**Operator:**

It is now my pleasure to turn today's program over to Liz Olson with the American Heart Association. The floor is yours.

**Liz Olson:**

Thank you. On behalf of the American Heart Association and Get With The Guidelines-Resuscitation, I would like to welcome you to today's webinar, “Translating Resuscitation Science into Practice.” My name is Liz Olson, and I'm the program manager for the Get With The Guidelines-Resuscitation and Heart Failure. On today’s webinar, we’ll discuss emerging trends in resuscitation management, examine a realistic framework to bridge the gap between scientific evidence and resuscitation practices, and we'll help identify -- excuse me -- we'll help attendees identify system-based clinical and process improvements that can be implemented to avoid undesirable outcomes. This session is designed to offer an opportunity for Q&A with our speaker, and we encourage your feedback and participation in this event. You can submit questions by using the “Q&A” button in the lower corner of your screen. A recording of today's webinar will be made available on the American Heart Association website, heart.org/quality.

It's my pleasure to now introduce our speaker for today. Mindy Smyth is a current member of the American Heart Association’s Get With The Guidelines-Resuscitation clinical work group, whose main function is to oversee the use of in-hospital resuscitation data for both research and quality improvement purposes. Before retirement in 2012, she served as the American Heart Association national clinical consultant, coordinating member hospital activities before and during the transition of the National Registry of Cardiopulmonary Resuscitation to Get With The Guidelines-Resuscitation. Mindy received her BSN from Duke University in 1965 and her MSN from Barry University in Miami, Florida, in 1990. She has over 35 years in hospital experience in critical care and emergency nursing as a staff nurse, manager, director, and critical care clinical specialist. Mindy has presented critical care and quality improvement topics, both locally and nationally, and authored and co-authored critical care topics in American Journal of Critical Care, American Journal of Nursing, Heart and Lung, and the Joint Commission Journal of Quality and Patient Safety. It's my pleasure now to turn today's webinar over to Mindy Smyth.

**Mindy Smyth:**

Hi, everybody, and thank you so much for your attention today and for attending our webinar. I think you'll find the information to be very useful within your own facility. And first of all, to start out, I have no disclosures, either financial or any other disclosures, to make at this point. And I believe that, Liz, if you turn to the objectives slide there, you've already beautifully presented the objectives for today's lecture. I think one of the important things that I want to emphasize here is that framework to bridge the gap between evidence and practice. And a known fact is that it takes over five years from publication of the science until we actually see clear-cut implementation at the bedside. So our goal is to help shorten that gap because it seems a shame to have to wait that long for what we know to be good for the patient to actually reach the bedside practice. Next slide, please.

So we all want our hospitals to deliver the best resuscitation care that care based on current science and guidelines. So, how do we get there? How do we strive to revive? Well, the good news is that we actually have shown a great deal of improvement in the past ten years in terms of survival to hospital discharge from in-hospital cardiac arrest. I can remember the day when that survival level was pretty much staying around 18 to 19 percent of all patients who suffered in-hospital cardiac arrest until they -- if they did survive to discharge. So, at this point today, we've elevated that survivorship up to approximately 24 to 25 percent. And the American Heart Association doesn't want to stop there. We want to see another 10 percent increase in survival to hospital discharge in the next ten years. So, how do we get there? Next slide.

So, before we get started, we need to lay some groundwork for our discussion today. So we're going to start with some considerations and some definitions. Next slide. We all want our teams and our hospitals and facilities to be excellent in clinical practice. So how do we achieve that? There are actually two important elements of clinical excellence, and this is from a 2011 statement from the Institute of Medicine. The first of these is known as evidence-based practice. And this includes statements that include recommendations that are intended to optimize patient care. And I think the important part of this definition is that part that says that systemic review of evidence and a careful assessment of benefits and harms of alternative care options. And this is what our science committee for resuscitation is actively involved in all the time. Next slide, please.

The second element of clinical excellence is known as professional practice. And there are actually five components of professional practice. The first of these is high quality care, and we're going to spend a lot of time today discussing how we can achieve high quality care and how we can assess the quality of the care that’s being delivered within our organizations. The second is patient safety. We all want to be safe within our hospitals, especially for our patients. They trust us to maintain a safe environment for them as they visit our facilities. Interdisciplinary collaboration is extremely important. We must get rid of those silos of care where we don't talk to each other, where we don't collaborate between the different professional disciplines within the organization. And you've all probably worked in a facility where there is a great deal of competition, and teamwork is maybe not quite up to the level where it should be. Continuity of care is also extremely important. It's very easy for care to become fragmented from department to department, from shift to shift, from day to day. Our lives are very busy, and it requires a great deal of effort to maintain that continuity and communication. And finally, professional accountability is extremely important. And that's that willingness to share knowledge with each other. Sometimes we tend to hold onto our knowledge and not want to share because knowledge truly is power within an organization. We need to know when we need help, and we need to be able to ask for help and not feel bad about that. We need to be able to admit our mistakes. And this is made possible by the fact that our environment should be a non-punitive culture, where there should not be blame for honest errors that are made, and that we should focus mainly on learning from the mistakes that are made. And that's sometimes difficult to do. Next slide, please.

The 2015 American Heart Association Guidelines Update for CPR and Emergency Cardiac Care has suggested several components to look at within our quality improvement program. So this exists as a perspective for in-hospital systems of care, although it's very important, as well, for our out-of-hospital providers and could be applied there, as well. So look at this as a framework for assessing quality within your own facility. So we need to take a look at the structure, and that would include people, education, and equipment. Process is also very important in terms of supporting protocols and policies and procedures. The hospital organization and system also needs to be looked at in terms of that framework for assessing quality. What kind of programs are in place? What type of an organizational structure do you have within your facility? And most importantly, what is the culture? Is it a supportive culture? Is it a non-punitive culture, as we mentioned in the previous slide? And finally, and most important, are looking at patient outcomes having to do with quality, safety, patient satisfaction and, in terms of resuscitation, survival to discharge. Next slide, please.

Before we go on and talk about recommended resuscitation practice, however, we must consider resuscitation science specifically. It's important to understand how the class or strength of a scientific recommendation ties in with the level of evidence. And usually, the strength of a recommendation is very dependent upon the level of supporting evidence. Next slide, please.

However, in the case of resuscitation, a lower level of evidence may not necessarily imply that a given recommendation is weak. And this is a statement directly out of the 2015 guidelines update. In the case of resuscitation, there may be very strong clinical consensus that a particular therapy or practice may be quite useful. However, many of the clinical questions related to resuscitation do not always lend themselves to clinical trials. And this is referring to, of course, high-level clinical trials where we might have comparative groups, where we might want to study whether somebody does better with epinephrine that is delivered within ten minutes after the beginning of a cardiac arrest or within two minutes after the beginning of a cardiac arrest. And you can quickly see that this is not something that we would want to subject our cardiac arrest victims to this type of research. So it's important to understand, again, that our recommendations are not necessarily weak, although they may not be supported by those high-level clinical trials all the time. Next slide, please.

So what's a good source for us to look at as we begin to study whether our facilities are translating resuscitation science into practice? An important consolidation of resuscitation science was published -- is published every five years. And this year, this particular publication was consolidated into science and guideline recommendations that are most significant and resulting in changes in resuscitation practice. And that publication is the 2015 guidelines, and we are going to be looking at some elements that have been taken directly out of those guideline recommendations for CPR and emergency cardiac care. However, this publication was written in 2015, and it reflects all the research up to that point. If you want to stay up-to-date on the newest resuscitation science and ILCOR evaluations, then you might want to take a look at the website that I have printed here on this slide, the www.ILCOR.org/seers. And this going to be telling you what's coming up and what's considered to be important by our scientists and researchers within the heart association. Next slide, please.

So how do we make this all happen for all facility? How do we translate resuscitation science into practice, and where do we start? Next slide.

So we want to start with being very familiar with research and emergency -- and emerging trends that apply to your own particular situation. So for the next few minutes, we're going to go over some recommendations that might be something that your team may want to consider. Next slide.

These elements that are printed on this particular slide are some of what I consider to be some emerging trends that might be something for your team to consider in terms of food for thought and thinking, you know, how do we think that our facility is going to measure up here? The first of these is the in-hospital chain of survival, which begins with surveillance and prevention. This is considered to be an important recommendation for all of us within the hospital situation. We must continually take a look at what's going on and prevent cardiac arrest because we know that those patients that don't have a cardiac arrest may become critically ill. If we can prevent that arrest, they're obviously going to do better in terms of their survival to discharge. In that regard, rapid response teams and early warning systems are very effective in reducing the incidence of in-hospital cardiac arrest. In this day and age, I think most of our hospitals currently have in place a rapid response system of some type and hopefully are developing, or have already developed, an early warning system that is part of a protocol that's in writing and has been put out there to the staff so that they understand when they should be activating their rapid response system. There is a reaffirmation within this 2015 guidelines of the importance of ongoing assessment and improvement of care, again, emphasizing the importance of those quality improvement programs. And now, emphasizing -- continuing emphasis, again, on high quality CPR and the use of audio-visual feedback devices for real-time optimization of CPR performance. And this is something that we're coming back to. I always like to say that, you know, if you keep your clothes in your closet from 1970, they'll eventually come back into style. They may not look so good, but it just seems like, within research and science and recommendations, sometimes we swing back to the way things used to be. And I still recall those days when [inaudible] had an EKG strip coming out of her, and we didn't get out of our CPR class until we were able to perform that perfect strip. That just goes to show you how old I am, right? And finally, mention of that integrated team approach for rescuers, that choreographed approach, where we simultaneously are taking care of the cardiac arrest victim rather than using a sequentially-based type of care delivery system. Basically, it's that old pit crew approach that you’ve learned about, the fastest and most effective way to get things done. Now, this list is certainly not inclusive of all the recommendations that are within the 2015 update. I simply picked a few that are particularly pertinent to our in-hospital system of care situation. Next slide, please.

And of course, I would be remiss if I didn't mention our Get With The Guidelines-Resuscitation recognition measures as being some things to look at when you start looking at your quality improvement program and your ability to translate that science into practice. These recognition measures have been updated toward the end of April of this year, so they're pretty much hot off the press. Most of you will recognize and feel that most of what is printed on these next three slides is pretty familiar to you. But I put it up here just so you could take another look at it, since there are a few little changes in them. We're looking, again, at time to epinephrine equal to or less than five minutes for asystole or pulseless electrical activity; time to first shock equal to or less than two minutes for VF/pulseless VT as first documented rhythm; percent of pulseless cardiac events monitored or witnessed – this has proven to be very important in terms of survival; and device confirmation of correct endotracheal tube placement. Next slide, please.

The pediatric population has been somewhat redefined. Pediatrics is now defined as one year to less than 18 years, and neonates have been lumped in with the pediatric population as defined as those children that are less than one year old but greater than or equal to 24 hours old. And you can take a minute just to look at some of the measures for this particular group of patients, again, emphasizing the importance that pulseless cardiac events occurring in the ICU setting, those patients are going to be doing much better than the ones that are having their cardiac events outside of an intensive care unit. Next slide, please.

One of the most important changes, as we look at the Get With The Guidelines-Resuscitation measures that were released in April of this year is the designation of a newly born population, and this is defined as those patients that are less than 24 hours old. And the reason that we have pulled these measures away from the usual pediatric group is because of the different type of treatment that would be expected for those patients that have their cardiac arrest when they're less than 24 hours old. And in this case, the emphasis is on ventilation and oxygenation, as you can see from the measures listed on this slide. So we want time to positive pressure ventilation less than one minute. We want invasive airway placed prior to the initiation of chest compressions, pulse oximetry in place prior to chest compressions, and, of course, device confirmation of correct endotracheal tube placement. Next slide, please.

So as leaders in resuscitation science, we become agents of positive change within our teams and facilities. Now, you may not have a management title per se, but indeed you are a leader within your facility. If you're interested enough to attend this webinar and gain this information, you have knowledge that needs to be shared with your co-workers in order to improve care within your organization. And in fact, that makes you a leader. So in order to translate that resuscitation science into practice, basically we've got to become skilled at cat herding. And I know you've all had days where you felt like you've spent the entire day trying to herd cats. And if any of you within the audience have cats or are owners of cats – and I have to say that when you have a cat, you're not really an owner; you're part of the cat's staff – you’ll know that it is difficult to get cats to go in any one particular direction. Next slide, please.

So, how do we start? We've got to start with gap analysis. Basically, we've got to compare what we are actually doing within our facility with what the science says we should be doing. In order to do that, again, we've got to be familiar with research and emergency trends -- and emerging trends, I'm sorry. We've got to be knowledgeable of recommended protocols and expected outcomes. We've got to measure our team's performance with that expected standard. And finally, we've got to be able to look at how we compare with other organizations of a similar size and type with our own. And this is dependent upon risk-adjusted stratification, which is provided to you by Get With The Guidelines-Resuscitation. Next slide, please.

Once we do that gap analysis, once we collect the data and we look at those emerging trends, then we will probably have a certain discomfort with what we may have discovered to be some existing gaps in our practice and in our patient outcomes. We're not entirely satisfied with where we are right now, and it's our job as leaders, or chief cat herders, to make others uncomfortable with those gaps in process. And in order to do that, we need to paint a picture of possibility. How much better would things be for our facility if we could improve our survival to discharge, or our time to defibrillation, or our number of arrests that occur within a monitored or witnessed setting or an intensive care setting? So we've got to make the cats uncomfortable. And there they are up on that limb of that tree, and maybe they're comfortable there for now, but we've got to present to them an idea that they might be more comfortable if they had a nice padding and they weren't exposed to the wind and the rain and all that. So, let's go to the next slide.

I can't overemphasize the importance of planning and communication as you start with this journey of translating science into practice within your facility. You have got to anticipate barriers, and identify people that are going to be able to help you along the way, and we call these people champions for a reason. The people that are going to be most important in helping you along the way are going to be some people that have some degree of power, influence, and respect within the facility. And these are going to be strong champions for your cause. It's important to involve all personnel. Even the grassroots staff need to be involved in anything that’s going to affect their practice. We need to get buy-in. And in order to do that, a picture is truly worth a thousand words. If you can present some colorful graphs showing this is where we are right now, and this is where we can go, Get With The Guidelines-Resuscitation presents you with lots of options for graphs that you don't even have to make yourself. But if you can put those on a poster and get that into a place where folks can see them, emphasizing what your future goal is going to be, you can get people really excited about this journey that they're about to take. Seek the help of experts, and refer often to research and guidelines. Become a true name-dropper here. And it's always important when you start on a big project to maybe divide it up into small pieces. One way to do that is to consider a pilot project. If you just choose one or two units to be a pilot in implementing some new procedure or policy, then that kind of generates a lot of excitement. Those people in those designated units feel pretty important and like they're part of a big change within the organization. And those folks that are outside of the pilot project have some curiosity as to what's going on in there. So basically, it generates a certain amount of enthusiasm, and it also allows you to fix a few little things that might be going wrong with whatever your idea for improvement happens to be. Above all, stay positive, believe in yourself, and certainly don't give up, because this is not going to be an easy project for you. Next slide, please.

Now, I know that when you come up with some of those good ideas that you think people are just going to love, you'll find people kind of staring at you like these cats are looking on the slide, and I know we've all seen faces that look like that. Some of the potential problems that you might face, and these are barriers that maybe you have anticipated from the beginning of your project, lack of administration support. And that often translates into money and resources. An example might be the devices that measure the strength of compressions and things like that are quite expensive, as well as some of the new training procedures and processes for your basic life support classes that some of you are in the education department. These all cost a lot of money. So you have to think kind of like an administrator and figure out, what is it that I can say that would be persuasive? We like to call it the five-minute elevator speech. If you happen to be going up on an elevator with your chief financial officer, what can you say to get a buy-in for a project that perhaps you might want to implement within your facility? And it's a good idea to practice those little elevator speeches because they can be quite effective. After all, it is a captive audience. Poor planning generally leads to negative outcomes, so you must make sure that you plan things. It's always our intent to get things done and to get it done quickly. But in this particular case, you need to kind of step back and do some careful planning before you even start. Another barrier, another problem, has to do with failure to get input from everybody, from the key stakeholders to the little guy. It's important to get all sorts of perspectives involving all the different disciplines and making sure that they feel like they're part of the solution and not going to be fighting you every step of the way. Keep in mind that even doing everything absolutely perfectly, there are still going to be those who resist and try to sabotage your idea. And keep in mind that a wet baby is really the only person who actually likes change. Next slide.

So let's say that you're on the road, you've started to change practice, you're feeling pretty good. What do you need to do along the way? You've got to get out of your office. You’ve got to be out there in the field and listen to what's being said and watch what's going on. You need to be a cheerleader. There are going to be complaints from people. It's important that you hear those complaints and that you recognize that somebody's complaint is important, whether you are able to do something about it or not. At least assure that individual that you're listening and you're concerned and that you're going to attempt to address his concerns whenever possible. Lead with optimism. It's hard sometimes to be optimistic when everybody is kind of beating you over the head and looking at you like those cats on the previous slide. But surround yourself with positive creatures, look at your small steps that you've taken toward improvement, and focus on those little steps. And celebrate them, and help the staff to celebrate those little steps. And remember that the cats go in so many different directions when you're trying to herd them, so it's just literally impossible to herd them by yourself. You've got to involve other people. You've got to have those champions out there with you to help you be a cheerleader. Next slide, please.

So, let's say that the gap between science and practice has closed, and you're feeling pretty good. The staff are in that new place where they're going to be happier. And things are going to be better for the facility, and your patient outcomes are going to be better, you feel sure. What comes next? Should you -- our impulse is just to continue to monitor the same thing over and over again. I don't know, maybe it makes us feel good once the change is in place and we're at 95 percent compliance with something, but it's important to not continue to just look at the same thing over and over again. We might want to go on and take a look at some new things where maybe we're pretty sure we're not doing quite as well. But on the other hand, we don't want to completely turn our back on this change that we think is now in place because there are going to be those people who want to go back to their old familiar behaviors. Again, people just really don't like change. They're comfortable doing things the way they've always done them and keeping things the way they've always been. So it's important to periodically go back and take another look at that change in practice that you think has taken place. It's important to maintain a non-punitive and supportive environment. There are going to be mistakes that are made, there always are, but it's important to learn from those mistakes and not punish the individuals who have perhaps not done what they should have done in a given situation. And above all, let's celebrate our success. Parties, food, awards, awards that have somebody's name on them or a particular unit's name in writing, hanging up on a bulletin board somewhere -- so important for people to have you recognize them by name. And the sky is the limit. You could go – if you have a successful project, presentations at national conferences, publications, Joint Commission surveys, where the survey is successful, and the Joint Commission has awarded high level of practice to your organization. So all these are ways that you could celebrate the success of your project. Next slide, please.

So we're going to take time at the end of this for questions and comments. But right now, what I would like to do is to go on and discuss a true story scenario. And we'll kind of take a look at what happened in this particular facility together. But while we're going through that, all of you kind of keep in mind situations where maybe you might have become frustrated at trying to implement a change in practice within your facility, and perhaps we can take some comments toward the end of the presentation. Next slide, please.

So here's our scenario, and I have to say that this scenario is a true story. This facility -- and we'll pretend it's your facility. Your facility has a multi-disciplinary Medical Emergency Team, and this is our abbreviation for a rapid response team or a rapid response system. We’re going to be calling it a MET team -- that has been in place for over three years. The Code Blue Committee is currently developing an early warning system for adult and pediatric patients. However, they're still kind of dealing with a few remaining details of this protocol. Not everybody is totally in agreement, and these details need to be sorted out before we implement it house-wide. The current Medical Emergency Team functions 24/7, and it has a critical care RN assigned as a team leader. And this is assignation is on a shift-by-shift basis, so it’s not somebody that is hired in as a staff leader for the Medical Emergency Team. It’s basically a different critical care RN from different units every shift. But, the staffing is there to support that. Your facility also subscribes to Get With The Guidelines-Resuscitation and is currently submitting Medical Emergency Team reports on a quarterly basis and has been doing so for the past couple of years. So, you're pretty certain that things are going really well with regards to all the scientific recommendations having to do with rapid response systems, and you're pretty confident that your team's on top of translating science into practice in regard to the following of these recommendations that come out of the 2015 guidelines for emergency cardiac care and CPR. And the first one is that chain of survival begins with surveillance and prevention. You're trying to prevent cardiac arrest, in-hospital cardiac arrest. You do have a rapid response system, and you're developing that early warning system. And you do recognize the importance of ongoing assessment and improvement because you're submitting those reports to Get With The Guidelines, and you're reporting out to your Code Blue Committee. Next slide, please.

Now, unfortunately, a patient who was transferred yesterday morning from the intensive care unit arrested and died on the Stepdown Unit last night. As you come on duty, the staff throughout the facility are coming up to you and talking about this event. Did you hear what happened on Stepdown last night? You've also been alerted by your management team to take a look at the patient's medical record and the code sheet to see what exactly went on. You find during your review that there had been some difficulty in reaching the primary care physician for this particular patient. As that patient's condition started to deteriorate, there were several calls that went out, and the call did not come back from that primary care physician. The Medical Emergency Team was not activated; however, the Code Team was activated when the patient become pulseless. The code occurred after the Stepdown nursing staff had been dealing with this patient's failing condition for over two hours. Next slide, please.

By reviewing your past Get With The Guidelines-Resuscitation data, you find that the Stepdown Unit has had significantly fewer Medical Emergency Team activation calls than most of the other units within the facility. This same data also demonstrates that Stepdown has had quite a few Code Blue calls over the past year. As you think about this, you seem to remember that there were some rumors among the staff several months ago that related to negative interaction between the Stepdown Units and the ICU unit. The details on that were hazy, but you seem to remember that there was some initial issue of inappropriate use of MET activation protocols by Stepdown that generated a few negative opinions by the Intensive Care Unit staff. Next slide, please.

So we're going to take a look at, what are some of the things that may have been going on here? What are some of the concerns that we might have about this situation? What data might be useful in trying to analyze the situation? And where do we actually start to resolve all the issues that we have identified? So next slide, please.

So first of all, we've got to consider whether or not this incident was actually important. And since it did lead to an extremely poor patient outcome -- the patient had a cardiac arrest and died, so he did not survive to discharge – it was, indeed, a fairly sentinel event within the organization. And there was a gap between the expected standard, which was to activate the rapid response team and to prevent the arrest, and the resuscitation practice within the facility. Now, in analyzing all this, now that we've decided that this was, indeed, an important incident, and one that needs to be looked into in detail, another question that we might have, since we've identified that Stepdown had fewer rapid response activations and an increased number of codes, would be whether the number of MET calls or code calls for this unit differed based on the day of the week, the time of day, or the shift. And we can find the answer to that question within our rapid response team data for Get With The Guidelines-Resuscitation. Now, do we think that the existence of an approved early warning system might have helped to prevent this unfortunate incident? And I think all of us would agree that possibly it would have helped because, if you have a written protocol in place that tells people that they need to call for help at a given blood pressure or a given heart rate, then it becomes less of a staff decision and more of a decision of following protocol. So it kind of takes the load off of the staff that, well, should I ask for help, or shouldn't I? Maybe I'm going to get yelled at if I ask for help in this situation. Maybe people are going to make derogatory comments about me because I'm crying wolf or whatever. So having an approved protocol, I think, would have helped in this particular case. However, as we look at that, we've got to ask ourselves, what is the composition of that task force within the facility that's working on this early warning system? Is it not important that we involve not just the Code Team in the development of a protocol such as this, but also some of the grassroots staff that are out there on the floors or in the Intensive Care Units to help define that protocol? And this would include staff of all disciplines, not just the nursing staff. Physician staff, respiratory therapy staff, pharmacy staff, all of those folks need to be involved in the development of this early warning system.

The other consideration is, should we reprimand the Stepdown staff for not activating the Medical Emergency Team earlier? You know, although this was a serious incident, it's probable that that is not going to lead to a helpful outcome in terms of the staff behavior. So I think that it might be a little bit more effective if we were able to sit down with that staff and talk to them and ask them what's going on, what are their feelings, why did they not activate the rapid response team, and what can we do to get involving them in suggestions as to how to prevent this incident from happening again in the future? Now, the question becomes, you know, what we were functioning with in terms of data. We had some very good data from Get With The Guidelines-Resuscitation. However, the other part of that scenario was based upon rumor. So how do we get beyond rumor and become able to address situations such as this earlier and be able to define problems more effectively that could be resolved at the time of the incident, rather than waiting months and months later until something worse happens?

So going on to the next slide, here are some suggestions. If we can have the next slide here, actions that you might take. If you happen to be the chief cat herder in this particular situation, we already suggested meeting with the staff of both units, both the Stepdown Unit and the Intensive Care Unit, to get input related to what they think might have happened and what they think could have -- might prevent a future situation that might be similar. And this is important information to gather, and they need to feel free to talk to you. They need to feel that it's safe to talk to you. Again, the organizational culture needs to be such that it protects folks in terms of ensuring that non-punitive environment where they're not going to be stood up in front of everybody and beat over the head with a wet noodle, but that they actually feel that they might become part of a solution to a serious issue. We need to also make sure that we get that early warning system protocol out there. It needs to be out there because the belief is that that's really going to make things a little more cut and dry. It's going to get rid of those shades of grey and whether I should call, should I not call, should I activate the team, et cetera. And then, once we get that protocol written and in place, it becomes essential that everybody within the facility is knowledgeable about the protocol, that there are written references that are available for the staff if they forget when they should call or when they should not call. And that needs to be in writing and available to the staff so that when they're in a situation such as this, they can refer to it easily. It's also important that this particular training be incorporated into new employee orientation, and it needs to be presented to all the different shifts, because obviously these situations do seem to occur during the night shift or the evening shift or over the weekend, when the management team or physicians are not as readily available as they would be Monday through Friday from 9:00 to 5:00. Next slide, please.

A couple more suggestions. There's a lot of talk about developing an incident feedback system, and this is often a difficult thing to implement because people basically don't like to hang around and talk about the cardiac arrest or the call. They're busy; they want to get back to their own units and continue with their daily chores that need to be done for their own patients. So you need to consider the debriefing system that you have for your facility. It has been identified as being an important part of our practice, and it leads to being able to get a handle on situations that might be problematic in the future. So it's preferable, before staff return to their units, to do what we call hot debrief. That means right on the spot. However, if you are unable to do that immediate debrief because of some other situation that's come up, then plan to review the incident at a later time, hopefully within the 24-hour period or very closely thereafter. Obviously, people are going to be more amenable to suggestions and to offering input on a given situation if you don't wait three and four months until somebody has forgotten whatever even happened during that particular incident. Now, if you need to give specific feedback, you need to consider how and what type of feedback you're going to give and who is going to give that feedback. Feedback could be positive or negative. It could be written or verbal. But always make certain with your negative feedback that it is somehow softened a little bit and made a little bit more palatable for that staff member that is in need of some type of feedback. And make sure that there is a positive that accompanies the negative. It sort of makes the medicine go down a little bit easier, as Mary Poppins would say. Non-punitive approach, encouraging communication, and rewarding success is important for any success story. Next slide, please.

So at this point, we will take a break here and see if there are any questions or discussions before we go on to the last couple of slides. And I could ask our coordinators here if there are any questions. I'm unable to see your screen right now. So are there -- anything that anyone would like to ask or require some information?

**Tanya Truitt:**

We do have a couple of questions already typed in. But Ginneen, do you want to go ahead and tell them how to enter questions again, please, or comments?

**Operator:**

Thank you. As a reminder, if you’d like to ask a question, please click the green “Q&A” button in the lower left, type your question in the open area, and click “Submit.” I'll turn it back for the Q&A session.

**Tanya Truitt:**

Great. Okay, so one of the questions that we have for you, Mindy, is that, “It is difficult for us to track our times to meds and defibrillations as our code recorders are charge nurses in very business ICU areas. The codes are usually going on two or three minutes before their arrival. They fill in the details, but it’s difficult to know how accurate the times are. They're working on defibrillators or other ways to track the data. Do you have any other suggestions?”

**Mindy Smyth:**

Times are always extremely difficult to capture, and to capture accurately. And I think this has been an ongoing problem for many years, and I think Tanya would concur with this. Over the years, since we implemented even in our CPR in the year 2000, it's been difficult to capture times. Some people have put stopwatches. There are apps that are available on our iPhones that can sometimes help us to capture times. One of those is – what is the name?

**Tanya Truitt:**

Full Code Pro.

**Mindy Smyth:**

Full Code Pro, yeah. And that can be downloaded on your iPhone. I think -- is it a free app?

**Tanya Truitt:**

Yes, it is.

**Mindy Smyth:**

I think it is free. That can be very helpful, also. And then those times can be filled in at a later date, and there’s really nothing wrong with a napkin note. We've used them for years. If you scribble something down on a napkin just to capture a given time, and then have it transcribed onto your official code sheet later on, that's perfectly acceptable. And I think that's something that could be perhaps another webinar where we discuss certain other ideas that folks might have for how to best capture times. Otherwise, I could say perhaps a stop clock, stopwatch, electronic devices, whatever would be -- that you think might be helpful. Any other questions?

**Tanya Truitt:**

Another question is, “Is there a recommendation for audio-visual devices for CPR feedback?” And I wasn’t sure if you wanted to answer that or you wanted me to answer it.

**Mindy Smyth:**

Well, I'll just -- a lecture that I just recently heard, where a simple device known as a metronome, which I believe costs around $25 to $30, really not that expensive, but it does do the count for you. And it has been found by research -- and this was a particular lecturer at one of the national conferences that I recently attended -- that it actually helps also to inspire people to do more effective compressions, not just fast compressions keeping time with the rhythm of the metronome, but it also seems to motivate people to do stronger compressions, as well. And Tanya, any ideas you have?

**Tanya Truitt:**

Yeah, just the reminder that actually we don't support any one device over any other device, but there are many options out there right now. And I strongly recommend you looking at those many options. And there’s the simple ones. If you're in ICU, then the art lines – you have an art line in place -- waveform, end tidal CO2 monitoring, which is becoming much more common. So there's lots of options out there. Forced transducers – there’s so many options out there. So I would strongly suggest you looking at the options and figuring out what is best for your institution.

**Mindy Smyth:**

And I think I'll add one other thing, as well. What's been found, as well, in terms of some of the research that's gone on on compressions has been that when you wait two years to recertify for basic life support, it is well known outcome of this research that the strength and effectiveness of chest compressions have gone down in a large group of nurses and physicians and EMS staff, as a matter of fact. And that's why American Heart Association has actually recommended that a six-month refresher has been found to be very helpful in maintaining CPR skills. So there are certainly some programs that are out there that are available to the education department, as well, in terms of maintaining that every six month renewal status. And I know, for some of you in the education department, you're probably slapping yourselves on the top of the head right now and going, there's no way I can possibly do that. But there are some options available that are really quite effective, and they're kind of easy to use. They may actually prove to be a little bit easier for education departments than actually that every two years certification in the classroom idea. Anything else?

**Tanya Truitt:**

Yes. “Have you gotten pushback from physicians in regard to nursing calling rapid response teams? If so, how do you suggest approaching the problem of physician pushback?

**Mindy Smyth:**

I think probably the use of another physician champion might be helpful there. Then you've got physician-to-physician communication going on. Sometimes that goes over a little bit easier with that recalcitrant physician than hearing it from a nurse. So maybe the head of your Code Committee or the chief anesthesiologist or somebody that you might identify within your organization that could be called your champion for the cause. And maybe even a group of champions might be helpful, that could take that physician out for a golf game or whatever works. But I think sometimes when you have another physician talking to that physician in a friendly way, like, “Well, I’ve found this to be pretty helpful. Kind of takes you off the hook, where you know that your patient is going to get good care until you get there and you can manage it,” you know, all that kind of approach. Any other ideas from you, Tanya?

**Tanya Truitt:**

No. And actually, there's actually a – sorry. There's a few hospitals that are having physician-run rapid response teams, so kind of a different concept, and they're getting less pushback because they are physician-run. I'm afraid we have only time for about one more question. And, so, that -- which I think is going to be quick question, so I'm going to go ahead and ask it. “What do you see typically documented, in just minutes on code sheets, or minutes and seconds on code sheets?”

**Mindy Smyth:**

Well, minutes is really the only thing that we can effectively capture at this point, unless you know of something else, Tanya.

**Tanya Truitt:**

No, I don't. There are, like in the neonatal world, they are getting down to doing some seconds successfully. But not in the adult world. And until we figure out time issues that were identified earlier, I agree with you, Mindy. We're stuck with minutes for now.

**Mindy Smyth:**

Even though we do recognize that seconds would be better. And I think what I'm going to do, then, is go ahead and close it out. We have just two more slides to go, and these are just kind of fun slides. So if we could have the next slide, please. And I thought, in a finally summary here, we're going to give you some notes on the general art of herding cats. And these are things to keep in mind as you try to herd your own cats. This first was derived from Google. The author of the verse is unknown, but it truly is so true. And the first one is that cats don't really like to be herded. In fact, you really can't herd cats. They prefer to herd themselves. However, they do understand that sometimes they need to be herded, but that does not make them any easier to herd. Cats don't like to be reminded that they're being herded, and harsh herding has negative consequences, so you need to herd gently but firmly, with affection or fish as a reward. And remember that you are a cat, too, and we all need to be herded at one time or another. Why? And if we could have the next slide...life is why.

Thank you so much for your attention and for taking your time today to listen to our presentation. And I wish you the best of luck as you go out there and translate science into practice. Thank you, and good afternoon.

**Liz Olson:**

Thank you so much. It was a wonderful presentation, and we really appreciate your time. And thank you to all of you for joining and the great questions we received today. We weren't able to get to all of your questions, so we’ll be compiling the questions we received today into a question and answer document that you can access on our website. Next week, we’ll post a recording of today’s webinar, the presentation slides, and our full Q&A on the American Heart Association website, heart.org/quality. We will also be emailing you a survey to gather your feedback on today’s webinar. We appreciate your time. Thank you, and have a great day.

**Operator:**

And again, thank you all for joining us today. We hope you found this presentation informative. This concludes our program, and you may now disconnect. Everyone, have a good day, too.