Advancing Family Centered Care and Quality Self-Assessment for Pediatric Resuscitation Readiness

Sage Myers, Nancy Kassam-Adams, Marc Auerbach

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Children's Hospital of Philadelphia
Perelman School of Medicine University of Pennsylvania
Yale-New Haven Children's Hospital
Yale University School of Medicine

Project team

Sage Myers, MD MSCE	PI	CHOP/UPenn
Nancy Kassam-Adams, PhD	Co-PI	CHOP/UPenn
Marc Auerbach, MD	Co-I	Yale
Vinay Nadkarni, MD	Co-I	CHOP/UPenn
Aaron Donoghue, MD MSCE	Co-I	CHOP/UPenn
Travis Whitfill, MPH	Co-I	Yale
Kristen Kohser, MSW	Project Coordinator	CHOP

Rationale

- 85% of the 30 million children seen in US EDs each year present to general EDs with limited specialized pediatric resources.
- Substantial numbers require time-critical interventions.
- Community EDs need practical & feasible methods to

  improve pediatric resuscitation performance with the resources they have at hand,

  including **effective new QI tools** to assess & improve family-centered care

Specific Aims

Aim 1: Develop a web-based pediatric resuscitation quality self-assessment toolkit for emergency care

Usable in any ED
Grounded in video-review

Aim 2: Develop a first QI package: Family-centered care (FCC)

Practical assessment tools
Online skills training

Aim 3: Evaluate effectiveness of FCC online skills training module

Can we improve family-centered care during pediatric resuscitation by providers / teams in community EDs?

Aim 1: Develop web-based ped resuscitation quality self-assessment toolkit for emergency care

- **Focus groups and resuscitation area walk-throughs to better understand video QI in community hospital context**
  - Conducted focus groups in 6 community hospitals
- **Building website**
  - URL: www.savepeds.org
  - Framework in place – will go public after RCT complete
  - Currently using site's online course feature to deliver training within RCT

Video-based QI: Allows robust assessment of

acute care delivery, team performance, and family-centered care delivery

Overview of Focus Group Themes

Pediatric Resuscitation

- Infrequent
- More difficult than adult

QI Efforts

- Positive views of QI, acceptance with providers
- Many ongoing projects (often hospital led, adult-focus)
- Need to see benefit to ED/self for buy-in

Video for QI

- Positives – see team work, better objective data
- Negatives – cost, time, legal, fear of exposure/punishment

Excerpts from focus groups

See benefits for use of video review in resuscitation QI?

P: I think there would be tremendous benefit. I think **during resuscitations, you're so focused on what you believe to be the priorities to the point where it's almost like having blinders on and you may not know what's going on somewhere else** and there's so much room for improvement in terms of working as a multidisciplinary team. … It would be like an out of the body experience. **We would actually get a completely different viewpoint of what's going on.**

Concerns? … Barriers?

P: I think it's all part of one big one which is like medical legal, kind of you know **that little bit of fear that that could be potentially used for harm for all of us, for people who struggle to really really want to do the best thing, despite our efforts doesn't always work out**, and I think my fear would be, potentially could be used in a negative manner.

What would make it easier?

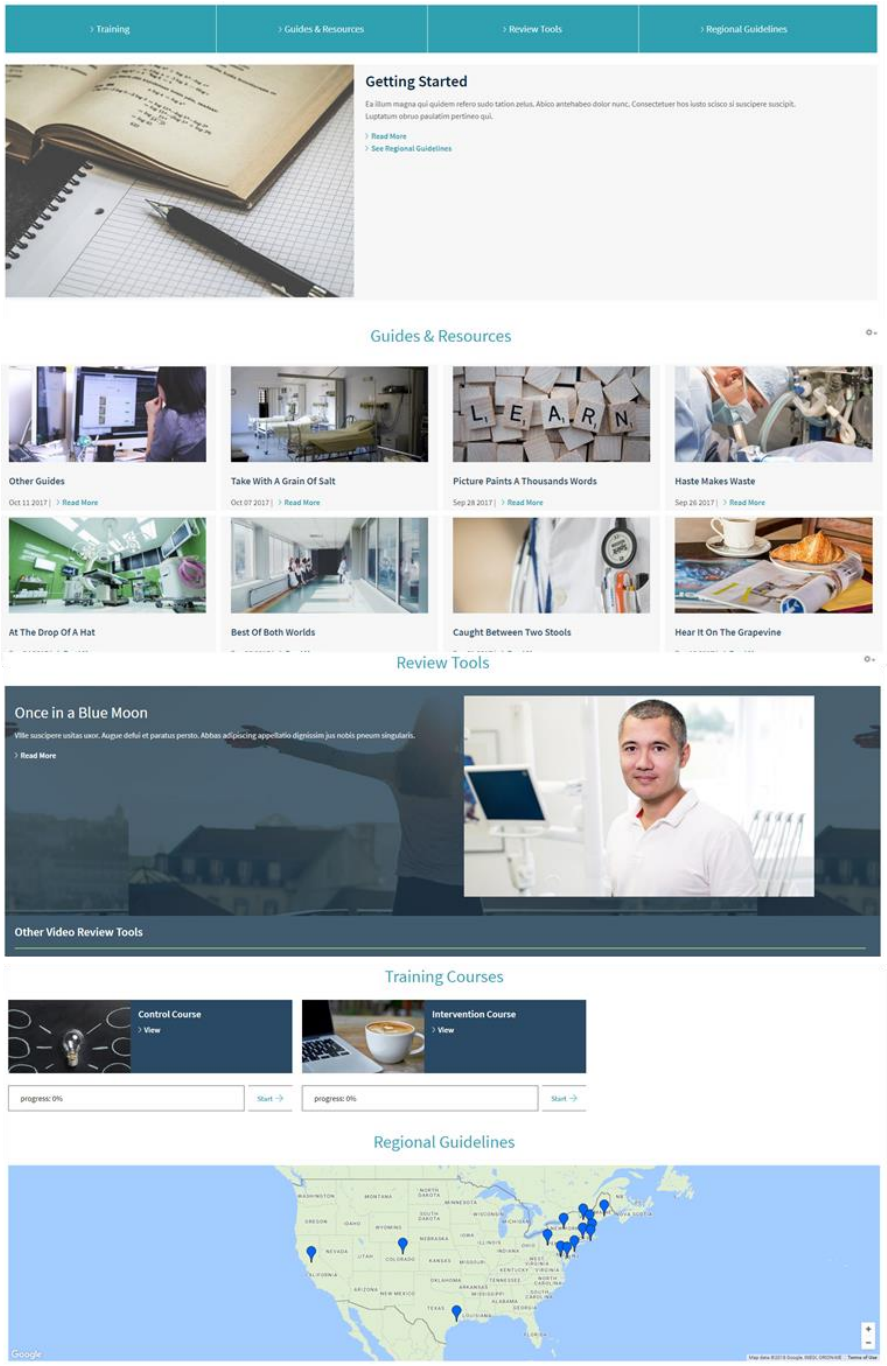
P: I think **if it was automatic**. I think that's similar to other things. If you're measuring sort of catch as catch can, or only when a certain person is on shift, as opposed to **this is just the expectation similar to we all document in the electronic medical record**. Someone's going to be videotaping us based on certain criteria.

SAVE PEDS

Website layout & features

- Guides & Resources
- Review Tools
- Training
- Regional Guidelines

www.savepeds.org



Self Assessment through Video Evaluation for Performance improvement in Emergency Department-based pediatric resuscitation

Aim 2: Develop family-centered care (FCC) QI package

- **Expand guidelines for family-centered care in pediatric resuscitation to incorporate the community ED experience**
  - In depth interviews with 12 providers (MD, RN, APRN) in general EDs
  - Rich descriptions of what happens now -- pediatric resuscitation and family-centered care
- **Develop online training module for improved delivery of FCC**
  - Created interactive course ("FACETS") on skills for FCC in peds resuscitation
  - **Bonus:** Created 2nd interactive course - on pediatric resuscitation readiness
- **Create integrated FCC QI package**
  - Online **training module**
  - Six **simulation scenarios** that explicitly pull for FCC skills / teamwork
  - **Self-assessment tool for FCC** in peds resuscitation

Excerpts from interviews

Experiences with pediatric resuscitation & with family-centered care in general ED:

"I think there's increased stress when you get a peds code. I mean there's like where's the tape and where's the drugs and where the heck is the pharmacist, you know. And is peds coming down? It's **no question it raises your stress level just cause you don't do it as much, but I actually think that the cynical people are maybe less cynical when it's a kid because you know it hits home more that it's a young kid**, especially if it's a young kid that previously was healthy."

"We're trained to be able to quickly respond to those kinds of scenarios, but it was a surprise. We didn't expect them to be coming in at all and they showed up, so I think initially seeing a child that was in cardiac arrest, **we focused our care on the child at first and the family actually just sat in chairs and they were sort of crying.** Obviously they were emotionally upset and while we were working on their child, and **then I think we realized the direction this was going and the emotional turmoil that the parents were in and then a nurse went to them and sat next to them**."

Feasibility of family-centered care during peds resuscitation in this setting:

"We always allow for the families to be at the bedside and we always try to attend to their needs as much as possible. **Sometimes we don't have language interpretations. Sometimes we don't have a designated family support person, but we definitely always take a minute once things are settled down to explain to the family as best as we can what's going on and how we can help and ask if they have questions**."

Interactive online courses

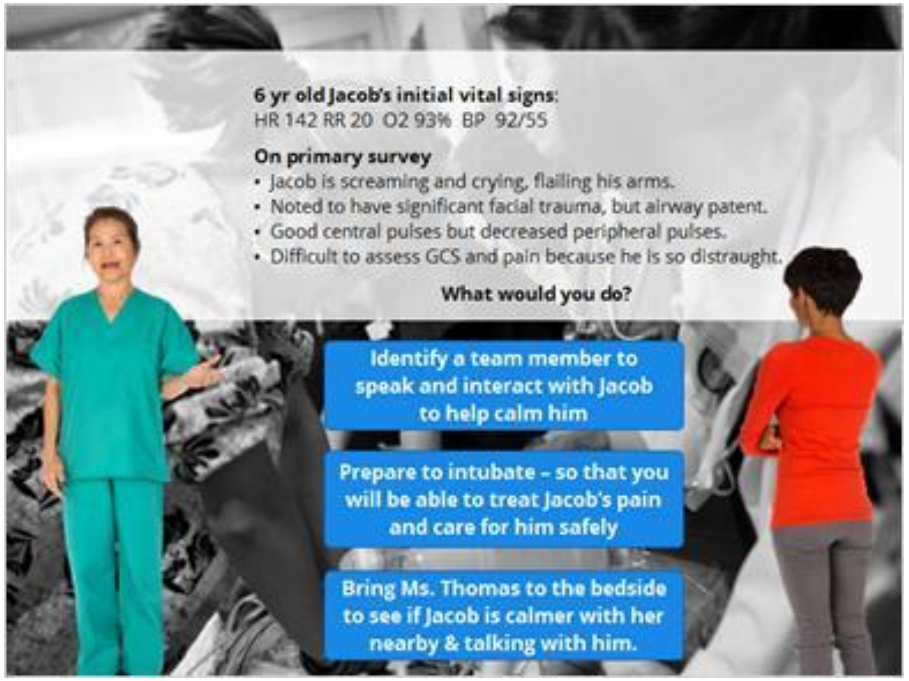
FACETS of Pediatric Resuscitation:

Family-**Ce**ntered and **T**rauma-Informed **S**upport

Learning Objectives

Following this course, the learner will be able to:

1. Summarize evidence regarding the impact of family-centered care during pediatric resuscitation on process of care, patient outcomes, and family member well-being
2. Describe specific practices that can help family members feel informed and involved during pediatric resuscitation
3. Describe specific practices that can help address family needs and distress during pediatric resuscitation
4. Develop a personal plan for integrating family-centered care practices into her/his interactions with pediatric patients



Interactive online courses

Pediatric Resuscitation & the National Pediatric Readiness Guidelines

Learning Objectives

Following this course, the learner will be able to:

1. Explain the rationale for ensuring readiness to care for pediatric patients, including pediatric resuscitation and stabilization, in all Emergency Departments
2. List key elements of National Pediatric Readiness guidelines
3. Describe current status and gaps in pediatric readiness at EDs nationally
4. Apply this knowledge to identify potential QI efforts in his/her own ED setting

Pediatric case example

Your triage nurse comes running from the front of the ED:

- 5 year old female, Anna, was carried in by her family
- She was struck by car while walking just outside the hospital
- Family members picked her up and walked in to the ED
- She appears unconscious

As your team prepares to care for this patient, what significant injuries are you most expecting given this mechanism? (check all that apply)

- [ ] Globe rupture
- [x] Blunt head injury
- [ ] Hand fracture
- [x] Liver laceration
- [ ] Duodenal hematoma
- [x] Femur fracture

Pediatric readiness guidelines

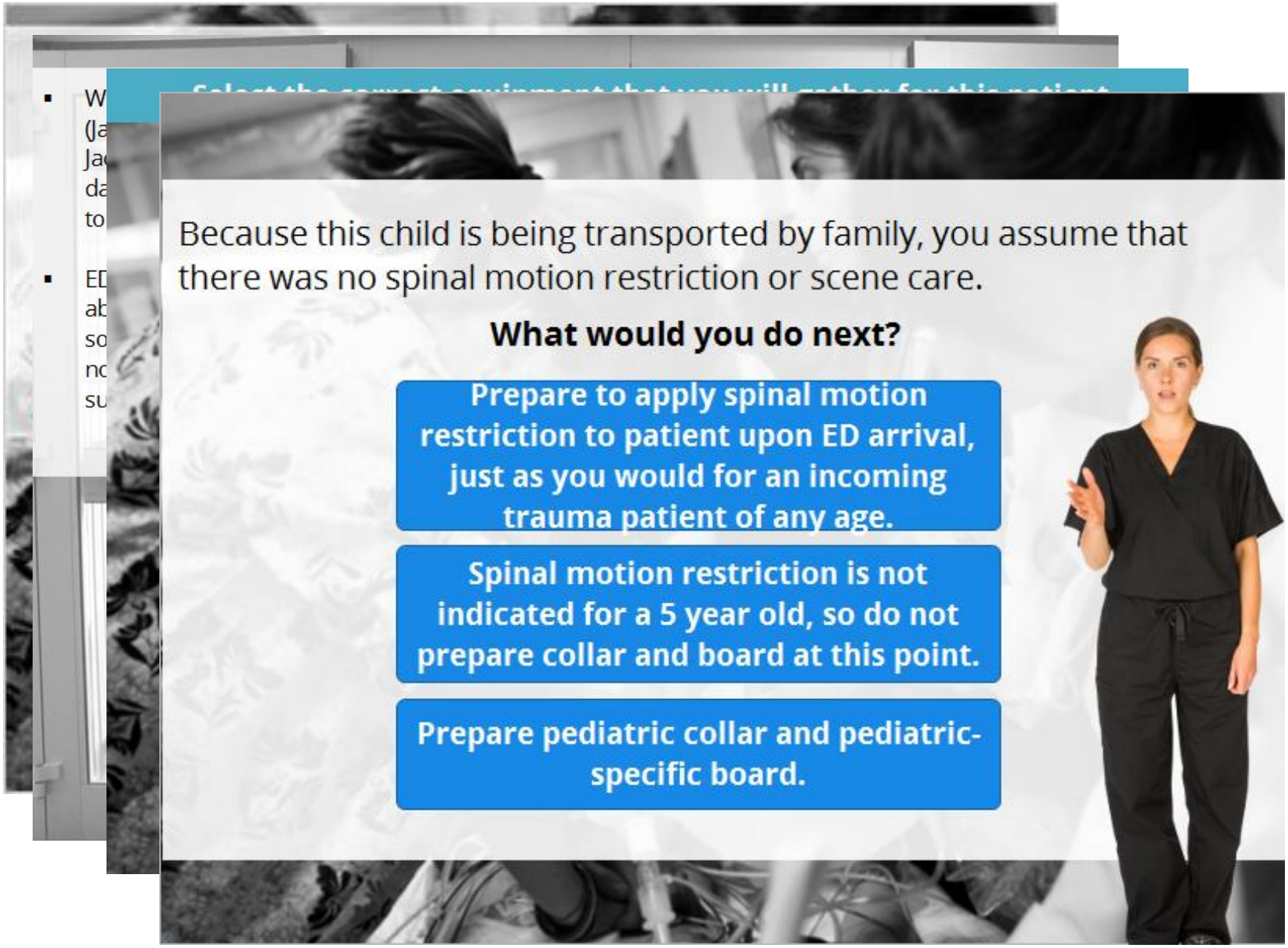
- **Improving pediatric patient safety**

Unique pediatric patient safety concerns are reflected in the following practices or policies:

- Children are **weighed in kilograms**
- **Full set of vitals recorded:** temp, HR, respiratory rate. BP & pulse ox based on illness / injury severity
- Process in place for **identifying abnormal vital signs by patient age** and notifying physician
- Processes for meds include **pre-calculated dosing guidelines for children** of all ages

Interactive online courses

Case example – with choices
Emphasis on practical application



Aim 3: Evaluate FCC skills training module in an RCT

Primary outcome – Individual providers
More confident / more ready to use specific skills? (surveys)

Secondary outcome - Team performance in simulation
Improved use of specific skills? (observational coding)

- RCT enrollment: 2 samples
  (a) Site visits (survey and sim data) **(b)** Online sample (survey data)
- Study participants randomized to 1 of the 2 interactive courses
- Initial data: Who is in the study? What are the gaps / learning needs?

RCT participants to date (N=212)

- 67% Female
- Mean age = 38.7
- Mean years experience in the ED = 9.3
- 56% Nurses, 18% Physicians, 14% ED Techs / Paramedics, 3% Physician Assistants, 3% Respiratory Techs, 2% Advanced practice nurses

Participants' workplace:

- ED location: 36% urban, 32% suburban, 29% rural
- ED type: 25% Level I or II Trauma Center
  28% Level III, IV, or V
  45% not a Trauma Center

Pre-survey: Experience performing relevant skills

Least frequently done during any pediatric resuscitation in past 6 months

Acute care provision
42. Perform airway maneuvers in a pediatric patient.
37. Obtain vascular access quickly in a pediatric patient.
52. Anticipate likelihood of successful intubation of a pediatric patient.
44. Use appropriate adjunct airway in a pediatric patient.
51. Obtain or anticipate appropriate laryngoscope size for RSI, in a pediatric patient.
49. Obtain or anticipate appropriate ETT for RSI in a pediatric patient.
47. Order or anticipate appropriate medications for RSI in a pediatric patient.
69. Dose electricity correctly, for a pediatric patient.
39. Place and/or stabilize I/O access if necessary, in a pediatric patient.

Family-centered care provision
30. Provide comfort measures to family members witnessing resuscitation efforts of their child.
18. Identify family members who display appropriate coping behaviors to be present during resuscitation efforts.
48. Explain resuscitation procedures to family.
20. Prepare family members to enter the area of resuscitation of their child.
50. Check family members' understanding of what is happening to their child.
63. Observe for behavioral indicators of family members' emotional distress.
28. Announce family members presence to resuscitation team during resuscitation efforts of their child.
33. Identify spiritual and emotional needs of family members witnessing resuscitation efforts of their child.
60. Explicitly check on family members' emotional distress.
53. Provide regular updates to family members on child status and next steps.
8. Perform (assist with) electrical therapies during resuscitation efforts with family present.
25. Escort family members into the room during resuscitation of their child.
35. Encourage family members to talk to their child during resuscitation efforts.
40. Debrief family after resuscitation of their child.
43. Coordinate bereavement follow-up with family members after resuscitation efforts, if required.

Pre-survey: Confidence in performing relevant skills

Lowest mean ratings for comfort doing this during pediatric resuscitation

Acute care provision
42. Perform airway maneuvers in a pediatric patient.
74. Dose resuscitation medications appropriately, for a pediatric patient.
35. Encourage family members to talk to their child during resuscitation efforts.
69. Dose electricity correctly, for a pediatric patient.
44. Use appropriate adjunct airway in a pediatric patient.
49. Obtain or anticipate appropriate ETT for RSI in a pediatric patient.
51. Obtain or anticipate appropriate laryngoscope size for RSI, in a pediatric patient.
47. Order or anticipate appropriate medications for RSI in a pediatric patient.
39. Place and/or stabilize I/O access if necessary, in a pediatric patient.
52. Anticipate likelihood of successful intubation of a pediatric patient.

Family-centered care provision
48. Explain resuscitation procedures to family.
18. Identify family members who display appropriate coping behaviors to be present during resuscitation efforts.
5. Administer drug therapies during resuscitation efforts with family members present.
50. Check family members' understanding of what is happening to their child.
63. Observe for behavioral indicators of family members' emotional distress.
25. Escort family members into the room during resuscitation of their child.
53. Provide regular updates to family members on child status and next steps.
60. Explicitly check on family members' emotional distress.
30. Provide comfort measures to family members witnessing resuscitation efforts of their child.
33. Identify spiritual and emotional needs of family members witnessing resuscitation efforts of their child.
20. Prepare family members to enter the area of resuscitation of their child.
35. Encourage family members to talk to their child during resuscitation efforts.
40. Debrief family after resuscitation of their child.
43. Coordinate bereavement follow-up with family members after resuscitation efforts, if required.

Dissemination – how you can help

- Now: Recruitment of providers for online study
  - *Opportunity for free pediatric resuscitation training*
  - *Help spread the word*
  - *Send / post announcements to your networks*

SAVE PEDS

Who can participate?
Any health care professional (physicians, nurses, techs, paramedics)
who could be part of the team for a pediatric resuscitation in a non-pediatric-specialized ED / hospital setting

What is involved?
Complete a 1-hour online training on pediatric resuscitation topics
Complete online pre- and post-surveys (about 20 min each)

Compensation/CME
$25 provided upon completion of the post-survey.
Can claim CME credits for completion of online training.

- Future: Dissemination / use of web-based toolkit in community EDs