agenda today, we carved out some time to really wrap up some of the work on the pediatric recommendations, and there is one outstanding item, and that was really – and, we had socialized and discussed this on earlier calls – we wanted to be thorough and deliberate in asking the task force to look closely at the supplemental format items associated with the first half or so of the recommendations. On a previous call, it was recommended as one example, I believe, for a recommendation to compute weight-based drug dosage.

There were supplemental children's format requirements for recommendation, too. There were two identified. The second one was alert-based on age-specific norms. I believe Chip had indicated that that did not belong as a supplemental. And so, we wanted to provide an opportunity if there were any supplemental children's format requirements for correlated recommendations that folks felt should be removed from the technical worksheets at this time to identify those. Again, just for clarity, there are 10 recommendations. We identified supplementals in the technical worksheets, indicating that we seek feedback about the relevance of the children's EHR format requirements and their correlation to the recommendation. So, if there is not a close correlation, if it is not of value to be correlated with the respective recommendation, we wanted to walk through that at this time.

So, this may not take very long. We just wanted to be comprehensive in our approach here. Any questions? Okay. Having said that, for Recommendation 1, there are three supplementals that were identified. Would anyone seek removal of any of those at this time? Okay. Chris and Carolyn, is it okay to walk through them? I don't want to read this out loud. I'm trusting that people have reviewed them prior. Does this approach work for the team?

**Carolyn Petersen – Individual – Co-Chair**
It's fine for me.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
It would be nice if you could pop them up on the screen, though. We don't have to read through them, but it would be nice to at least take a look at them.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Absolutely. Let's just give Steph a moment to share her screen to pull up the technical worksheet documents. There may be… Instead of doing two screen shares, why don't we just do that as a single screenshot? I'll keep going while she pulls that up. For Recommendation 2, this was "compute weight-based drug dosage." There are two supplementals identified here. The second one is the one that was recommended for removal.

**Stephanie Lee – Office of the National Coordinator for Health Information Technology – Staff Lead**
Sorry. Which one are you on? I just pulled up my screen now.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Sure, thanks. Sorry, Steph. It's "Supplemental children's format requirements for Recommendation 2."

**Stephanie Lee – Office of the National Coordinator for Health Information Technology – Staff Lead**

Got it, thanks. Hopefully, that's showing up on everyone's screen.

**Carolyn Petersen – Individual – Co-Chair**
Can you zoom in a little, Steph?

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
The first one is "Rounding for administrable doses," and the second one is "Alert-based age-specific norms." We had the discussion that that would be too challenging to implement from the get-go.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
So, I believe there is consensus to remove that.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
I think that's fair to say.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Moving on, then, to Recommendation 3, there are four supplementals identified for Recommendation 3.

**Chip Hart – PCC – Public Member**
We really didn't discuss at least one of these in particular, as I recall. I remember I was going to mention something about it. On Supplemental No. 2 about "The system shall be able to track that the child's legal guardians were notified," I just wondered – we're trying to link that to some API stuff, and I was just confused by that VBT aspect of it in the fact that you could do this with a free text field. I don't think that's the intent of the supplemental.

And then, on No. 3, I know I've mentioned this a couple of times. Where it says, "The system shall have the ability to identify members of the care team, including professional and nonprofessional members, and indicate their roles and relationships to the child," that's something I'm personally very much in favor of – that's part of the AAP's actual definition of the care plan, and it's something our customers do all the time – but in the 2015 criterion alignment, there's the little bit about authentication, access control, and authorization.

It's one thing to have a note within a chart that says, "The following person here at the Lund Family Center is their social worker; she can access this" – it's one thing to have that kind of note. It's another thing to expect this implementation to have discrete access control on every single element of the chart for every single person who might be able to see this chart. You've just created an exponential framework of access, and I think that's a very difficult thing not only to develop, but to create a user interface that works there. If I'm barking up the wrong tree, just tell me to shut up.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
I don't think that is meant to actually control access. I think it's meant to be able to store the information, preferably in a structured format, but only to those people that you consider important enough. It doesn't seem to be inclusive of everybody that the child might get in contact with.

**Chip Hart – PCC – Public Member**
I hope that's the case. It was just that as soon as I saw authentication and access control as part of the alignment, I wanted to make sure that if that's the case, we should be having a discussion about what that really means. The idea is great; the implementation is tricky. Otherwise, I'm very much in support of just having a structured format for identifying who should have identification and who should have access control.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Thank you. These comments are very helpful. Again, much of these are related to implementation considerations and form and shape future work here.

**Chip Hart – PCC – Public Member**
That's nice of you to say. Thank you. That last one, Dr. Lehmann, is pretty tricky business. We've got some – as you know, there are just so many legal challenges where it's not even known – regardless of the technology, sometimes – who exactly has the ability to authorize care release information and authorize payment for care on behalf of the patient, and to have that be something that's automated from a technical perspective and have whatever the system is understand child foster care, state social service agencies, guardians, guarantors – that's hard to do with a paper and pencil.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
That's right. But, if you look at this, it's actually pretty…non-formulaic. It just says the system should have the ability to store, retrieve, and display information. It doesn't say in which format or that it has to be structured data. It just has to have the ability to put this in there, as well as storing copies of relevant consented authorization forms. While I perceive your concern that this might be interpreted as running full access control and being the basis for triggering decision support of who can see something and who doesn't, I don't think that's what it says.

**Chip Hart – PCC – Public Member**
I very much agree with you. This doesn't say that here. I get stuck, and I'm between a recommendation that can be resolved with a free text field and a recommendation that is impossible to implement because it's too structured. I know everyone understands the pain there –

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Unfortunately, you're right. This could be theoretically resolved with a free text field. One would hope that a vendor does better than that, but all this requirement says is that you need to be able to document it and pull it back up. And, that's better than not having this information available, so I think this is a pretty basic requirement, and I'm in favor of just leaving it as is, maybe with the caveat that this is not going to drive access control and with the caveat that we don't want a free text field, either.

**Chip Hart – PCC – Public Member**
I can certainly agree with that.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**

Okay, thank you. Moving on, then, if that's okay, to Recommendation 4 supplemental – Steph, if you could scroll to those. I believe there was one.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
All right. That's a difficult one because while I love the notion that you could get legal advice while you're browsing in the EHR, for an EHR vendor, this is a real challenge because especially when it comes to the pediatric grounds, we're talking 56 different local flavors of the law, right?

**Al Taylor – Office of the National Coordinator for Health Information Technology – SME**
Chris, this is Al. It's a multiple of 56 because there are different ages of consent for different conditions: Reproductive health, surgical consent –

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Thanks for blowing it up, Al.

**Al Taylor – Office of the National Coordinator for Health Information Technology – SME**
No sweat.

**Chip Hart – PCC – Public Member**
I couldn't agree more. Without an official and approved centralized resource to do this, this is asking EHRs not to provide clinical decision support, but legal decision support, and they're even less qualified to do that.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Let me ask the question – is anybody opposed to eighty-sixing this particular requirement?

**Chip Hart – PCC – Public Member**
No.

**Aaron Miri – The University of Texas at Austin – Member**
This is Aaron. Let me ask a question. Is it possible to meet the criteria by referring to whatever resources may be available at the respective hospitals? So, basically, allowing any kind of administrator to add in the contact information for the social work department or whatever – whoever handles it within the respective health system. Would that meet the criteria, or are the criteria specifically decision support built within the EMR?

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Well, what it does is it says within the EHR, you should be able to click on something – that's how I read it – and get legal guidelines on consent requirements and the age of consent for treatment, et cetera. The person who has to implement this is the EHR vendor, not the local practice or the local hospital. So, it becomes a real obstacle for me. If we turn this from a "shall" to a "may," then it has no teeth, but it shows that we still like the notion that more information for practicing clinicians is better than less information, right? But, principally, I think it's not implementable as is. So, can I say that we generally like the idea, but we don't think this should be a requirement?

**Chip Hart – PCC – Public Member**
I totally agree. I certainly don't think we can expect the EHRs to be able to maintain this, and we're right in that funny zone of… Actually, let me put it this way. This is the unfortunate part of writing specs like this. "The system shall provide the ability to access legal guidelines." That is the same thing as saying, "The system shall provide the ability for someone to insert a hyperlink." That's all they're asking for here. So, it's either saying so little that it's not very useful, or it's asking for more than a vendor could reasonably provide.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
The caveat here is that the hyperlink might not be relevant to the state, the age of the child, or whatever. So, I think we all like the general idea, but I don't think anybody thinks this is feasible. Okay, moving on. Thank you, Steph. Recommendation 5. We have "Produce complete forms from EHR data."

**Chip Hart – PCC – Public Member**
Did you just hear me curse before I took my phone off mute?

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
The beauty of school forms and camp forms is whenever you think you have them all, there are more that you have never seen before with more data requirements that you have never encountered.

**Chip Hart – PCC – Public Member**
I worked on this particular thing quite a bit when I was participating with the children's EHR format program, and one of the discussions we got into here was whether we want to have a requirement that indicates that the system shall produce a report with what is reasonably expected in a state's form – the child's name, date of birth, sex, the date the report was produced, and the immunizations. That's one thing. But, what everyone actually really needs is for the EHRs to produce their particular state forms, and that's something else. When those two things get conflated, it's very difficult.

I will tell you that the state of Connecticut has a form that is not designed to be completed by an EHR. The state of New York has defined legislatively – they consciously did not work with any EHR vendors or any health IT professionals, and they've created a new form that is going to be required of them later this year that is also not designed to be completed by an EHR. And so, I know this doesn't say you have to comply with your local state, but we have a significant problem in the pediatric IT space that there is no commonly defined camp/school childcare form.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Well, it would be nice if it was just the different states, but the reality is that in some states, it varies by county.

**Chip Hart – PCC – Public Member**
Oh, sure. One of the things that we see routinely is even in those states where you have a relatively straightforward form to fill out, individual school systems within a county will interpret the completion of the form differently, and so, there is not a computable – no one has developed a computable-

language version of a school form that's even vaguely universally acceptable. I'm fully supportive of the idea that we have a requirement for a pediatric EHR to produce a document with this information here, and that's where we landed when we worked on the children's EHR form. We said, of course, a pediatric EHR needs to produce an immunization report, and this is how we can define it. We should make clear that that's different from having to comply with some state's changing school form mandate.

**Steve Waldren – American Academy of Family Physicians – Public Member**
This is not a technically hard problem to solve. It's a business problem to solve, and I don't think the EHR is the place that we push on this. When we worked with Adobe to create the PDF healthcare format using XFA as an example, which allows you to create a standard PDF, but you can drop an XML payload and it fills out the form – so, technically, this is very feasible, but you're right, we have to get the people creating the forms to leverage those standards, and certification is not going to do that. So, while I think this would be an extremely valuable functionality for family docs and other pediatricians, I just don't think it's feasible, and therefore probably should not be included.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Well, what I heard Chip say was that this is generally perfectly fine, and it can be done, but it cannot be interpreted such that it must reflect the local variation of that particular report. So, with that said, if we keep that same clarification that was agreed upon when the EHR format was created, I think we can leave this in with a caveat that this is not something that necessarily reflects local or state forms. If it does by accident, that's fine, but it's not intended to be a substitute for local or state forms.

**Chip Hart – PCC – Public Member**
Yup, and I'm also comfortable saying that because the elements listed here – although each one of them is actually broadly interpretable – you can get into a four-hour discussion about the format of the child's name and what elements it should include – these are generally much more consistently accepted and developed than when a school form asks for a problem list because a problem list is a three-week discussion, and the items that are listed here are really important for patient safety and patient vaccine coverage, and are generally well understood. So, that's why I'm comfortable with this as written, as long as it's not part of a broader misunderstanding.

**Aaron Miri – The University of Texas at Austin – Member**
This is Aaron. I'm going to ask what may be an unpopular question, but I'm going to ask it with my CIO hat on. I agree the EMR vendors should not have to deal with local variability. That's a bit ridiculous given how crazily the states are all over the map with this. Is it possible to make a requirement there that a system can be configurable to allow for a respective hospital healthcare system, doctor, or whomever to input a special or unique form that would simply grab those data elements and add it on there? I'm thinking back to the days of when we did this with PDFs, and we used FDF or another language to simply insert data behind the teams with a CQL query. Is it possible to do that and meet the reg here versus where it's not on the EMR vendor, but it's a configurable option that the prospective users can do?

**Chip Hart – PCC – Public Member**

I think what you're getting at there is not a pediatric-specific endeavor. I think all the specialties need that functionality, and the tricky part on the pediatric side is getting people to better define the pediatric data that they want. So, that's why I kind of like this one, even though it's a pain in the butt as a developer. We're saying that you have to very specifically produce immunization elements because that's not always well done. It's later on with the non-pediatric functionality or some of the weird pediatric functionality that some of the school forms people want will have nothing to do with a form and the ability to generate a form. Vendors do that all the time. We've been doing it for 30 years. It's a matter of how you're asking for data that you can't actually compute.

**Aaron Miri – The University of Texas at Austin – Member**
Can you give me an example? What is the data you can't compute? What does that actually mean?

**Chip Hart – PCC – Public Member**
For example, right now, I could send you a copy of the draft New York state form that they're about to mandate. They have a box, and the box is oddly shaped. It's not like your standard CMS forms where boxes line up and characters are in each element. They just have a box that's probably – I've never actually measured it with a ruler, but it's probably something like 0.88 inches tall, and it's 4.7 inches wide, and it's unevenly shaped because the title is in the middle of it, and it just says "Problem list." And, you have to interpret what it is that goes in that box.

And so, that's not a pediatric thing, and I probably have 10 different ways we could fill in that problem list, and from a technical perspective, that's easily done, but the problem is that whatever data I put in there – am I going to put dates in, am I going to put the SNOMED code, or am I going to put the ICD-10 code? Am I only going to put active things, or am I going to put inactive things? And, since there's only enough room for three or four items, how do I rank them? I could go on and on. That's the stuff we're running into with forms. It's not the technical ability to extract data from the database and put it on a piece of paper, it's defining in a computable fashion what data you wish to see in there.

**Steve Waldren – American Academy of Family Physicians – Public Member**
The definition of that data is going to be dependent on who the requester is. Every camp, every university, every school, and every school district is going to have a different request of the EHR, so it's going to be up to the requester to develop that requirement.

**Aaron Miri – The University of Texas at Austin – Member**
Again, I go back to – I have a little bit – I understand the variability and I get the difficulty from a development level. I totally understand that, and I totally understand that uniqueness that it's going to be dependent on the health system, school system or whatever. But, to the degree of it, I don't like us saying that just because it's hard to do, we shouldn't do it or we should do anything else. I just want us to try to think outside the box of if there's something even standard that we could produce, which I think is our recommendation, I just want us to be careful of that because tech can do anything, and for folks to say it's too difficult and that there's too much variability could lead to misinterpretation by people. That's all.

**Carolyn Petersen – Individual – Co-Chair**

I think the way that we frame the situation is critical because people looking at this work in the future won't necessarily have the benefit of all of our commentary and notes and understand the nuances of the conversation, so I think we do need to be careful with how we convey this.

**Aaron Miri – The University of Texas at Austin – Member**
Well said, Carolyn.

**Steve Waldren – American Academy of Family Physicians – Public Member**
This is Steve. One other thing, too – so, the comment about saying, "Okay, well, these are not customizable form, just a standard form, or this data that's listed in the description" – while I think that's easily doable, is that helpful to the pediatrician at all? If the camp physicals, school physicals, and childcare are all saying, "No, you have to provide it on our form," then all we've done is created a requirement for the EHR to create a form that nobody's ever going to use. So, again, the notion is either we do something like was discussed here – create this as a functionality for form authorship so that an EHR would have to create an authorship environment that would allow it to create a form to replicate whatever form is out there and tie it to data elements that are in the EHR, therefore making them able to create custom forms, or to eliminate this functionality. My concern is that the former is a little bit too big of a jump from where we're at currently.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
So, being someone who looks to the future, I know after trying for 25 years that the AAP section on school health is pretty darn close to actually coming up with something that they generally could agree could be on the school form. While it will not be recognized by every county, state, or camp, if they actually publish it, it will rather quickly become something that folks rally around, and there will be at least a potential template for this kind of report. So, I'm thinking that we should leave this in as it is because it doesn't put any local spin or requirement on it, and hopefully, as we coalesce about common forms, the same will happen in the EHR.

**Chip Hart – PCC – Public Member**
I agree. The moment the Academy creates even a basic, bare-bones standard school form, all the EHR vendors would need to pay attention, and then I would feel very differently about mandating a form requirement here. And, I believe it made one of the top 10 ALF resolutions this spring. I could be wrong.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Yeah, I think you're right.

**Chip Hart – PCC – Public Member**
That changes everything because now, we can all point at one central clinical source and say, "This is what you're supposed to be doing." It also gives the EHR vendors the ability to push back – not on the physicians, but on the people asking for this data. We'll say, "Why don't we start with this document that the physicians themselves have defined as what's important?" So, that helps a lot. I agree with you – by agreeing to this, we are getting partway there, and the moment something can be well defined, we can actually mandate it of the EHR vendors. That's my position.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Thank you. I believe we have one more supplemental under Recommendation 7, and then Lauren, I anticipate in the next few minutes that you'll want us to turn over for public comment, and then, hopefully, we will still have time for Carmen to offer some remarks, and I will tee that up. Steph, would you pull up Recommendation 7?

**Steve Waldren – American Academy of Family Physicians – Public Member**
It's appropriate.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
I agree.

**Chip Hart – PCC – Public Member**
That's an easy one.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Thank you. Lauren, is it too soon to do public comment, or can we move ahead?

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
We have about five minutes if you want to keep moving.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Great. Is it okay to proceed back to the – oh, I'm sorry, I had one brief comment. Steph, would you pull up the pediatric health IT tools resources draft compilation? So, Dr. Lehmann had provided some tools, resources, and information that he thought was valuable in a recent email article. We heard earlier from the HITAC committee on some of the Smart on FHIR tools to support pediatric health IT. This is a draft document. It is a table – gosh, it's probably about 18-20 pages – and really, what we did was to compile where we were aware of federally supported/sponsored resources that support pediatric health IT, and then, toward the end, some developed from external stakeholders.

So, this was provided as an attachment. We wanted to share this in the event that you are aware of tools or other resources that we should integrate into this. We're happy to get that input from the task force and anticipate that this is the type of information that will obviously be supportive of some of the implementation considerations that we've heard that align with our approach for supporting the care continuum, and we look forward to making this more widely available. So, I'm not going to take time to socialize more than that, but that was provided as a background, and we thank you in advance if you have any ideas for us. Thank you. And, Chris, you'll find – so, we did integrate some of the content you provided to us into this table.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Wonderful. Thank you, Sam.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Sure. So, moving on, if we can now close out of this document and pull up the slides, we should be on the health IT and OUD RFI slide. I'm sorry, it looks like you want public comment, Lauren.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Sorry about that. I was on mute. Why don't we go ahead and do that now? Operator, can you open the public lines?

**Operator**
Yes. If you'd like to make a public comment, please press *1 on your telephone keypad, and a confirmation tone will indicate your line is in the comment queue. You may press *2 if you would like to remove your comment from the queue. If you are using speaker equipment, it may be necessary to pick up your handset prior to pressing *.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Do we have any comments in the queue at this time?

**Operator**
There are no comments at this time.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Okay. We'll check back later to give folks another minute or so, but Sam, I'll hand it back to you.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Okay, great. If we can pull up the slide with health IT and OUD prevention and treatment RFI… We've seen this slide before. I just want to take a few seconds here. We are asking you as a task force to provide – as Beth described last week – a value statement in general for how health IT and existing and new criteria can support clinical priorities and advanced interoperability for the OUD use case. And so, there are some qualifiers under the general overarching question on this slide.

Moving on, the next slide is – okay, we wanted to carve out time today. We've shared the first question on earlier calls, and this was looking at effective approaches for the successful dissemination and adoption of standards, including the NCPDP script standard as one example that can support the exchange of PDMP data for integration into EHRs and also enable and advance EPCS. We heard some background last week on these topics. And then, today, I'm hoping that we can take a few minutes to look at opportunities for integration of health IT with PDMPs and EPCS, and any of the real or perceived challenges from a policy or technical perspective, and then, some of the health IT solutions and effective approaches to improve opioid prescribing and clinical decision support, which we had a demonstration on CDS earlier in the call.

Going to the next slide– so, for the next three or four slides, I'm going to hand this over to my colleague, Carmen Smiley. Carmen was able last week to have a few minutes to talk about the script standard, and we wanted to carve out some more time today for her to provide some background. I'm mindful of the time, so Carmen, as you go through this, I'm not sure how much time we will have left for group discussion, but I will defer to the chair and co-chair in terms of those bulleted discussion items on that PDMP slide earlier. We may need to circle back to them during the next call or may have a few moments today. So, Carmen?

**Carmen Smiley – Office of the National Coordinator for Health Information Technology – SME**
Thanks, Sam. So, I wanted to quickly appoint everybody to the ONC ISA, as I believe we've done so in the past. I've placed one link to one specific page on the ISA, as we typically call it, that's related to allowing a prescriber to request a patient's medication history from a PDMP. And, one of the other enhancements that we've added to the ISA more recently was specialty care and setting functionality for both opioids and pediatrics. And, Al has also helped a great deal, especially in the pediatric space.

And so, the examples that I'm providing below are really specific to opioids, including allowing a prescriber to send a prescription to a pharmacy for controlled substances – really, EPCS. Drug administration events are also allowed in the 2017 071 standard, which is one of many advances that we hope to be able to take advantage of as everybody is adopting the standard. Communicating with the REMS administrator is also in the MPRN, and allowing for the exchange of PDMP data across the entire ecosystem. Next slide, please.

Here is what the specialty care and settings functionality looks like. As you look to the left side of your screen, whenever you're anywhere on the ISA, you should be able to click on either the "opioids" button or the "pediatrics" button to view some of the pages that are specific to that use case or care setting. Next slide, please.

This is the ISA page that I referred to about allowing for the exchange of PDMP data across the entire ecosystem. This is, like all of our ISA pages, a work in progress, and we welcome public comment on all of our ISA pages throughout the year. We do publish a standard reference edition of the ISA at the end of each year that compiles all of the public comments, considers them, and integrates them into the published form on the website. And so, of course, we would welcome any comments from anybody on the line. But, as you can see, it lists the script standard of 10.6, the standard that everybody is currently certified to, as part of the ONC certification program.

The 2017 071 standard immediately below that is the standard that is outlined in the MPRN. The NCPDP telecommunications standard is also involved at a different part of the ecosystem that is primarily communicating between pharmacies and the PDMPs or between pharmacies and prescription drug management systems. NIIM is actually a data standard that is used for interstate exchange, as is PIMECS. ASAP is another widely utilized standard, though it is not an ANSI-accredited standard. It has been widely utilized across the ecosystem. And, HL7 Version 2 and the emerging standard I would like to point everybody to is the US Meds STU2. We hope to support, of course, adoption of everybody towards FHIR. That would support the exchange of information that is system-agnostic. Next slide, please.

Specific to EPCS, we understand that the DEA currently tests the systems that they certify for EPCS to 10.6 for script. We're hoping to find out soon as to when they also plan to upgrade their system to test other HIT systems to become certified specifically for EPCS to the 2017 071. I also point out that NCPDP just released their PDMP reporting standard implementation guide, so it's been developed for the use of BAT electronic submission, primarily between dispensers or pharmacies and PDMPs. I know the last time we had a call, somebody had requested perhaps a minimum dataset or a normalized standard between everybody. I feel this is one of the best routes toward that goal. Did somebody have a question? I'm sorry, it must have been feedback.

Also, over the years, script schemas have been updated to support digital signature indicators, controlled substance indicators, drug abuse treatment indicators, as well as additional support for prescriber identification. We have not talked about patient matching or provider directory too much, but of course, we want to support the advancement of standards to help support connection and identity management across systems. That might be my last slide. Is there an additional slide? There is not.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Thank you, Carmen. Any questions for Carmen?

**Chip Hart – PCC – Public Member**
None from me, thanks.

**Steve Waldren – American Academy of Family Physicians – Public Member**
No.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Can we pull up the slide – I believe it's the electronic prescribing and PDMP slide – that has the discussion sub-bullets? I think we need to go back a few slides. Thank you. So, I'm not sure we'll have time for robust discussion, but just a general sense in the last – Chris and Carolyn, if there are two or three minutes of thought you'd like to facilitate for the group for the discussion items on this topic.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
I think we are at the end of the hour, so I'm not sure how productive it will be, but the agenda is to discuss what we just heard and see what perceived challenges or opportunities we see with PDMP and EPCS in integration, and I would love to hear – especially from people who are involved in building this technology and integrating it – if they see any significant obstacles to that. So, I'm just going to ask – Chip, I know this is not your area of domain work because you are mainly focused on the pediatric end, but I was wondering if you had any thoughts on that.

**Chip Hart – PCC – Public Member**
Well, I'm going to share the slide with one of my colleagues here. PCC has had to do some pretty serious ramping up of our ERX development work in the last couple of months, and we will be for a little bit, so I have some people here who are very interested in this topic and can speak to it much

more accurately than I ever could. So, I'd actually hoped that one of them would be able to be on the phone call today for public comment, but this would have occurred after public comment, and she wasn't able to make it anyway, so I was just going to share this information with her because I think she'd have some really well-educated understanding of this, certainly much more than I. So, I hope to have some feedback for your shortly.

**Steve Waldren – American Academy of Family Physicians – Public Member**
Chris, I have a comment. While I understand from a policy perspective how we got to where we're at technically, I just don't understand why we didn't lever the highly adopted ERX infrastructure to do this messaging about opioids and why we have a separate full set of standards and transactions to deal with opioid status where the med history is being implemented through standards-based and scripts network is already being integrated into EHRs.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
That's a great question.

**Carmen Smiley – Office of the National Coordinator for Health Information Technology – SME**
I'm sorry to interrupt. This is Carmen Smiley again. I just wanted to address your concern. They are actually utilizing the script standard, including Surescripts, which uses a slightly artisanal version of the standard. They test above and beyond the ONC certification requirements, but it is because of the script standard and it is because of the existing infrastructure that we are striving to utilize precisely what we have. Now, is it perfect? It is not, but we're certainly working toward harmonization and, again, utilization of all of the resources that are already in place.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Okay. I think we are actually over time, so I'm going to turn it back to Sam to see if she wants to close it off or see if Carolyn has something she wants to add.

**Carolyn Petersen – Individual – Co-Chair**
No, I just think that the discussions that we had today in the presentation have given us a lot to think about, and perhaps we will want to take some time next week to revisit this most recent discussion started by Carmen. From my perspective, it's a lot to absorb all at once, and I should probably review the slides and think about it some more.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Thank you. Lauren, did you want to offer public comment, or did we need to close out?

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Let's just check one more time. Operator, do we have any comments in the queue?

**Operator**
There are no comments in the queue at this time.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Okay. Well, with that, I want to thank Carmen and the other ONC staff and thank Chris and Sharon for joining us today. Otherwise, I don't have anything else, and I think we can adjourn.

**Chris Lehmann – Vanderbilt University Medical Center – Co-Chair**
Thank you.

**Samantha Meklir – Office of the National Coordinator for Health Information Technology – SME**
Thank you very much.

**Carolyn Petersen – Individual – Co-Chair**
Thank you.

**Lauren Richie – Office of the National Coordinator for Health Information Technology – Designated Federal Officer**
Thank you. Bye.