Strategies for Adverse Drug Event (ADE) Reduction: Session 6 Reducing ADEs: Strategies to Accelerate Improvement in Opioid Safety Transcript

Hello and welcome to Reducing Adverse Drug Events strategies to accelerate improvement webinar. My name is Mary Beth and I will be answering any questions. If you experience technical difficulty at any time during the WebEx event, please submit your issue in the chat panel and direct it to the host for assistance. You may also contact our technical support at 866-779-3239. Please note that as an attendee you are part of a larger audience today but due to privacy concerns, the attendee list is not displayed. All attendees will be in a listen only mode throughout the duration of the call and as a reminder it is being recorded. We will be holding Q&A at the conclusion of today's presentation and we will do you can ask a question throughout by entering it into the chat panel. By clicking the chat icon at the top of the screen. I would now like to introduce your moderator for today, Kim Werkmeister.

-- Werkmeister Welcome and I am glad you returned for another iteration of our ADE Sprint series as we all work together as a collective group to make a big impact throughout our HI and in reducing adverse drug events and one of those topics is in the area of opioid safety and we know that is on everybody's mind in healthcare today so this is an incredibly timely webinar for us but I think you will really enjoy this one today. It is my pleasure to introduce Frank Federico, who is a vice president of IHI. He is also a senior advisor to the safe -- patient safety focus area and he is also the chair of the national Council of medication and prevention otherwise known as [Indiscernible] and he is on a joint commission advisory group and panel there and for those of you who joined us for the HDN project for some of our household in California that you may have had the pleasure of learning from Frank in the past. He is just a wealth of knowledge for us, and we are thrilled he is here to share with us today. I also want to introduce my colleague, Marianne [Indiscernible] closer senior advisor for adverse drug events at the health services advisory group and they will help to moderate the session and we want to remind you that as questions come up we want this to be interactive and we want your questions to get answered as you are thinking of them so please don't hesitate to use that chat box and we will be moderating it throughout if there is an appropriate time. We will stop an answer a question during the middle of the presentation and we will do that otherwise we will answer them all at the end and make sure there is plenty of time to get those questions answered. With that I will turn it over to Frank. Thank you very much.

Thank you so much, Kim. Welcome to our session. Our goal today is to talk about adverse drug events, particularly in opioid safety and areas I will cover will be just generic principles of on quality improvement that you can use when working on medication safety no matter what you are working on and medications are the most common intervention in healthcare and the most challenging and trying to return to reduce adverse events associated with them because unlike some of the interventions which tend to have a smaller team and a general focus and geographic location like the ICU, medications are everywhere and patience are also part of that process more than any other part of that process. Therefore, the challenges that we face, are many. And the use of any quality improvement and improvement science and the kind of things that will help us achieve the kind of results that we have for our patients. So we will talk about the elements of the safety system and how this applies to all of your work and safety and we will talk about interventions that you can think about to improve opioid safety and we all teach and all learn. I am sure you have good ideas that you have done and if you notice a question in the
chat box and you have an answer for it, chat that and so others can learn what you are doing. We will talk a little bit about measures because measurement has been a real challenge in the world of medication safety and it is in the world of patient safety but medication in particular has been challenging for us and now the work continues and we will talk about benefits to patients because the reason we do this is to provide good patient care and to provide good patient care means we provide safe and effective and timely care.

I guess in order to start my journey, it is important to understand that there are three elements of a safe system that we work on and the first is no matter what we do our goal is to prevent errors and harmed, which would be designing systems from the very beginning that work towards that end. We do know however that no matter how much we work on that, errors will get through and sometimes patients will experience harm. When I say that, it could be result of an error or it could be an art -- a reaction a patient has or experience. It's not because anyone did anything wrong. Our goal is to identify when those errors get through and when that harm occurs and to do something about it, mitigate it, before it becomes more serious. That is, to intervene quickly. We are very good at intercepting and mitigating. What I found many times is we are not so good at the front and which is to prevent errors in the first place and prevent harm in the first place. My discussion will range on both sides, prevention and identification. Of course having immediate mitigation whenever is possible will avoid any more serious harm.

This diagram represents an adaptation from the work of Doctor David dates. In the world of medication safety, in particular, we can see that there are many errors that occur. There are errors such as wrong doses that don't result in harm and related medication and sometimes it can even be the medication. Unfortunately, human beings are pretty resilient and we experience these there is but don't necessarily experience the harm that goes with them. However, there is a circle that represents the harm that is experienced with medications. There is harm but is the result of errors and that is the overlap of the two circles, but there is also a lot of harm that occurs that is because we just don't know how to prevent it at this point and we don't have the best mechanisms or clinically we're just not offering it in the best ways and there are the potentials that we are lucky that nobody got hurt and those are also indicators of something that we can work on. The reason I show you this is oftentimes our focus is on the errors and my first work with the Institute for healthcare improvement way back during our first adverse drug event was to reduce medication errors and we worked hard in the year with a large collaborative to reduce errors and I don't think we really got very far and that is where we realized maybe it is more important that we reduce the harm and in particular the harm that is clearly associated with error but also start thinking about harm from the patient's experience perspective and what did the patient experience and would we want that to happen to us.

When you focus on harm, it also changes the discussion and that is another reason why we at IHI have made it a primary area to work on because when you think about harm you don't think about the people who are involved. You think about more the systems in place that can help identify why did that harm occur in the first place or could we have done anything different. Is the way we think and the way we have been trained, whenever we think about errors we asked who did it and how did it happen and set of becoming about the patient, it becomes about the individual involved. When you look at harm, you look at all unintended results. And this is where we get into a little bit of a discussion because some people will say, what if that is something we can not control. Well, that is true. And sometimes there is not anything we can do about it because we don't quite know yet and it could be a patient has an allergic reaction that we didn't know the patient was allergic to medication Cobbett the challenge is we always need to be considering how do we get ahead of that and how do we learn? I have been in pharmacy a long time and I worked in pediatrics and I remember when many of the drugs we used for oncology patients were probably more serious than the chemotherapy itself that we used for the cancers. But because we challenged the industry and we challenged ourselves to do better, we found medications that were better at managing nausea and
vomiting and we found stimulating factors and other medications that allowed us to still use very dangerous drugs and minimize the impact. I remember when we did some work with the Dana-Farber Cancer Institute we did five years after the Betsy Lehman of and in which to patients actually we see the fourfold over those in chemo and both patients died at five years later we were looking at what improvements have been made and it was the chief of medicine who said we deal with very sick people with very dangerous drugs and we cause a lot of harm. This is to which many of the clinicians responded that that is happen when you give chemotherapy. He said I am not telling you that we need to stop giving chemotherapy. I'm telling you we need better ways to do it and having better at adjunctive therapy that helps patients. When we look at errors we only look at those things that have relationships to the errors, something that was the result of something that went bad because they made a mistake. That really limits us and the kind of things we want to focus on which affect the patient's experience. With harm, German to is easier because the definition we have is that the patient experienced it and would you want to experience it. Generally, 99 percent of the things we look at come nobody wants to experience those things. But when you think about errors you have to think about judgment and figure out is this really an error or did we have all the information and lots of different things that come into that discussion. When we think about harm, the focus is on harm. We think about errors can we focus on the individuals. So the mindset is errors are important and they do tell us there are problems in our system, but if we only work on the errors and don't work on the errors that cause harm, then we don't work on the harm that patients experience and we really are not doing our patients justice.

We struggled at the Council because when we were looking at materials to prepare our statements and we were trying to read up on research being done we found there was a lot of confusion out there in the field and a matter of fact I worked around the world and many places outside of the united states when they are referring to harm related to medications and they call it medication error. So if somebody is doing literature review and you read medication error, you struggle to determine is it really the error or is it the error that caused harm or what is it they are really talking about. We spent some time developing this algorithm that is available on your slide that helps to how what we hope, will bring researchers and the whole discipline together to have a clearer definition of what it is we are focusing on so it must we do that, it becomes really challenging for us to learn from each other. Again, this ties in to type -- for this whole dialogue of harm because there are errors that don't result in harm that need to be investigated but not as deeply as the ones that cause harm. >> Errors that contribute to harm, like I said, we need to work on those covered here is a list and mix-ups between morphine or hydromorphone or dosing or pump errors or administration errors or prescribing errors. There could be confusion between immediate and sustained release formulations. When we look at it, 41,000 events that were reviewed, 1129% were reported as wrong drug events.

That is a mix-up as to which drug the patient's really have received. Of those are things that we can work on and work on easily. Risks things like look-alike medications and drug names and packaging and concentration errors are big deal. Having worked in pediatrics, we had many issues with miscalculations of giving people the wrong calculations. Dangerous abbreviations have been on our agenda for a long time and I find they are still out there because it's not only what medication name it is that people still tend to take shortcuts and we are just as guilty at IHI as -- of taking shortcuts. Line confusion is another error where a central line maybe -- at least a line for intrathecal may be confused for another line or an IV line might be confused with a flowline. There is a huge push now with a ISO standard that will make it standardized for connectors for these line so that you can't mix-up lines but there is still a way to go before that happens. There are adverse drug reactions that occur and by this I mean there are some that are unpredictable because we just don't know. But for the most part, these are the ones that we can prevent because we know that if patients receive these two medications together they will have a problem likely.
Mislabeled syringes are a common element. I experienced this myself. I was going through a procedure and I was talking to the doctor about the medicines he was using, he held up the syringe and the syringe had no label on it and that frightened me even more than a mislabeled because I said how do you know what is in there. Patient monitoring is that part of the mitigation aspect that is so important in the care we deliver. If we want to prevent the harm, we need to be able to identify when the patient is starting to deteriorate and there is a big push now for early warning scores to better identify when patients are deteriorating, and I am a strong advocate of where a patient is deteriorating there should be a call immediately to the pharmacy because sometimes it is due to the medications not necessarily the disease process. There is also unintended use of medicines were medications are not necessarily the ones used off label but just the wrong medication being used because they believe that is the right medication to do something.

Going back to the definition of harm, which I think we want to focus on again because that is what the rest of this time we really want to be able to talk about. It is an end intended -- unintended physical injury resulting from or contributed to by medical care that requires additional monitoring or treatment or hospitalization that results in death. That is something that we did. When we started working on the sky we decided that although omission is an important issue that needs to be dealt with, that is, we forgot to do something and we didn't give a patient the medication and patience didn't get their mats, those are important aspects that must be addressed. But it becomes much more challenging when you are trying to figure out why the omission occurred because sometimes it's lack of information and sometimes it's lack of that city and sometimes there may be a very legitimate reason. Acts of commission are the things we definitely can address and we know we are responsible because we gave the patient medication, be it right or wrong, or be it a result which is an unintended consequence or one that couldn't be predicted. We are still accountable for that and we need to do something about that.

The concept of moving from focus on error to preventable harm is whether it's a real important aspect. That is preventable are not. We need to really take that on. I know it's challenging when you go to someone and you tell them about what a patient experienced and they will say but we could not prevent that. Well, I know. But we have to push the envelope and we have to consider that. It's okay to separate them out, but never lose sight it's the patient experience that is important.

Talking about opioids, there is a lot of harm that occurs associated with opioids. There is death due to opioids and that is intentional and unintentional like overdoses as well as people mistakenly taken too much or people who suffer an unintended reaction to the opioid. There is the poison -- poisoning that occurs with overuse of opioids. There is opioid induced depression which is a major issue that needs to be dealt with. Also they contribute to falls and fractures and contribute to over sedation. The falls, of course, we know is because patient might become dizzy or they may not become fully aware and may fall. The fractures are results of those falls, what happens when patients do fall. Of course, over sedation is the same, similar to what we are doing with respiratory depression and giving the patient so much that we are knocking them out and that results in more serious harm and sometimes even death.

In the hospital setting, there has been a few studies with an indication that patients were in the hospital have an increased grease of cardiac pulmonary arrest. Anytime you give somebody a chemical, there will be some consequence to it. And giving opioids can be part of that problem as well. There is obviously opioid induced constipation that we might think well, we give them a stool softener and things will be fine, and in our work in Denmark, this became particularly evident when we were using the trigger pull to look at harm experienced by patients. What they found is what they were close is classifying constipation as category E Mac ever kind that
minor temporary harm and when they started looking at readmissions they found a lot of these patients were coming back and because their constipation was so bad they were experiencing other harms as well. So clearly it could be considered minor, but it really is not and it does contribute to greater problems. The fracture risk in the elderly, again, as I stated, is an issue. There is also a fall risk in younger patients that we have to remember that even those who are younger on opioids can experience dizziness and loss of sensation that will cause them to fall and be harmed. We think of the elderly first, but it does happen also with the younger population.

There is a whole other aspect related to the opioids that we also have to consider. In newborns, clearly, somebody who is addicted to opioids, they suffer from neonatal [Indiscernible] syndrome and there is probably future addiction problem with those babies born from people who are addicted to opioids. With children, there is risk for Harman abuse associated with opioids as well as what is happening with now people accessing their cabinets of their relatives and taking his medications or finding them on the playground and now they are becoming addicted. These are drugs that have a place that could be used, but they have a lot of things that could go wrong with them. Families at increased risk because of patients who may be addicted to opioids as well as the risk of suicide and the impact that that has on families and on society as a whole. There is so much of an impact that needs to be addressed and wherever you live in the country that you can see all the work being done to address the opioid epidemic and how in some areas there has been some improvement, but it has to be an improvement effort that involves families and patients and clinicians and law enforcement agencies and social services and lots of things. There is not just one way to solve this problem. It takes all of us to do it.

There is opportunity for people to begin to assess where they are and what work they need to do. There is some great work being done through the Pennsylvania medical Society, the PS so, in Pennsylvania, and may have an opioid knowledge self-assessment that people can use to understand opioids and better understand how they are being used and why they are being used and any of our work. One of the first things we have to do is if you're going to prescribing medicine, you have to understand how it works. We also have to put in safeguards to ensure it is administered and prescribed correctly and prepared correctly and all of that and monitor it appropriately but this is a resource that is available to you to be able to go out and download and be able to use it look at your own ability in your own knowledge. Ways to look for Harman your system, you can use the trigger tool methodology developed by IHI. There is a pool and advance -- adverse drug event trigger tool that give you the ability to dig deep in the opioids if you only want to do opioids. You don't have to do everything. Much of my work overseas has been particularly focusing the trigger tool on patients who are either on anticoagulants are on opioid narcotics. There are the organizational assessments for safe opioid practice and that is one we saw earlier and they will have a self-assessment for high alert medicine -- medications. It's in the testing phase now. Is another way to see what practices are in place already and what are your gaps. There is the go and see. Go and see what happens when opioids are prescribed and what nurses do and pharmacists do because direct observation is revealing about how people process an order or how they manage in order or how they manage the patient who is on opioids. Data analytics with electronic health records we have, we should begin to mind what is the outcome of patients on opioids and extended length of stay an additional harm and we have turned to the emergency room and all of those things are things that can tell you what is going on and there are times where patients identify harms and they tell you they are experiencing a problem and that is equally valuable information that should always be considered. We always look at mortality as an indicator of how well a hospital is doing and going back and looking at patients of patients -- who have cardiac arrest and digging more deeply and understanding with an opioids or could opioids have been the cause of that. Of course at the community level, there is work being done and collecting community level statistics around the health of the population and the opioid addiction issues and all of that that can come together and other things like APC eight safety checklist that is something goes wrong during that process you can identify that it could be a problem.
To begin your work, it is really important to think through what are the most effective ways to address the work we are doing. And mind you, please don't walk away from this session thinking Frank said policies are not important. Policies are important. They tell us what we need to do. But we do have to separate policies from procedures. Policies may say we will double check every opioid dose that a patient receives and our hospital or our plans of care. How it is done has to be decided and developed by the people who do the work. What I find in all of my work around the world is that people over rely on policies and the policy sometimes are written by people who don't do the work so they become almost unmanageable and unusable in the work. And when something goes wrong, without investigating why the process one bronchi the first reaction is why did you follow the policy. Well, it may be that the policy is just conflicting and it may be that the policy is too difficult. Or maybe they don't even know the policy exists. I am working with one hospital group that every time they do a root cause analysis they come up with a new policy and they never go back to see what did the previous policy say. Now they have conflicting policies and they have so many of them they cannot even find which one they want to work on. So we have a process working with them to streamline that. So policies are important, but policies will get you the kind of results you are expecting, at least not alone.

Minimizing the consequences of errors is the next step to make sure that is something that happens we can immediately intervene so that the patient doesn't experience harm or at least we minimize that harm. That is okay Cabot the patient has already experienced some harm. It's still not as powerful as we want to make it. As you go down the list, you see that the interventions get stronger and stronger and all of it is really based on eliminating the opportunity for air and harm in the first place. And how do you do that? You do that through standardization and some occasions. The more you can standardize a process that is standardize the ball, the more likely you are to have the outcome that you want because people are doing or taking the steps correctly and this is whether it be checking the order or checking the dose or administering. If that is the standardized process and it has been determined, that is the way to do it. You at simplification by making it easier to do the right thing and taking steps not necessarily out of the system and then it is very likely you will get the results you want. Why is this important? Because we are humans. Humans make mistakes. They are under a lot of stress when they work. And we tend to violate procedures when they are under a lot of stress. If you standardize it and develop it in a way that supports the humans doing the work, then it is less likely to have the harm. Now, even standardize processes sometimes don't apply to all patients. You may wind up with a very elderly person or an obese person and your standard set that you put up is really for the average person that comes into your hospital. You can deviate from standardization, but when you deviate from standardization, it will be of interest of the patient, not in the interest of the individual who is executing on that, whether it be a doctor or nurse or pharmacist. And if in fact what you have and what you are doing is better than what everybody else is doing, then we ask you to tell us because then we can improve our process as well. Or if there is not a standardized process for that special population, maybe now it's time to think about should we developing the should be developing those safeguards.

Measurement is really important. And as I said, it's probably one of the biggest challenges in medication safety because we're always struggling to figure out what is it exactly we measure. I use this slide because it is a great way to help us understand the differences between measurement for improvement accountability and research. When it comes to research, and if any of you are involved in any studies, and for a while I was a research pharmacist does -- we collect tons of data. We want to compare things with placebo or blinded study and we had a hypothesis that we believe that if we give this medication this is what we expect. We try to control our environment as to what we are testing because we don't want any compounding factors that might cause our results to be skewed in the wrong direction. And so there are times of data and tons of analysis that go along with that and it's exactly what should happen. When it comes to accountability, what we are trying to determine is how are people performing and how is the system performing. Then we need to think about having enough data, the right kind of data to be able to make those judgments correctly. Because if we were judging my performance
against cams and Mary's, we would have to know, are we collecting the right amount and the right equal kind of data so we are comparing apples to apples. So it is more intense and it requires a little bit more consideration and a little bit more effort.

On the other hand, when we are doing improvement and working on improving a particular aspect, we don't need a lot of information. I find often times when I start working with somebody, they say we will collect information for about a month. Will a month’s worth of information be a month’s worth of time that you have invested and have not improved anything? Just collecting doesn't improve. What we normally do is ask you to take a small sample. If you say, for example, we had a particular standardized protocol for opioid or a particular one, my next question to you is it being used. If you tell me we are going to collect data for months to determine if the protocol is being used, I will say, well how about you collected for just a few days. This is because if in a couple days you find that out of 15 patients it is not being used, collecting it for a month is only going to continue to reinforce that it is not being used and we're not testing for statistical relevance. We are testing to see if it's being used correctly. Yes, or no. As few as five charts a day are enough to tell you whether or not the system is being used correct. As you work towards medication safety in particular, you may consider which one of these kinds of measurements do we need. Because if we are just trying to improve a process, small samples are good. If we're trying to determine accountability, that is, are people using the drug correctly, as you might in the usage of valuation, then you need more data. If we are doing research about new drugs or treatment plans, then clearly you need more data to be able to do that.

The measures we like to look at are our outcome measures. They are most important because this is the voice of the patient. What did the patient experience and how did the patient feel? That is the most important thing and that is what we are doing in healthcare. However, to get the outcome measures, we have to have processes and understand how they work. And the process measures are the steps you take to ensure that you administer medications correctly and follow up on them. There are the balancing measures. Those are those things that if we change this kind of workflow by putting these steps in, are we creating more work somewhere else or are we delaying some other process or are we doing something different elsewhere. An example I like to use is if you have that long balloon filled with air and you squeeze the balloon in the middle, that air has to go somewhere. If you are improving in medication process within the pharmacy and changing something, what is the impact on nursing and prescribers? Is there an impact on laboratories that may have to do blood levels? You have to keep that in mind to determine whether or not what you are doing in one place is making it more difficult in another.

Measures, here are some examples. If you have developed a protocol or an order set, is it being used? That is a simple measure you should collect because that will tell you whether or not you need to focus more on improving the protocol or improving the process that you have developed. Have you developed a conversion chart and if you used one is it being used? Or it was a nice intervention but nobody really cares for it or believes it's the right thing. Are people being monitored based on the protocol? If you assign a particular protocol on how frequently a particular patient's vital signs should be taken after a particular dose and people are not doing it, then you will have a great opportunity for a patient being harmed.

There is another example between outcome and process measures and you can read this for yourself. You can read what the difference is because ultimately you need to be able to think about all of these as you think about medication safety.
Now, tips for effective measures. Used samples. It is important to just look at as few as 10 charts per week and that would be helpful. It is important to plot data over time. That is, use [Indiscernible] because that helps you visualize the data and you can see are we going in the right direction. Seek for usefulness, perfection. The measure doesn't have to be perfect. It just has to be informative and it just have to give you enough information to help you. In a great measurement into the daily routine. How easy is it if somebody is already doing a process that they can quickly give you at the end of that process? We had 10 steps in the system and we did all 10. For example, with people who have in a central line insertion kits, what they have done is created a document that allows them to document as well as being able to count, did we use all of the steps were the proper insertion and can you do that somehow with medications that says we have done all the steps appropriately for the mixing of TBN or have we done it appropriately for checking in opioid or whatever that might be and consider how that might be useful. You might need qualitative as well as quantitative measures. Qualitative is sometimes just informative and they are people's opinions and feelings about something.

This problem feels complex or this is really difficult to use or the screen on the computer is hard to read. That is really helpful.

Here is an example of a run chart. I say it's important because if you look at it for example they were tracking adverse drug events and if you look over to the right, they have five data points indicating that their rate of harm, for adverse events per 1000 patient dates had gone down dramatically. It's easy to see. You can just visualize how quickly things are getting better.

Now, how long do you measure? You will always have to measure outcomes, that is, the patient experience. We will always measure whether or not a patient experienced harm. But if it's processes, well, you measure every day until the process is stable and then you come back off to once a week and then you come back off to every other week and then you can back off to every month and then to a quarter. But you should never go longer distances than a quarter. Because what happens; then is if the system is deteriorating, it continues to deteriorate for a long period of time, and if you had caught it sooner, maybe you could go back and improve on it or do something to address it.

The other thing we use our driver diagrams. These are basically tree diagrams but they are a visual way of interpreting what we need to do to improve safety. So here is a draft of one for opioid safety that we use when we were working with some people in New Zealand. And in particular the far left cut opioid safety is where you put your goal. That is, we will reduce opioid related harmed by 50 percent by December by December 2018, for example. So you need a clear target and you need a clear timeframe and how much and buy one is the aim that is important. The primary drivers are those big high-level concepts that need to be put in place in order to be able to achieve the goals. They support the aim. The secondary drivers are the things that you do. So in an assessment, it might be there more than one assessment and what has it done and things like that of the secondary drivers. On the other hand, you may say that I don't know if this is secondary our primary. The approach I take is just consider it. If it's too detailed it's probably a secondary. If it's conceptual, then it is something that we would say is primary. Here is what it may look like. So we have effective management and safe management of pain. Of course, that is not a clear aim at this is how we get it started and they have to put down how well do they want to do it and buy one and the primary driver start with reduction in harm from the treatment and what are the things they need to work on and medicines and diagnostics and then it goes into what are the special things around medicines that you need to do and what are the right things around diagnostics. The beauty of a driver diagram is that it is usually
three or four or five primary drivers all of which will be important for you to achieve safer medication use, in this case, opioid use, all necessary and essential.

Here is one opioid constipation and what this group is looking at, and again they need to set their aim, and they said we had to really major issues that we need to do. One is to prevent it in the first place. And secondly, understand that sometimes we don't prevent it well and we need the treatment. What we did was what of the secondary drivers we need. We need to make sure there is prophylactic administration -- medicine administered and we need to know we have a preventative measures and other things besides medicine. We also need to engage the patient and their family. You will see that the patient and family is the major component of all the work we do and I always recommend they include a primary or secondary driver related to patients and families.

Here is another example of a primary driver, and you're welcome to use any of these Cabot of course, remember, you have to customize it to your work environment and how you do your work. Here are more ideas and more concepts that you can take. This is a lot of the work that we did in New Zealand a while ago that we said was really effective and they are now putting together a whole package of material that they want to make available to everybody on opioid safety, especially in the acute patient setting. Now, particularly the opioid population, we need to start thinking, where is it we can approve -- improve opioid safety? It is clearly a big problem. It's everywhere. And you as the participants in the session have to work in the area that you have the most impact. Clearly, we are looking at segmenting the population and that is beginning with the patients whose treatment is beginning in-house and what do we need to do with them and looking at that population and even within the population and house is there a group of elderly versus a group of obese patients versus a group of young patients and each one of them may require a different concept of how you deal with them and how you dosed and monitored them. Use small tests of change and look at the model for improvement to use that. Make sure you measure the processes and use standard approaches such as order sets and remember that just having an order set doesn't mean you're going to get the results you want. You have to have people use the order sets and make sure they are getting you the results they want and you have to have compliance with all of the other elements going on.

When we look at special populations, we need to look at postoperative reduced respiratory depression. There are 48 million procedures performed annually in the United States and this is from our colleague John cougar who is a fellow who did this work. A lot of it goes undetected, which could result in injury and death. Sometimes we don't even realize that because we don't dig deeply enough. So it's important we consider can opioid cause that problem. Now it doesn't mean that somebody made a mistake in giving the opioid. It just may mean that the patient's gut was too sensitive to the dose they had or maybe not monitored appropriately that could have prevented it. Of course this can occur anytime they had an opioid agent in their system. It's not immediately after dosing. If they are being treated with opioids, they are likely at any point in the treatment plan to have that and even afterwards when they are released.

Who is at risk? Well, the joint commission has a whole list of people that you need to consider that are at risk because, again, it's not necessarily having the protocol but is the protocol going to help us manage people who have sleep apnea or people who have morbid obesity or patients who snore or is it -- what about the patient populations we're dealing with, and older population has to .8 times higher risk complications with opioids versus somebody younger. What about using opioids in the naïve patient who has never been exposed to that or using them and somebody who has an addiction and what do you do then what does this do you get the? Postsurgical patients, of course, thoracic and other surgical that may impair breathing may complicate the situation because
you are already depressing respiration with the drug and now you are making it worse because physically the patient can't breathe. Pre-existing conditions like pulmonary or cardiac disease may be a problem that would be exacerbated by the use of opioids. What about patients who have co-prescribed sedating agents? What is the synergy that occurs there that creates that multiplication of the impact and makes it worse for these patients? Smokers, although smoking now is becoming less and less cut there are still those people that are heavy smokers who can experience some serious problems because of that.

So in summary, what I would like to say is that as you think about improving opioid safety, think of the methodology that you are using to do that. Are you using the improvement methodology? Do you have measures that tell you how well you are performing? Are you using measures that are informative but are not overwhelming for you to be able to collect to determine how well we are doing and how well is the patient doing in the care we are working on. Are you focusing on changing processes more than just training and education in writing policies? Both training and education and policies are necessary, but not sufficient. You have to change the environment in which people work. I like to use the example that when the automobile was first developed, you could put a car in gear without stepping on the break.

You would lurch forward or backward depending on the gear you got into. The automotive industry could have done a great training program. They could have written a policy that said you will not put your car in gear must to step on the break. But none of that would be effective. What they had to do was actually designed the car in such a way that you can't put your car in gear you must step on the break or the clutch if you have a manual. That is how we have to think about it. Training and education are necessary Cabot we have to change the processes. And then think about standardizing processes for your patient population but also think of the risk that is experienced by subsets of your population because although you may have a good protocol, it may not be the right one for that elderly patient or the patient who has core -- code morbidities. With that, I would like to open it up to questions and any comments you, the participants, have.

As a reminder, I want to remind everyone that if you have a question or comment or anything you want to add, click the checkbox or the chat icon in the top right-hand side of your screen and go ahead and put that in to all participants or all attendees so we can all benefit. I know I have a few questions Cabot I wanted to make sure I turned it to Marianne first for any thoughts or questions that she may have put the group.

Excellent. Thank you so much, Frank. It was insightful, and I always enjoy hearing you present. I wanted to a few things that you said and get your thoughts also on this, but I feel like sometimes the hardest part is the beginning to just kind of get started. On one of your slides you talked about improvement versus a more academic and researched approach.

That really resonated with me because as a pharmacist, I think we like to think about things from a research and scientific kind of standpoint and we like to make sure that, for example, if we use a measure to track our progress, that it is the most well defined an appropriate and perfect kind of measure, especially when it comes to opioids, and that is really challenging. I think sometimes we have to start with something that is well for with the end goal -- a little bit more aw than the end goal. Will it be good enough for the whole idea of don't let [Indiscernible-low volume.
That is so right. We do need research. I worked in the [Indiscernible] system and every time you talked about wanting to do something to improve medication safety they said we would research that. I will tell you that yes, we do need to research and there are areas where we don't understand what to do. But there are so many areas where we already know what to do and that is the difference. Where we know what to do, you don't need perfect measures. You need to useful measures. When we are doing research because we don't know what to do cut that is where you need the more intense measures. But remember, the project is time-limited and gets you the results you want hopefully, the improvement, in the sense that we give you knowledge, but even that new knowledge then has to be applied somehow and that comes back to using improvement science to put in new processes and the steps to get things done.

Absolutely. [Multiple speakers] >> I was going to say you have some great suggestions as well for some interventions that hospitals can take to make it easier to identify when adverse events related to opioids occur and where interventions can be put in place to help prevent them in the first place. I am interested in this idea in including pharmacists and rapid response. I think is that does that is what I heard. I don't know that is happening in any of our hospitals. Maybe it's happening and I just don't know about it. But can you describe that process of how you have seen that working?

Yes, like you, I have and there's not seen it many places. And when we had our campaigns I wrote an editorial about how pharmacists need to be involved and I think it's two ways. One is that oftentimes when the rapid response team or when a patient is deteriorating and a team shows up, patients need affluence and they may need certain formulations necessary for them. The first thing is to let pharmacy know we have a patient that is crashing here and we need some help right away. So pharmacy is prepared in bringing the right fluids and etc. and making those available. The second part is oftentimes, I think, and I think if we look at the literature and look at deteriorating patients that medications are contributing. We talked about here today is how opioids contribute to postoperative respiratory depression. You see a patient going downhill, especially in an elderly patient and especially one who is comorbidity and gets an opioid. Sometimes the people responding may not be thinking about the medications at all whereas when you have a pharmacist present reviews the profile, looks at it and says, well wait a second, this is an 80-year-old patient who just had some and final surgery or [Indiscernible] surgery and we also give them an opioid and it's very likely that the opioid has really caused the depression for respiratory that is causing the problem now. They bring a whole different view of the work, and that is not saying that doctors and nurses are not good at it that is why you have pharmacists on the team because that is their expertise, the medications.

I think that speaks also to within our HI and. We really focused their efforts on pharmacists as well and were included in any work we are doing and rightfully so. I can't believe it has taken us a while to come to that point with that is automatic. But it's such a great point you make that we may be responding to a rapid response and immediately thinking about all these other things going on when the answer may be pretty simple. But without that expertise there, we would not know it or it would take longer to get to. So I really love that idea.

I can almost hear the people in the room saying, well, we are having a difficult enough time with the rapid response team but adding a pharmacist to it will be worse. The point is how can you engage the pharmacist, and it may not be that the pharmacist responds with the patient care area and where it is. It may very well be that somebody on the team makes a phone call and says, Frank, we are taking the patient Mr. Jones and can you take a look at the profile and see if anything there may be causing a problem. It does not have to be -- we tend to look for only one solution to the problem, and I like to teach people to say what is the real problem you are trying to
solve and if it is just getting input from the pharmacist, maybe the pharmacist does not have to be on the team that has to be part of the team decision process, and that could be just review it and on a phone call, we have such great technology, just respond to -- I am looking at the profile and it says here is where we may have a problem.

Fantastic. Yes. I also had another quick question as well about the opioid knowledge self-assessment tool from the Pennsylvania patient safety authority. We talked about that a few times as well. I have tried to get that information out to a lot of people would we have had other events. Can you describe how you see this implemented another [Indiscernible] just practically speaking? Have you seen hospitals do this as part of just a train the staff kind of thing or hey discusses yourself or have you seen it done in a formal manner are what have you seen the use of this to be?

Many ways. Obviously we handed to people who are prescribing opioids and get a sense of how much do you really know about opioids. And get that information back and especially with the Junior Doctor our residents and interns. I call them Junior doctors because I do all of that work in England now. But they are the ones who have to have the basic understanding, the pharmacology. That that is not to say that a more senior doctor doesn't have the same problems, that they need to look at it as well. So it can be done individually, and then it becomes a self-assessment. Wherever you poor -- score poorly, it would be great that the organization figures out how to increase your skills whether the insane go figure it out yourself. I remember when I was at children's I would take advantage at staff meetings whenever something new came along to invite whoever it was that had that knowledge so I could make it easier for the pharmacist to learn the information. I think if you do that, for pharmacists, if you go to, whether it be to Junior Doctor meetings or residence meetings to senior doctors and nurses staff meetings, once you do that assessment, you can see whether or not there is a gap that needs to be filled. You can do it at a staff meeting because that way you are ready have people there in the room and have them fill it out and react to it. The point I want to make is that they should never be used for punishment. They should never be used as a judgment. But they should be used as an opportunity to say we did find a gap and let's figure out how to close it.

Yes.

Clearly, if there is somebody who knows nothing about that particular drug or management, and I think of chemotherapy. I have pharmacists were competent and chemotherapy management. I would not just put any pharmacist into that role unless they had gone through the appropriate training and assessment that they actually knew what they were looking at. It's not fair to the person and it is not fair to the patient.

Exactly.

Well, I am looking here. I don't see any questions and a chat box. I do want to make sure that all of our participants are aware that the slides from the session will be available for download within a few days on our website. You can go to our website and on the right-hand side you will click to events and get to event calendar and click on this event and the slides and recording will be available within a few days for that. Before we close out, Mary, do you have anything else to add?
Not at this point. But just wanted to echo your words of thank you to Frank and also thank everyone for joining. Hopefully, everyone has my contact information is also feel free to contact me and let me know how you are doing and if you have anything you want to share with us on the work you are doing with opioid safety and we would really love to hear from you.

And then as we close out I know there is an evaluation form for those that are registered and you will receive it as an email. But if you would like to get it quickly, you can click on that link and I think it will come up in just a moment for you to see. Otherwise, you can do it through your email when it comes through. Please be reaching out, just like Mary said. We would love to hear from you. Especially as you are having any sort of difficulties or challenges when it comes to data collection and the actual work improvement. We want to help you and we want to get you the expertise, even if it's not from us. But find the expertise of their and available to help these efforts and we know this is a complex issue. We know it's one not easily solved in a short period of time so we're all in this together. With that, I will close out the webinar. Thank you so much, Frank. We appreciate your spending time with us. For everyone else, thank you very much and enjoy the rest of your day. Thank you.

Thank you.

[Event concluded]