Hello everyone and welcome! We really appreciate your continued interest in this collaborative and look forward to getting started. First we will start with a few housekeeping reminders:

1) To reduce the likelihood of feedback during the call, we’ve muted everyone.
2) Please use the chat function to ask questions. We have time at the end of the presentations to respond to any questions submitted during the webinar, and, we’ll open to a Q&A format at the end
3) The webinar is being recorded. We will post it later and provide a link so you can review or share with any member of your team unable to be on the call. Please frame any questions with the understanding it will be part of the recording.
Thank you all again for joining us. I’d like to keep the format fairly open for your questions. This presentation will be a broad overview of the QI process. It will be the first of three webinars. Our agenda today is:

1) Reviewing the five guiding principles of quality improvement
2) Learning the 10-step generic QI process detailed in The Quality Toolbox, 2nd edition
3) Creating a problem statement using SMART
4) Measurement approaches
5) Brief introduction to the PDSA approach to QI
6) An outside perspective

7) 5
The five guiding principles of QI are: Facilitate adoption through hands-on improvement projects; Define quality and get agreement; Measure for improvement, not accountability; Use a quality improvement framework and PDSA cycles; Learn from variation in data.
Let’s take a look at how we might identify a potential QI project. We have an in-house variance system which allows reporting anonymously. In looking back over the last 10 months, you notice some issues seem to be reported more frequently than others. Frequency in occurrence is generally a good indication there is some fault in the process which needs to be addressed. You can see here that the introduction of COVID protocols have caused some hiccups.
Before we embark on a QI project, we need to review the data and select a problem we think we can improve. We start with a problem statement. The problem statement should address who is the problem affecting. When was the problem discovered. Where is the problem happening. How often is the problem happening. What is happening that shouldn’t be happening. And what didn’t happen that should have.
I’ve decide to focus on the issues around COVID testing of all scheduled surgical cases and resulting case cancellations as my project example.
You can see I’ve answered each of the questions.
Now that we’ve identified the problem, we’re going to want to use a step by step approach to improve and address the problem. There are a lot of different approaches to this out there. For this presentation, I’m going to use the approach displayed on this slide. This slide shows the first 5 of 10 steps in a generic 10 step quality improvement process outlined in The Quality Toolbox. We’ll go through each of these steps in this presentation. First step is to clearly articulate what it is we want to accomplish. In other words, we want to draft a charter and make some initial plans.
We need to define what the problem is we want to tackle and be clear about what we hope to achieve. We start with a goal or an aim. We will develop an aim statement using the SMART approach. SMART is an acronym for Specific, measurable, applicable, realistic and timely. An aim statement is a clear, explicit summary of what your team hopes to achieve over a specific amount of time including the magnitude of change you will achieve. The aim statement guides your work by establishing what success looks like. Research shows teams who develop a good aim perform better.
Okay, now we have our goal for our QI project. The next step is to identify the stakeholders in this process.
How do you decide who is a stakeholder? A stakeholder is anyone with an interest or a right in an issue or anyone who can affect or be affected by an action or change. There are two types of stakeholders. Primary are directly affected and secondary or intermediaries or those who would have a part to play in implementation of any change. Think of funding, regulation, administration. These definitions come from the Quality Toolbox I mentioned before. I’ll have a link to it in the appendix.
Like any team, if you don’t have the right players you are unlikely to be successful.
There are lots of possibilities for who may be a stakeholder in your process. Some of these may be obvious but others may not have come right to mind. How do you decide who to include? You might start by asking yourself a few questions. Who might benefit? Who might be effected negatively? Who has responsibility for making a change happen or authority to approve a change? Who has resources that might be needed to make the change operational? And others who may have some importance to the issue.
Although it is important to identify all stakeholders at the beginning of a project, you may find each needs a different level of engagement. You can use the power and interest based stakeholder analysis tool. You can use this tool to help you manage just how much engagement and communication a stakeholder needs and craft your communication and engagement efforts accordingly.
The next step is to analyze what we are doing now and how well we are doing it. This is our current state.
One way to describe the current state is to use a flow chart or process map. We’ll talk more about this and other tools in our next presentation in January. On this slide is an example of a ‘big picture’ flow chart.
After we have a good understanding of what is happening now in the process, there are several quantitative and qualitative approaches to measuring your level of success with the stated objective—all Monday cases with a COVID+ test are informed of test results and surgery cancellation by the surgeon before they show up at hospital. These include interviews, one on one or focus groups, run charts which measure trends in data over time, surveys as well as many others.
The fourth step in our QI process is to identify what we can do better to get closer to our goal. What is the preferred state, where are some quality gaps and where are there opportunities to improve.
Tools that can be used to help you identify gaps and opportunities include a box and whiskers plot, a process control chart and a caterpillar plot. For any of you who review the NSQIP-P SAR, you’ll recognize these. The box and whiskers plot illustrates the median, or 50th percentile in performance and the top and bottom deciles. The control chart illustrates outliers or uncontrolled variation. The caterpillar plot displays high and low outliers in a set.
The next step in this process is determining what is keeping us from doing better. This is where we work to identify the root cause of our gaps in performance.
One way to identify gaps is using the 5 Whys. We start with asking why the patients show up. Then ask ‘why’ about the response.
What keeps us from doing better?

Some COVID-19 test results for scheduled cases are received over the weekend (for Monday cases).

1. Why? Patients show up for their surgery on Monday but case has been cancelled
2. Why? COVID + result is reported over the weekend and patients not informed
3. Why? Nurses cancel case and inform surgeon so he/she can inform patient of test results and reason why surgery cancelled
4. Why? Nurses aren’t allowed to report test results
5. Why? Surgeon’s are unavailable to inform patients

Above is an example of how you might respond to the 5 why’s. There is no right or wrong response. It is an exercise intended to generate ideas about why a problem is happening and where there is opportunity to correct the problem. How can we be certain we’ve identified the root cause? Is this a symptom or a system cause? Will fixing the cause prevent recurrence? Is the cause related to a process, policy or procedure? Again this is all meant as an illustration for how you might approach an issue. We aren’t going to spend any time on actually brainstorming any solutions.
These are the next steps in the 10 step generic QI process. The next step we consider is what changes can we make to do better? If we try to develop solutions without going through the previous steps we are likely to fail. Our next webinar on QI tools will discuss specific approaches to this step.
Next step, as Shia LeBeouf would say, is to just do it. This is of course easier said than done.
The expert recommendations for implementing change or the ERIC project, stratifies various implementation strategies by their importance and feasibility. The ERIC project identified 73 implementation strategies and ranked them by importance and feasibility.
The first category, Use evaluative and iterative strategies, was ranked as having the most bang for the buck. An example of this strategy would be to audit and provide feedback on the change in practice.
After we’ve implemented a change, we need to measure its affect. We will then either make adjustments or work to sustain the change.
When we reach a point where our QI effect is successful we need to standardize the process, so it can be sustained and celebrate our success no matter how small it may be.
This slide shows The IHI Model for Improvement schema. It is the most commonly used QI approach in healthcare and an excellent way to test if your change is having the desired effect. The MFI uses a rapid cycle process called Plan Do Study Act (PDSA) cycles to test the effects of small changes, make them, and ultimately spread the effective changes through the practice or organization.
We can map the PDSA to the 10 step generic QI model we’ve been discussing. You can see that planning is the most intensive part of the PDSA cycle. A good plan will lead to good outcomes.
There is a well defined, step-by-step, iterative process for performing quality improvement. Many tools exist for each step in the QI process. We will discuss these tools and how to apply them in our next presentation.
Now that we’ve finished the broad overview, I thought it might be useful to hear how things went with another national pediatric quality collaborative. Please join me in welcoming Dr. Meredith Rodriguez from the Emergency Medical Services for Children Innovation and Improvement Center.
Pediatric Readiness Quality Collaborative

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EMSC | IIC
Emergency Medical Services for Children | Innovation & Improvement Center
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Disclaimer

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EMSC Innovation and Improvement Center

- Authorized by Congress in 1984
- Operate under a federal cooperative agreement
- Co-led by the University of Texas Dell Medical School (Austin, TX) and University Hospital’s Rainbow Babies and Children’s (Cleveland, OH).
  - Sub-investigators: Yale University, Baylor College of Medicine and Lundquist Institute Harborview UCLA
Our Mission

To transform care and improve outcomes for ill or injured children across the emergency care continuum through a foundation of quality improvement.

EMSC IIC
Emergency Medical Services for Children
Innovation & Improvement Center
The State of Emergency Care for Children

“If there is one word to describe pediatric emergency care in 2006, it is uneven.” —IOM, Growing Pains 2006

• >80% of pediatric visits are to general EDs
• Average ED sees < 13 children a day
• Known gaps in day-to-day readiness
• Lack of essential medication, supplies and equipment and training
• Lags in translation of pediatric evidence base
Pediatric Readiness

2 yo hit by a car
911 was called by family left POV to closest hospital (level 4 trauma center in central TX)
Upon arrival, ED was unprepared, lacked training supplies to treat child
Staff frustrated, lacked pediatric crash cart, did not have pediatric intubation equipment
Seizure, fixed, not being bagged.
Truck followed and arrived at hospital to support based on assumption of transfer
EMS supported the ED through entire rescue of the child

“Had EMS not followed to the ED, this child would not be here today” –EMS Medical Director
National Pediatric Readiness Project

- Presence of physician (47.5%) and nurse (59.3%) pediatric emergency care coordinators (PECC);
- Presence of QI plans that include children (45.1%);
- Process to ensure pediatric weights are measured in kilograms (67.7%);
- Presence of inter-facility transfer guidelines (70.6%);
- Presence of disaster plans that include pediatric-specific needs (46.8%).

83% of EDs across the US participated in the assessment (n=4,149)
SMART Aim
By April 2020, the median pediatric readiness score for participating sites will collectively improve by 10-points.
At a Glance

• Collaboration of 117 hospitals in 17 states organized into 16 teams

• Characterized by:
  - Pediatric champions and Trainers
  - Quality improvement science
  - Support from subject matter experts
  - Pediatric readiness interventions:
    1) weight in kg,
    2) abnormal vital signs,
    3) interfacility transfers,
    4) disaster planning

• Improvement monitored by dashboards that highlight structural, process, and outcome measures
Participating Hospitals (n = 117)
Participant ED

ED Configuration

- General ED
- General ED with Designated Pediatric Area
- General and Pediatric ED
- Pediatric ED
Who We Represent

- Annual ED Volume Range: 1,250 – 175,000
- Pediatric Annual Volume Range: 100 – 150,000

**1,484,965** PEDIATRIC ED VISITS PER YEAR

*5% of total pediatric ED visits per year in US*
COLLABORATIVE DESIGN

FIVE PHASES OF PEDIATRIC READINESS QUALITY COLLABORATIVE

1 Development
Subject-matter experts develop intervention bundles and select quality measures that align with a hospital’s infrastructure, processes, and outcomes of care.

2 Orientation
Addresses the administrative aspects of launching a quality improvement collaborative, such as introductory meetings/webinars, compiling team profiles/characteristics, stakeholder engagement, legal/regulatory issues, assessing ESR’s Pediatric Readiness.

3 Mobilization
Establishes cadence for team meetings; exposure to QI tools; education, workshops, education on intervention found/flash, convening local QI teams; developing plans for implementation, data collection and submission.

4 Implementation
Declare site-specific aims; rollout interventions from targeted bundle(s); measure performance; provide feedback to care teams regarding progress.

5 Sustainability & Spread
- **Sustainability**: Enabling the progress that hospitals have made already and continually building upon it.
- **Spread**: Actively disseminating best practice and knowledge about every intervention and implementing each intervention in every available care setting.
Collaborative Teams

Training Site

A comprehensive medical center or children’s hospital that treats a high annual volume of pediatric patients (>10,000) and has an established clinical quality, patient safety, and risk management program.

Affiliate Sites

Any ED/acute care hospital (may be a freestanding or satellite ED) that agrees to work closely with a Training Site to implement a pediatric QI program in their emergency department.
Team Structure

**PEDIATRIC CHAMPION**
A physician and/or nurse at an Affiliate Site, identified by the site’s Hospital Administrator and ED Leadership, who agrees to implement a pediatric QI program and participate in associated team-based activities.

**TRAINER**
A physician and/or nurse at a Training site, who serves in the role of PECC, disseminates educational content to Affiliate Sites, and prepares Pediatric Champions to develop and implement a pediatric QI program.
Intervention Bundles

Bundle 1: Weighing all Children in Kilograms

Sub-Aim Statement
By April 2020, at least 85% of pediatric patients will have their weight measured and recorded exclusively in kilograms.
Intervention Bundles

Bundle 2: Recognition and Notification of Abnormal Vital Signs in Pediatric Patients

Sub-Aim Statement
By April 2020, 100% of pediatric patients with abnormal vital signs will be identified by healthcare providers in the emergency department.
Intervention Bundles

Bundle 3: Interfacility Transfers for Pediatric Patients

Sub-Aim Statement

By April 2020, 100% of sites implementing the Interfacility Transfer bundle will have a comprehensive plan that address the following pediatric-specific components:

- Defined process for initiation of transfer
- Process for selecting the appropriate receiving center and staffed transport service
- Process for patient transfer and copy of signed informed consent
- Plan for transferring medical records and personal belongings
- Plan for providing patients and families with information regarding the transfer process along with details about the receiving center.
Intervention Bundles

Bundle 4: Disaster Planning for a Pediatric Population

Sub-Aim Statement
By April 2020, 100% of sites implementing the disaster bundle will have a plan that address four essential domains of pediatric disaster preparedness:
• Disaster coordination
• Coalition-building
• Surge capacity
• Essential resources and equipment
4a Interpret baseline data
Takeaways - 5 Keys to Success

1. Engage your leadership and keep them informed
2. Build a team or support network
3. Develop a process for turnover
4. Engage with fellow member hospitals and national experts
5. Don’t let QI jargon be intimidating
Thank you!
Resources
Appendix

- **Resources**
  - Institute for Healthcare Improvement (IHI) Resources; available here: http://www.ihi.org/resources/Pages/default.aspx
  - American Society for Quality (ASQ) Resources; available here: https://asq.org/quality-resources
Questions?

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