Hospital Inpatient Quality Reporting (IQR) Program

Support Contractor

Hospital Improvement Innovation Networks and Hospitals Collaboration to Improve Quality of Care: 30-Day Mortality Measures

Presentation Transcript

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Maria Gugliuzza: Hello. And welcome to our *Hospital Value-Based Purchasing Program, Hospital Improvement Innovation Networks and Hospitals Collaboration to Improve Quality of Care: 30-Day Mortality Measures* webinar. My name is Maria Gugliuzza and I am a Clinical Project Manager at the Hospital Inpatient Value Incentives and Quality Reporting Outreach and Education Support Contractor. I will be the moderator for today's event. Before we begin, I'd like to make our first few regular announcements. This program is being recorded. A transcript of the presentation along with the questions and answers will be posted to the inpatient website, www.qualityreportingcenter.com, in the upcoming weeks and will also be posted to *QualityNet* at a later date. If you registered for this event, a reminder email and the slides were sent out to your email about two hours ago. If you did not receive the email you can download slides at our inpatient website at www.qualityreportingcenter.com. If you have a question as I move through the webinar, please type your question into the chat window, with the slide number associated, and we will answer as many questions as time allows. Any questions that are not answered during the webinar will be posted to the qualityreportingcenter.com website in the upcoming weeks.

The presenters for today are Robert Shipp from the Hospital and Healthsystem Association of Pennsylvania, Amy Helmuth from the UPMC Pinnacle, Brittany from Michigan Health & Hospital Association Keystone Center, and Dr. Brian Kim from Henry Ford Allegiance Health.

This event will provide an overview of hospital and HIIN initiatives and activities that sustain and accelerate progress and momentum towards better patient outcomes. Hospitals and HIINs will share their solutions and processes to reduce 30-day heart failure and sepsis mortality rate.

Participants will be able to apply initiatives and activities to improve patient outcomes, identify the tools to achieve quality measurement goals, recall the systems and protocols implemented by hospitals to monitor progress for 30-day mortality measures. Before we get to our first presenter I would like to start with our first poll question:

Does your hospital use your HSR to drive improvement efforts? Yes, No or Unsure. Please answer the question now. Again, the question is: Does your hospital use your Hospital-Specific Report, HSR, to drive improvement efforts? Thank you.

For the 6.9% that said no, I wanted to share a little bit more about what the HSRs are. Hospitals participating in the Hospital Inpatient Quality Reporting Program receive annual Hospital Specific Reports for the readmission, mortality, complication, payment and excess days in acute care, the EDAC measures. The information in these HSRs can help hospitals understand their performance on the measures before the information is publicly reported on *Hospital Compare*, understand which patients were included in their measure calculation and to identify areas for quality improvement effort. The Centers for Medicare and Medicaid Services, CMS, has released a new video to assist participants in the Hospital IQR Program with interpreting and understanding their HSRs. The link for the video can now be found in the chat window. In addition, be on the lookout for an upcoming HSR webinar. I would now like to pass the presentation to our first speaker, Robert Shipp. Robert, the floor is yours.

Robert Shipp: Hello. My name is Robert Shipp and I'm the Vice President, Population Health Strategies, for The Hospital and Healthsystem Association of Pennsylvania. Across Pennsylvania, our hospitals are fully committed to improving the care delivered to the patients they serve. Among the variety of innovative programs, I am pleased to introduce one that is making a

difference for heart failure patients. UPMC Pinnacle, located in central Pennsylvania, is an eight-hospital system that has obtained an Advanced Heart Failure Certification from the Joint Commission and achieved the level of Gold Plus in Target Heart Failure Honor Roll from the American Heart Association. Here today to discuss the Heart Failure Program and its life sustaining impact are two providers. Beginning with Amy Helmuth who is the System Vice President of Organizational Quality at UPMC Pinnacle, where she has responsibility for quality and safety activities. Amy earned her Bachelor of Science in nursing from the University of Delaware and her Master of Science in nursing from Penn State University. She is currently enrolled in the Doctoral of Nursing Practice Program with Capella University. She completed Villanova University's Six Sigma Black Belt Certificate Programs and was trained as a Master Black Belt by Oriel STAT A MATRIX. Kim Fowler is available during the Q&A portion of the presentation. Kim is the manager of the Heart Failure Program at UPMC Pinnacle and is a Certified Heart Failure Nurse and Clinical Nurse Specialist. Kim received her Bachelor of Science from York College of Pennsylvania and her Master of Science in Nursing as a Critical Care Trauma Clinical Nurse Specialist from Thomas Jefferson University. Kim's expertise has been called upon to present as a podium presenter at the Magnet Conference at the National Association of Clinical Nurse Specialist and for the American Association of Heart Failure Nurses. Sharing examples of best practices is a critical component for process improvement and a tool of our Hospital Improvement Innovation Network. It is my honor to introduce Amy and Kim and the program they lead so that their experience may benefit your organization's approach to heart failure care.

Amy Helmuth: Thank you, Rob. It's a pleasure to be here today to share our story of how we've improved our heart failure mortality.

At UPMC Pinnacle we were a three hospital system called Pinnacle Health in central Pennsylvania until September of last year when we joined with the UPMC family, and we are now an eight-hospital system, still in central Pennsylvania, with over 1,200 beds. But the activities that I'm going to

speak about are really pertaining to that legacy three hospital system prior to June of 2017.

So, we had a Heart Failure Program in place for many years here at UPMC Pinnacle. But despite the success of that program with our process of care measures, our outcomes were not really meeting our program goals. And we found that our heart failure inpatient and 30-day mortality rates exceeded the state and national benchmarks. So, we knew that we needed to make a change in our program so that we could achieve better outcomes. Kim Fowler, who is our clinical nurse specialist and nurse manager of the Heart Failure Program, was hired and tasked with initiatives to come together and pull a team approach to providing comprehensive heart failure care. That would provide that specialized medical care to our patients as well as provide them with the education and lifestyle modifications and support that would really help them maximize their ability to maintain their independence at home and transition them safely from the hospital to their home environments, and, hopefully, in the process of that improve our mortality outcomes.

Our interdisciplinary team is very extensive, there are a lot of people involved in improving these patient outcomes. We have our Heart Failure Program with Kim leading the way, as I mentioned, as well as nurse navigators, nurse practitioners and a transitional nurse. We have our nurses in our inpatient units as well as in the community. Educators, and clinical nurse specialist and our nurse managers who are very important to the program. We have a number of different providers. We have a heart failure medical director. We have various cardiologists. We have two heart failure specialists on our hospitalist team, which is a new addition to our program, and we have found that that has really helped us to provide excellent care to our patients when they're not being seen by cardiologists in the hospital. We also have a strong palliative medicine providers on the team. Our Pinnacle Health Medical Group providers from Family Care and Internal Medicine Groups, and our Post-Acute Care Network of homecare providers, as well as skilled nursing facilities and rehab facilities. And then dieticians, cardiac rehab staff, our outcomes management team, our care management team,

pharmacy, occupational therapy, our Community Paramedicine Program, quality improvement and performance improvement specialists are all part of that collaborative team where we all meet on a monthly basis to talk about our outcomes, and our program and initiate activities that will help us address any barriers to providing excellent care.

So, our scope of services for the program really crosses the continuum of care. We have the inpatient coordination by our interdisciplinary team, transitional care that's being supported in our Heart Failure Clinic and then collaboration with many other care facilities through the Primary Care Network, our cardiologist practices and many different agencies that are providing social and medical outreach to our patients. A number of performance improvement initiatives and then professional development and dissemination of our best practices.

So although this shows a circular relationship here, with acute care, transitional planning, early discharge follow up, then our community services and ongoing care in the Heart Failure Center winding back up at the top with acute care, our goal is to really eliminate that top arrow and have our patients stay out of the Acute Care Program as much as possible, and really help them manage their symptoms and their disease in the community, and try to avoid those hospitalizations as much as possible.

We base our care on evidence from the Heart Failure Guidelines that are updated most recently in 2017, as well as the Heart Failure Society of America guidelines.

On the inpatient side, that evidence-base care is supported by order sets for our inpatient heart failure patients as well as peripheral IV diuretic orders. We have Heart Failure Program protocols on the outpatient side and inpatient side that help our team initiate the evidence-base case without physician orders. They've all been improved by our medical staff to allow us to keep things moving along and prevent any barriers. We have a number of best practice alerts including one related to the New York Heart Association. And then, as I mentioned, we have those hospitalist heart

failure specialists that are identifying those at-risk patients and managing them through their inpatient stay, to make sure that we are providing the highest level of evidence-based care.

That care is supported by the Heart Failure Nurse Navigator, and these are specially trained nurses who are doing daily surveillance, looking for patients who are in the hospital with heart failure, whether that's the primary reason why they're in the hospital or not. They have a BNP report that they review every morning. They also participate in unit-based huddles throughout the day and interdisciplinary rounds wherever they can find out if there's a patient that they had not already identified. And these nurses are providing a consistent approach to symptom management and supporting our team of nurses and physicians to focus on symptom management. And the tools that they're using for that include our Stoplight Handout, that you can see depicted on the slide, that really help our patients understand what they need to be doing on a daily basis to keep their symptoms in the green, with everything under control, so that a patient can do their normal activities without symptoms or with their usual amount of symptoms that they have, looking at their weight gain, making sure that they're checking for swelling, and looking for any chest pain or discomfort. So, we want to keep those patients in that green zone. And the handout helps them identify when they are wandering into the yellow zone, so that we can try to get that patient to take action at that time and call and get some help from the Heart Failure Center, or their cardiologist or their medical doctor, before they get into that red zone where they find that they need to go to the emergency room and might end up being hospitalized. So, a lot of attention is paid to this on the inpatient side so that the patient and their family are very comfortable using this tool to help manage their symptoms. They also have a calendar that helps support them and a heart failure binder of information. And all of our patients, our goal is that they have an individualized care plan that uses what we call their Heart Failure Passport to Successful Outcomes.

Very key to the success of our program has been a strong transition plan with an evaluation of that patient within 72 hours to make sure that things are on track, that they understand the plan of care that was provided to them

in their after-visit summary that they've not had any barriers to implementing that plan. We also make sure that they do have a post-hospital appointment within a week, preferably five days, but we try to get that within five to seven days so that we do have that touch point where we can review their care and check their symptoms. And through all of this we're trying to optimize our Evidence-Base Care Program so that the patient does really have a strong transition to the home. That's being coordinated by our Heart Failure Center, and the nurse navigators and the transition nurse that's embedded in that Heart Failure Program. And really engaging all of the members of the team, whether that's on the inpatient side, or in our Post-Acute Care Network or in their physician offices, so that everybody's on board with what was the plan for this patient, what were the individual-specific pieces of that plan that might be different for this particular patient than other patients, and how do we make sure that there aren't any barriers to make sure that that patient stays healthy in the outpatient setting.

In our Heart Failure Center, as I said, there's that follow-up call from the heart failure nurse, then transition-of-care appointment. And then, important, is that our heart failure transition nurse is communicating with the other agencies and keeping patients linked to a number of different services that we provide. We have a community health nurse that is contacting patients. She might contact 8 to 12 patients in one morning when she might go to have breakfast at one of the shelters. And she can just kind of make rounds in the shelter, and contact everybody, and see how they're doing, see what kind of issues they might be having. We also have a Paramedicine Program which has been a strong part of our program where we can send a paramedic out and make rounds on that patient. They might go in, they might check the patient's medications, they might assess the patient's swelling, they might check their blood pressure. Just have a little conversation with the patient, “How are you doing today,” reinforcing the stoplight, and providing a connection back then to the Heart Failure Center, if they identify that a patient might need to be seen, might need to have more attention, might have some problems that maybe we did not identify via our phone call by having that person right in that patient's home where they can see something that's going on. And then, as I mentioned, we have

the Post-Acute Care Network within our nursing homes, our skilled facilities where we're again we're making sure that the staff understand those symptoms as well using the Stoplight Program and can report back to us when there's any problems. And, likewise, with our homecare and our hospice program.

Our Heart Failure Clinic is staffed by a nurse practitioner and our nurse navigators. We have two clinics as well as some additional locations. We can also do virtual heart failure visits. And with those capabilities we're able to touch more than 600 patients annually to provide these key coordination services and really make them feel like they have a team that's behind them and supporting them, that they're not alone, that they have a relationship with these nurses and they can call and get the support that they need to manage their symptoms.

Through all of this we're really focusing on offering that evidence-based care and reducing their barriers to care. We've provided a lot of team education to the different clinicians and providers over the last couple of years, so that they really understand what are the goals for a heart failure patient, what options are out there to support the patient, what are some of the new technologies that might be available and how do we provide that consistent evidence-based care. We use a Heart Failure Scorecard that's reviewed every month at our Heart Failure Program meeting so that we can keep on top of issues that are identified and see how our performance is going overall and by hospital and groups of patients. We've integrated our Palliative Care Program into the Heart Failure Program because we felt that that was really an essential piece of care. Palliative care is not just for end-of-life, and that's been something that we've strongly emphasized to our providers and our patients. That these patients can really benefit from palliative care earlier in their disease course, to help them manage their symptoms, and help them prolong until they get into and end-stage condition. Our Heart Failure Hospitalist Service has helped to improve the consistency of care within the hospital. Looking at optimizing the guideline directed medical therapies that are available as well as the advanced heart failure care, including home inotropic therapy that might be an option for

different patients. So, what's new out there, staying on top of that and how do we integrate that into our program? Definitely encouraging our clinicians to refer patients to the Heart Failure Clinic so that we can make optimal use of the Heart Failure Clinic. Even within the Heart Failure Clinic we can manage patient symptoms or use our Observation Unit, which is adjacent to our Emergency Department, to try to keep the patients out of the emergency room and out of the hospital. And those have been really some key gains for us, is being able to manage those symptoms in non-acute care settings. It really is an advantage to us to have a handle on that. Increasing our use of remote monitoring is another strategy that's been helpful to us. Again, just more touch points with that patient, more information about them so that we can individualize that care as their symptoms change. And then a big emphasis in our program on addressing the literacy needs of our patient population. Whether that's their reading level or whether that's a language barrier, that needs to be addressed we can tackle that when we pay attention to it and take notice of that. And then paying attention to the cultural issues that might present different barriers. Whether that's diversity related to their diet, or their use of medical care, their use of community services. What is culturally appropriate for the individual patient, and how might we individualize that plan again to make sure that we're addressing that patient's particular needs and desires? What are their goals? And what works and is appropriate for them?

I mentioned we provided a lot of team education, that included the development of a Heart Failure Resource Nurse Program to increase the number of peer leaders that we had on our nursing units. So, each unit designates Heart Failure Resource Nurses that come to an all-day training where they learn all about the different programs and the evidence, and they can provide that support to their peers on the nursing unit. We use a number of computer-based learning activities to help standardize our heart failure education and get the information about evidence-based care out to our staff. We also provide shadowing experiences in the Heart Failure Center, Nurse Residency Program presentation, cardiology education to our residents, as well as peer-to-peer hospitalist education, and then we do offer a number of classes for our patients, and very large patient-centered events annually.

The Heart Failure Scorecard's been very helpful for us to be transparent with our data. We share it at our Heart Failure Committee. We share it with our hospitalist, our cardiologists, our teaching service, and that also goes up through our system-level quality committees, and out to the provider practices, it is shared at nursing leadership meetings, and other allied health professional meetings and ultimately to our Board of Directors who are very interested in how we're doing in terms of improving care for heart failure patients.

As I mentioned, providing additional services related to supportive care and palliative medicine was important to our program. We started by doing a root cause analysis of all of our mortalities in the hospital or within 30 days. And through those RCAs we identified the need for stronger supportive care and palliative medicine. We did develop palliative care consult orders within our heart failure order set. There's a palliative care order for Stage C heart failure patients for chronic disease management and to help them determine goals for therapy. And then for a Stage D heart failure patient, they're orders that initiate hospice and end-of-life planning for those patients. And that's really been an ongoing process for us when we initially tried to embed the palliative care services within our clinic there were some challenges related to that. We really wanted to initiate conversations earlier, but it was challenging to staff the program in a way that met the needs of the patient and the needs of the program. So, we kind of kicked that off again in the last year with new providers and support-of-care nurse navigators. And we really feel like this time it's working. And my collaborator here, Kim, has run some data recently that showed that we have seen a tremendous increase in our number of patients who do have advanced directives initiated. Whereas in the past, we were having the conversations, but we didn't actually get an advanced directive executed. Now, we're seeing that those conversations are paying off. So, I think having the additional education and working with our Palliative Care Program, to have them an integral part of the plan of care for the patient, has really helped us get those advanced directives and executed for the patients so that we have a better idea of what the patient really wants and can direct our activities related to that.

We also worked on a project in the last year where we optimized the use of our hospice resources. We don't own a hospice here at UPMC Pinnacle. We collaborate with a number of different hospice providers within the community. And one of the findings from our root cause analysis is that we have trouble getting our patients into hospice earlier in their disease. And we had a concern that, you know, when we have patients who do need those services that we were just not able to get that open. And then within the EMR, itself, we found that we had trouble finding where are the advanced directives and getting that information to the team. So, we convened and interdisciplinary team to discuss the different challenges of the new EMR, and the culture within our system regarding hospice and palliative care and what we might do to improve that. We did a number of activities in the spring related to National Decision-Making Day. Provided a lot more education and we were able to make some changes within our documentation system to make it easier to find the patients advanced directives and what care they are interested in having. As we continued to review those cases we thought we really need to do another change. So, in the summer of 2017 we started a program where we have hospice agency representatives on site for about eight hours a day, they're rounding, they're participating in the huddles and into the interdisciplinary care conferences. And so, when there's a patient that might benefit from their services, they're helping the team to identify that and they're right here when the care team is there to talk to them about it, and when the patient and their family is here to talk about it. So, key to this has been really just being transparent about the goals of care in our EMR and having those discussions across the continuum of care so that at the time that the patient's ready for it there's an easy transition into that hospice program.

We have a number of other events that we really like. We have an annual gardening event where we invite patients to participate. And that's part of our community garden that we provide for our patients because we find so many of our patients, especially in the city, don't have access to fresh food, fresh fruits and vegetables. And so, we have a community garden that's supported by members of our program as well as patients, who are out there

gardening in the summer and getting fresh herbs for our patients and fresh vegetables. And so, as part of this garden event, we invite patients to come and they can get some summer recipes using this fresh food. And it's really been an exciting opportunity for everybody it's really well received by our patients and as well as our staff.

Another initiative for us has been the low sodium food pantry. We have many generous donors within our employee network, as well as some of our local grocery stores like the Giant Food Corporation, who has helped us provide a food pantry for our patients who might not understand how to pick low sodium foods, might not know how to make those food choices when they're shopping. And by having that pantry right there in the Heart Failure Center they can get that role modeling from staff, and that education and helping them to be able to choose those selections. And for those that can't afford it, they're there for them to take home with them and they can go home with a grocery bag of smarter food choices that help them maintain their goals.

So those are just some of the interventions that we've undertaken in the last couple of years. And you can see by this slide that they've been successful in reducing our 30-day mortality rate. We started at well over 13 1/2% mortality compared to the national mortality of 11.6. And we've seen a really great improvement of that, and you can see, especially in the last year, that year-to-date in 2018 we're trending at about a little under 9% with our 30-day mortality rate. And, obviously, the current data is not risk adjusted, but we think that that trend is really very exciting and that the things that we've been putting into place are working.

Then we've also seen improvement in our inpatient mortality rate, where we started with a baseline of 6.2% and are currently running about 1.9%. We'd like to get even lower than that our target is 1.3% based on some national benchmarks that we have. But we're very excited about the consistent improvement in our inpatient mortality through the various initiatives with the Heart Failure Program. So, with that I'll turn it back to Maria.

Maria Gugliuzza: Thank you, Amy and Robert. I would now like to ask our audience to answer the next poll question. Does your hospital utilize a heart failure score card or dashboard? Yes, no, or unsure.

One more time, does your hospital utilize a heart failure score card or dashboard? Excellent. Thank you.

We think that the score cards or dashboards can be useful tools for quality improvement. So, if you're thinking about developing or modifying your scorecard, an acronym to remember is SMART. Your dashboard should be specific, measurable, achievable, relevant, and timely. A good tip is to have a dashboard or a score card with three to five measures, so it can be easily read and understood. Also ask yourselves if each of your metrics is actionable. If we are not meeting one of the metrics, ask yourself what action can you take? If there is no answer, or the answer is no action, try to replace that metric with one that is actionable.

The next presenter for today's presentation is Brittany Bogan. Brittany, the presentation is yours.

Brittany Bogan: Thank you, Maria. We can go to my first slide. I wanted to give a brief overview of the Hospital Improvement Innovation Network that I'm representing, that the next hospital represents.

I'm with the Michigan Health & Hospital Association. And in 2016 we were awarded one of the 16 Hospital Improvement Innovation Networks. It's a two-year contract with an optional third year based on performance over those first two years. And within Michigan we've engaged our partners with the Illinois and Wisconsin Hospital Associations and collectively represent 318 hospitals across the three states under the name of the Great Lakes Partners for Patients HIIN. We've been working with our hospitals on a number of topics. If you look at the next slide.
But notably, for today's webinar, I wanted to highlight sepsis mortality and readmissions. Two areas that we've been looking at specifically with our hospitals that you're going to hear from with this next hospital.

So not wasting any further time, I'd like to turn it over to Dr. Brian Kim. He's the Emergency Department Chairman and Chief-of-Staff Elect at Henry Ford Allegiance Health Hospital in Jackson, Michigan. Dr. Kim.

Dr. Brian Kim: Thank you. First off, I like to give everyone an overview of our hospital. Henry Ford Allegiance Hospital is a 475-bed, health system in Jackson, Michigan. It is part of the Henry Ford Health System and its mission is to support patients across the health continuum at every stage of life.

We support a population of about 160,000 within the county. And our peer mix demographics, we have 35% Medicare, 15% Medicaid and 25% Blue Cross. We have over 3,800 support staff as well as 259 physicians at our facility.

This slide just shows some of the services we provide. Two years ago, we're very proud to have been accredited as a Level II trauma center.

Our journey of sepsis care did not begin until about, truly 2012. At that time, we had a mortality rate of 38% for septic shock and 21% for severe sepsis. As an institution we realized that we needed to change the way we delivered sepsis care.

The first step was the formation of a Sepsis Committee. This is a committee that was made up, and still is, of physicians, nursing, pharmacy, IT, case managers and, most important, executive leadership. This committee looked at our current processes at that time with the goal of improving patient outcome. Which we felt required three things. One was early identification. We realized that nursing screening tools was an important part of this process. We allowed and empowered our nurses up front at triage in the ED to start initiating, identifying and initiating our sepsis protocols. It's kind of an analogy to when we have someone with stroke. We measure door to CT, we measure door to lactate draw. The second thing was that we needed to change, was our prompt treatment, improving time to antibiotics and providing adequate fluid resuscitation. At that time our baseline time from

door to antibiotics was about 3 hours and 30 minutes. We have brought it down to 45 minutes. And number three, most important, was appropriate patient placement. Placing patients in the appropriate unit is paramount to the delivery of care we feel that these patients need. We also with an overarching goal of reducing ED length of stay by placing these patients quickly into the appropriate units. The initial focus was in the Emergency Department Critical Care. And this makes sense, because at our facility 80% of all admissions come through the ED. And in terms of tools, we incorporated the elements of the sepsis bundle into our EMR order set to decrease variability. We placed high attentions to opportunities for improvement, so we reviewed the core measure abstraction data on a continuous basis. We continue to review cases, look for opportunities for improvement. We want to know if these opportunities for improvement are due to a provider issue versus a system issue.

The engagement of the clinical team cannot be stressed enough, with "team" being the operative word. Provider engagement and empowering nurses are a must. At the grassroot level you need to allow the team, we felt, to do their job. So, as I mentioned before, we empowered nurses to identify and initiate the sepsis work up when they encounter patients at triage that fit the criteria.

What is working or worked? A defined physician and nursing champion is a must. We needed someone to be passionate, to promote direction and clarity to the mission of providing sepsis care. A dedicated sepsis coordinator who have used the data and provides education is also a must. We also instituted sepsis alert and code sepsis. Sepsis alerts to identify to the ED staff when we had a septic patient, and code sepsis for our septic shock patients. What that brought was the importance of these early identifications to bring this level of providing care to these patients at the level of what we do for patients for MI, stroke, and trauma. We felt that incorporating order sets into our EMR is an important thing. By doing that we decreased variability in the delivery of care for these patients. We recently changed to a new EMR. This new EMR we knew would be a disrupter because it would change the work flow. So, we provided and incorporated to the new EMR our sepsis order sets in order to have continuity of care and without any disruption of care. Finally,

the sepsis bundle compliance is something we continually examine and educate when we fall out and this is something we do continuously.

This is our severe sepsis mortality graph and its T-chart graph. This graph shows how we've done over the last couple years. As I mentioned before, we had a mortality rate of about 21% when we started this journey for severe sepsis. We are presently, based on this graph, at 8%.

This graph also shows our septic shock mortality. And again, as I mentioned before, we were at 38% for septic shock mortality. We are down to 26%. And overall our combined mortality for severe sepsis and septic shock is about 17%.

So, transforming our approach to sepsis management. From our Sepsis Committee we had an idea of forming a Dedicated Sepsis Unit. The idea is that a Dedicated Sepsis Unit, like a Cardiac Unit, or a Stroke Unit or a Trauma Unit that provided consistent, pro-culture of care will reduce mortality, readmission, and length of stay. Now this unit, that came out of the Sepsis Committee, was started on December 12th of last year. So, it's been up and operational for about little over, close to three months.

Now this unit is a 19-bed medical/surgical unit that is acuity adaptable. And some other criteria: One, the patient needs to have a lactate less than 4 to come in. If they're greater than 4, they'll go to our ICU. The primary diagnosis of sepsis, which is being actually treated, is the other criteria. So far, from preliminary data, we have seen a decreased length of stay for both December, January, and February. We've seen a decreased 30-day readmission, decreased mortality. And as you know, and since it's still early, we're continuously looking at the data and looking for fall outs.

Some lessons learned: Decreasing variability improves outcome; continuous team engagement is important. In our facility we celebrate the successes with everyone. We study OFIs, continue to learn from cases that fall out and identify if it's a system or a provider issue. And we continuously use the methodology of using plan, do, study, act and which we've been successful

at. Lastly, I need to give special thanks to my friend, Dr. Emanuel Rivers, whose initial work in sepsis changed the way for the better and how we treat patients with sepsis. Thank you and I'll send it back to the host.

Maria Gugliuzza: Thank you, Brittany and Dr. Kim.

We have one last poll question before we go to our live question-and-answer section of today's presentation.

Does your hospital have a nurse or physician champion for sepsis? Yes, no, unsure.

Does your hospital have a nurse or a physician champion for sepsis?

That's excellent. Looks like 67% of yes responses. We have seen a trend on the ListServe discussion board for those discussing the nurse and physician champions or those who have hired specific sepsis coordinators. For those that don't have those roles in your organization, nurse or physician champions are leaders who organize improvement efforts, they educate on best practices, and are generally responsible for reviewing outcome measurement. If you would like to sign up for our ListServe discussions, you can do so on *QualityNet*. Our team will post the link the sign up for the discussions in the chat window. That is the end of our presentation, but I would now like to do some live questions and answers.

Our first question is for UPMC: Slide 29 please. Pinnacle 30-day mortality rate compared to national. Are you using CMS reports as your heart failure 30-day mortality or calculating on your own?

Amy Helmuth: So, this is Amy. For the time periods where we have the comparison data to the national, that's using the CMS reports. And the data that's publicly reported on *Hospital Compare* for 2017 and 2018 because we don’t have that national comparison yet for those time periods, that's our own internal calculation.

Maria Gugliuzza: Thanks, Amy. On Slide 18, can you give some examples of what's included in your Heart Failure Passport and how it is used?

Amy Helmuth: I'll let Kim answer that one.

Kim Fowler: Can you repeat the question about the Passport, I couldn't fully understand or hear it?

Maria Gugliuzza: Sure, Kim. Can you give some examples of what's included in your Heart Failure Passport and how it is used?

Kim Fowler: Sure, it's part, we document in EPIC and it is a way for the nursing staff to document the patient education that they complete. It's a way to document our tools that we give, our folder, and we give the patients a calendar to record their weights, to document whether they have a scale or not and to also document their functional capacity for that particular day in the hospital based on our Stoplight, whether they're having a yellow day, a green day, a red day, and we compare that to their progressive mobility for that particular day or shift. It also uses a teach-back methodology so that the nursing staff can ask the patient specific questions, and then document whether they actually had the correct answer or not. And then whether the staff needed to reinforce that education.

Maria Gugliuzza: Kim, I think you answered this. But what EHR system do you use?

Kim Fowler: EPIC.

Maria Gugliuzza: Thank you. On Slide 20, how are the paramedic visits paid for?

Kim Fowler: That is a service that is provided by our facility. There is not a charge to the patient. It's used as a means to supplement other community support that they have, not to replace home health nursing, that would be, you know, our first choice. But we have patients, of course, that refuse, or the community paramedicine might be able to get in the first day after they go home, and then homecare starts the second day.

Maria Gugliuzza: Thank you. Slide 40. Dr. Kim, was your sepsis alert built into your EHR?

Dr. Brian Kim: The sepsis alert, yes, is built into EHR so that the provider, as well as the nurses, knows that when a patient flags as sepsis, that sepsis alert goes, and we activate that.

Maria Gugliuzza: Thank you. Slide 29. Amy, Kim, I see you monitored the mortality rate for this population, have you monitored your readmission rate? What shift have you seen in your readmissions as a result of your Heart Failure Clinic Program?

Kim Fowler: This is Kim, I can answer that. We have, over the last six years, seen a steady decline in our all-cause heart failure readmission rates. About - and around 2013 we were right around 24 to 25%. We are currently at about 17%, ended fiscal year last year around 18%. But what we also see is a huge decline or a reduction in our readmission rates for patients that actually attend our Outpatient Heart Failure Center. And those rates have consistently been in the single digit over about the last five years.

Maria Gugliuzza: Thank you. Slide 20. Have you noticed reduced Medicare spending per beneficiary rate following some of your implementations of the practices mentioned? It seems like these activities would reduce cost associated with the 30-day readmission.

Kim Fowler: This is Kim. I'm not sure I could answer that. Amy, do you

Amy Helmuth: Yes. We have seen our overall 30-day cost of heart failure patients drop, just as you mentioned, because of fewer readmissions. It's not something that we've really studied really closely, but absolutely we're providing less costly care by keeping patients out of the hospital and out of the emergency room.

Maria Gugliuzza: Thank you. Slide 40. Dr. Kim, what EMR do you use?

Kim Fowler: We use EPIC.

Maria Gugliuzza: And again, on Slide 40, were you measuring time from door to start of IV antibiotics or end time? And did you average time or median time?

Dr. Brian Kim: We use start time to IV antibiotics. We use median time to look at all outliers, both on the good and the bad side.

Maria Gugliuzza: Thank you. Slide 18 please. Can you share what your Stoplights are?

Kim Fowler: It's really the tool, it's on the slide. It's a very simple way to explain to the patients how they should monitor their symptoms. We start with the green zone and make sure that the patients can verbalize what they can do on their best day, which may not be ever that they're symptom free. And then a yellow day is anything that is different from their green day, the signs that are on the slide. But also, we strongly reinforce to people that even if on their green day there are particular activities they can complete, if it's harder to do or takes them longer to accomplish those activities that makes it a yellow day. So, we try really hard to reinforce those subtle symptoms that are meaning that the patient's moving towards an exacerbation. We've been very successful in incorporating this in system wide. It's big win when we saw not just nurses using this, but you see it in ER or in provider notes when they're out at their PCP.

Amy Helmuth: And I'll just add to that, that it's been so successful that other care teams have adopted similar strategies. Our COPD Team felt that it as something that they could use with that patient population. And recently our Diabetes Team is looking at and developing something for their patients who come in with frequent readmissions for DKA to help them better identify when they need to take action, especially with their sick-day guidelines.

Maria Gugliuzza: Thank you. We are, unfortunately, out of time for question. I would like to take some time and thank everyone for their participation in today's event. Debra Price will now discuss the continuing education process. Deb, please take it away.

Debra Price: Well thank you very much. Today's webinar has been approved for one continuing education credit by the boards listed on this slide. We are now a nationally accredited nursing provider. And as such, all nurses report their own credits to their boards using the National Provider Number 16578. It is your responsibility to submit this number to your own accrediting body for your credit.

We now have an online CE certificate process. You can receive your CE certificate two ways. First way is that you registered for the webinar through ReadyTalk®, a survey will automatically pop up when the webinar closes. This survey will allow you to get your certificate. We will also be sending out the survey link in an email to all participants within the next 48 hours. If there are others listening to the event that are not registered in ReadyTalk® please pass the survey to them. After completion of the survey, you'll notice at the bottom, right-hand corner a little gray box that says done, you will click the Done box, and then another page opens up. That separate page will allow you to register on our Learning Management Center. This is a completely separate registration from the one that you did in ReadyTalk®. Please use your personal email for this separate registration so you can receive your certificate. Healthcare facilities have firewalls that seem to be blocking our certificates from entering your computer.

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