

Novel Applications of Simulation Debriefing

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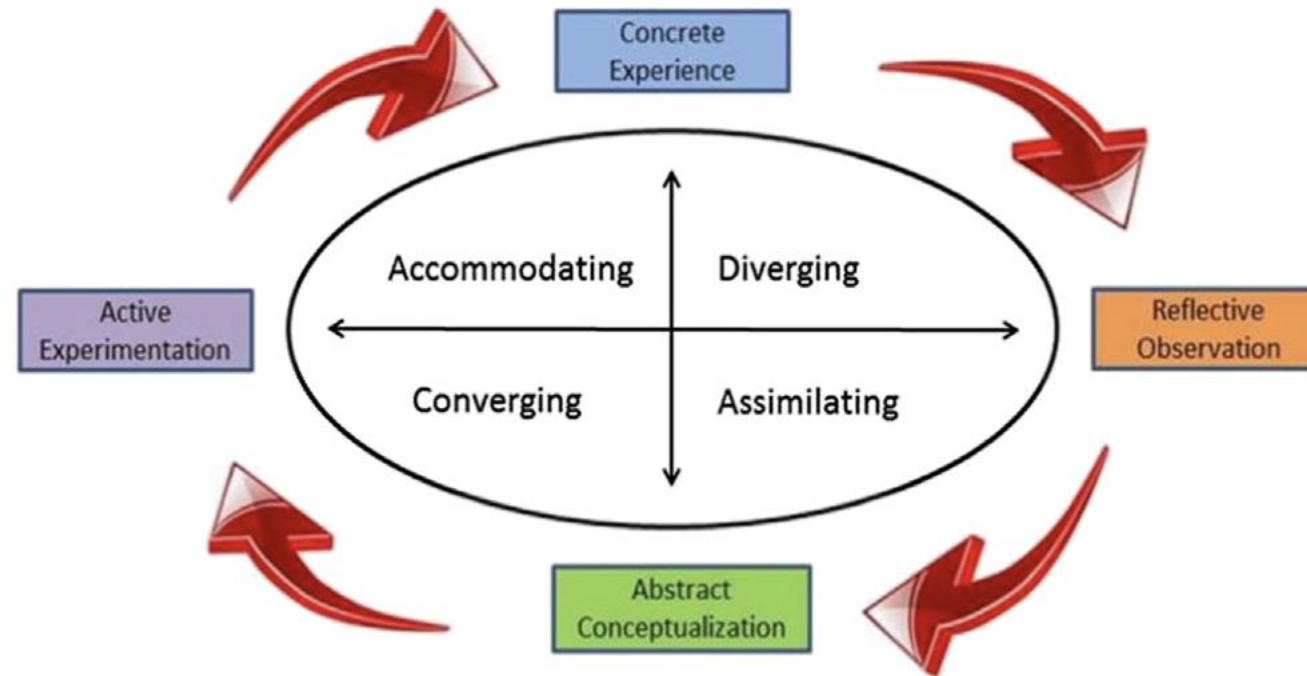
Disclosures

- A version of this talk was given at the Central IL Simulation Summit

Objectives

- Describe common frameworks for simulation debriefing
- List novel examples of applications of techniques of debriefing
- Develop a plan for applying simulation debriefing techniques in novel situations

Kolb's Experiential Learning Theory



Poore et al (2014)

More Than One Way to Debrief

A Critical Review of Healthcare Simulation Debriefing Methods

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Adam Cheng, MD

Summary Statement: Debriefing is a critical component in the process of learning through healthcare simulation. This critical review examines the timing, facilitation, conversational structures, and process elements used in healthcare simulation debriefing. Debriefing occurs either after (postevent) or during (within-event) the simulation. The debriefing conversation can be guided by either a facilitator (facilitator-guided) or the simulation participants themselves (self-guided). Postevent facilitator-guided debriefing may incorporate several conversational structures. These conversational structures break the debriefing discussion into a series of 3 or more phases to help organize the debriefing and ensure the conversation proceeds in an orderly manner. Debriefing process elements are an array of techniques to optimize reflective experience and maximize the impact of debriefing. These are divided here into the following 3 categories: essential elements, conversational techniques/educational strategies, and debriefing adjuncts. This review provides both novice and advanced simulation educators with an overview of various methods of conducting healthcare simulation debriefing. Future research will investigate which debriefing methods are best for which contexts and for whom, and also explore how lessons from simulation debriefing translate to debriefing in clinical practice.

(Sim Healthcare 11:209–217, 2016)

Key Words: Debriefing, Simulation, Feedback, Review, Methods.

TABLE 3. Postevent Facilitator-Guided Debriefing Conversation Structures

3-Phase Conversation Structures				Multiphase Conversation Structures		
Debriefing With Good Judgment ³³	3D Model ³⁴	GAS ³⁵	Diamond Debrief ³⁶	PEARLS ³⁷	TeamGAINS ³⁸	Healthcare Simulation AAR ²⁶
1. Reaction	1. Defusing	1. Gather	1. Description	1. Reaction	1. Reaction	1. Define rules
2. Analysis	2. Discovering	2. Analyze	2. Analysis	2. Description	2. Discuss clinical component	2. Explain learning objectives
3. Summary	3. Deepening	3. Summarize	3. Application	3. Analysis	3. Transfer from simulation to reality	3. Benchmark performance
				4. Summary	4. Discuss behavioral skills	4. Review expected actions
					5. Summary	5. Identify what happened
					6. Supervised practice of clinical skills, if needed	6. Examine why things happened the way they did
						7. Formalize learning

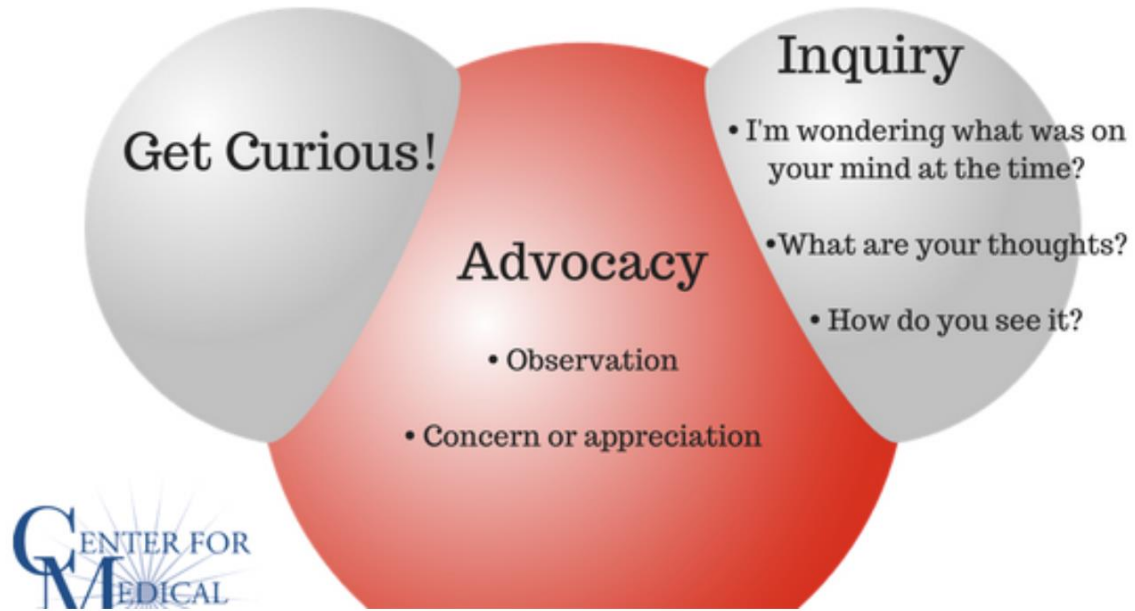
Debriefing tools

- Debriefing with Good Judgment
- Gather-Analyze-Summarize (GAS)
- PEARLS and PEARLS-SI

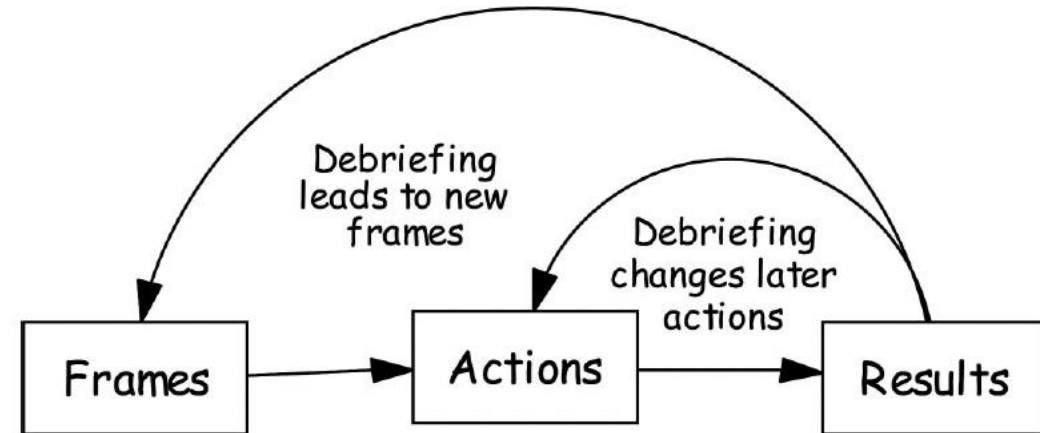


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Debriefing with good judgement



<https://harvardmedsim.org/topic/debriefing/>



Rudolph et al (2006)

Gather-Analyze-Summarize

Team Dynamics Debriefing Tool



American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

Instructions

- Use the table below to guide your debriefing.
- Observe and record elements of team dynamics.
- Identify 2 or 3 elements of team dynamics to discuss per debriefing session.

Action	Gather	Analyze	Summarize
<i>Closed-Loop Communication</i>	<i>Student Observations</i>	<i>Done Well</i>	<i>Student-Led Summary</i>
<ul style="list-style-type: none">• Orders acknowledged and confirmed when given• Orders announced when executed	<ul style="list-style-type: none">• Can you describe the events from your perspective?• How well do you think your treatments worked?• Can you review the events of the scenario? (directed to the Timer/Recorder)• What could you have	<ul style="list-style-type: none">• How were you able to [insert action here]?• Why do you think you were able to [insert action here]?• Tell me a little more about how you [insert action here].	<ul style="list-style-type: none">• What are the main things you learned?• Can someone summarize the key points made?• What are the main take-home messages?
<i>Clear Messages</i>		<i>Needs Improvement</i>	<i>Instructor-Led Summary</i>
<ul style="list-style-type: none">• Team members speak clearly• Orders are questioned when		<ul style="list-style-type: none">• Why do you think [insert	<ul style="list-style-type: none">• Let's summarize what we

PALS Instructor
Manual, 2020

The PEARLS Healthcare Debriefing Tool

	Objective	Task	Sample Phrases
1 Setting the Scene	Create a safe context for learning	State the goal of debriefing; articulate the basic assumption*	"Let's spend X minutes debriefing. Our goal is to improve how we work together and care for our patients." "Everyone here is intelligent and wants to improve."
2 Reactions	Explore feelings	Solicit initial reactions & emotions	"Any initial reactions?" "How are you feeling?"
3 Description	Clarify facts	Develop shared understanding of case	"Can you please share a short summary of the case?" "What was the working diagnosis? Does everyone agree?"
4 Analysis	Explore variety of performance domains	See backside of card for more details	<p>Preview Statement (Use to introduce new topic) "At this point, I'd like to spend some time talking about [insert topic here] because [insert rationale here]"</p> <p>Mini Summary (Use to summarize discussion of one topic) "That was great discussion. Are there any additional comments related to [insert performance gap here]?"</p>
Any Outstanding Issues/Concerns?			
5 Application/Summary	Identify take-aways	Learner centered <hr/> Instructor centered	"What are some take-aways from this discussion for our clinical practice?" <hr/> "The key learning points for the case were [insert learning points here]."

The Analysis Phase

Performance Domains

The analysis phase can be used to explore a variety of performance domains:



Decision Making



Technical Skills



Communication



Resource Utilization



Leadership



Situational Awareness



Teamwork

Three Approaches

1 **Learner Self-Assessment**

Promote reflection by asking learners to assess their own performance

2 **Focused Facilitation**

Probe deeper on key aspects of performance

3 **Provide Information**

Teach to close clear knowledge gaps as they emerge and provide directive feedback as needed

Sample Phrases



What aspects were managed well and why?



What aspects do you want to change and why?



Advocacy: I saw [observation], I think [your point-of-view].



Inquiry: How do you see it? What were your thoughts at the time?



I noticed [behavior]. Next time you may want to consider [suggested behavior], because [rationale].

PEARLS for System Integration (PSI) Healthcare Debriefing Tool

	Objective	Task	Sample Phrases
1 Pre-Work <Scenario Here>	Develop sample pre-determined stakeholder objectives.	Work with stakeholders to identify and prioritize potential high-impact and high-risk changes and develop pre-determined objectives.	What do you perceive to be the highest risk changes associated with this new space/process? What are you most worried about with the implementation of X?
2 Description	Create a shared mental model by reiterating the focus of simulation and providing a summary of events / key medical issues.	Re-orient to shared understanding of simulation objectives and address any specific medical questions	"We are going to spend the next X minutes debriefing that simulation. This simulation is not about your individual knowledge or skills. The focus is to improve the systems and processes in which we work and identify system issues, including latent system threats. In this scenario [provide quick summary of scenario]."
3 Reactions (Optional)	Used to explore feelings about process/system being evaluated. Helpful for small groups and strong reactions (positive or negative).	Keep focus on system objectives, quickly follow up exploring reactions with exploring system objectives.	"How did you feel about working in this new unit / with this new process ?" Quickly follow with "What about this new unit / process contributed to you feeling that way?"
4 Analysis	Explore variety of performance domains.	See backside of card for more details.	Transition Statement (Use to introduce next pre-determined learning objective) "Let's talk about X, as that was an area of potential concern." Exploring Each Stakeholder Objective (Use to summarize discussion of one topic) "We identified some areas for improvement. Any other observations related to X before we move on?"
Were all Stakeholder Pre-determined Objectives Covered?			
5 Summary	Identify system issues; potential solutions/ideas and next steps.	Provide summary to close the debrief and identify next steps.	"The biggest learnings / opportunities from today's simulation are X, Y, Z" (Summarize key learnings, action items, operational owners when time permits) "Are there any other potential changes we should capture?"

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The Analysis Phase

System Issues Categories

The analysis phase is used to uncover system issues in a variety of pre-determined objectives. Below are several sample categories:



Tools and Technology



Tasks



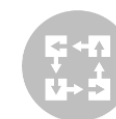
Environment



People



Organization



Processes

Primary Strategy

Participant System Assessment <Plus Delta (+Δ)>

Work through each pre-determined stakeholder objective and identify what did and what didn't go well

Secondary Strategies (if needed)

Directive Feedback

Respond to specific questions as needed

Focused Facilitation (i.e., Advocacy Inquiry)

Can be used to probe deeper to understand underlying systems issues, especially if participants are not self-identifying improvement opportunities

Sample Phrases

- ♥ "What aspects of your communication system did/did not work well, why?"
- ♥ "What issues did you experience with the new piece of equipment?"
- ♥ "How did this new process affect your situational awareness?"
- ♥ "What worked well/did not work well with route X versus Y?"
- ♥ "How did the design of this communication pathway impact your patient care?"
- ♥ "What would have made your communication more effective/efficient?"
- ♥ "I heard a question about why we have to call 'X' at this point in the process. That is because no one covers the phone after 8 PM."
- ♥ "I heard concerns about the location of the beam blocking line of sight. Unfortunately, that is an unmovable support beam."
- ♥ **Advocacy:** "I noticed X. That is concerning because it could potentially lead to patient harm."
- ♥ **Inquiry:** "What made that more challenging for you? What would make that more effective/efficient?"

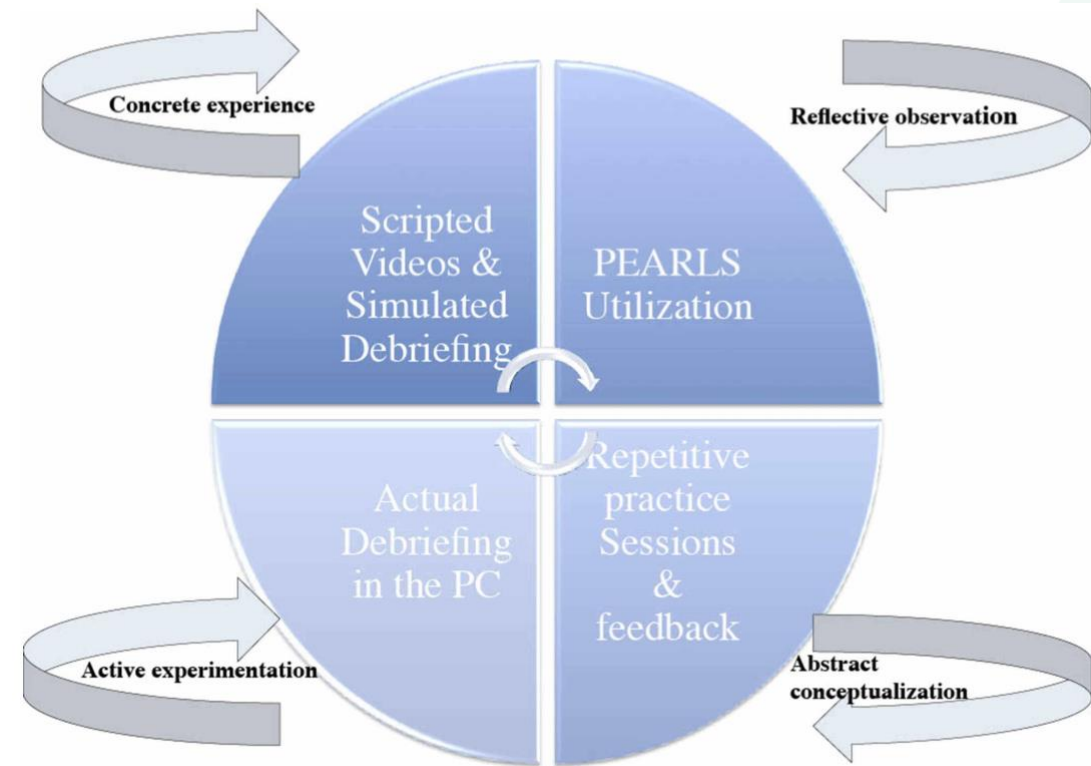
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Objectives

- Describe common frameworks for simulation debriefing
- **List novel examples of applications of techniques of debriefing**
- Develop a plan for applying simulation debriefing techniques in novel situations

SPS Provider Course

- Simulation-based training for pediatric sedation
- Taught by experienced sedationists, novice simulationists
- Developed a 4-hour workshop prior to the Provider Course



Abulebda et al (2020)

UWHealthKids



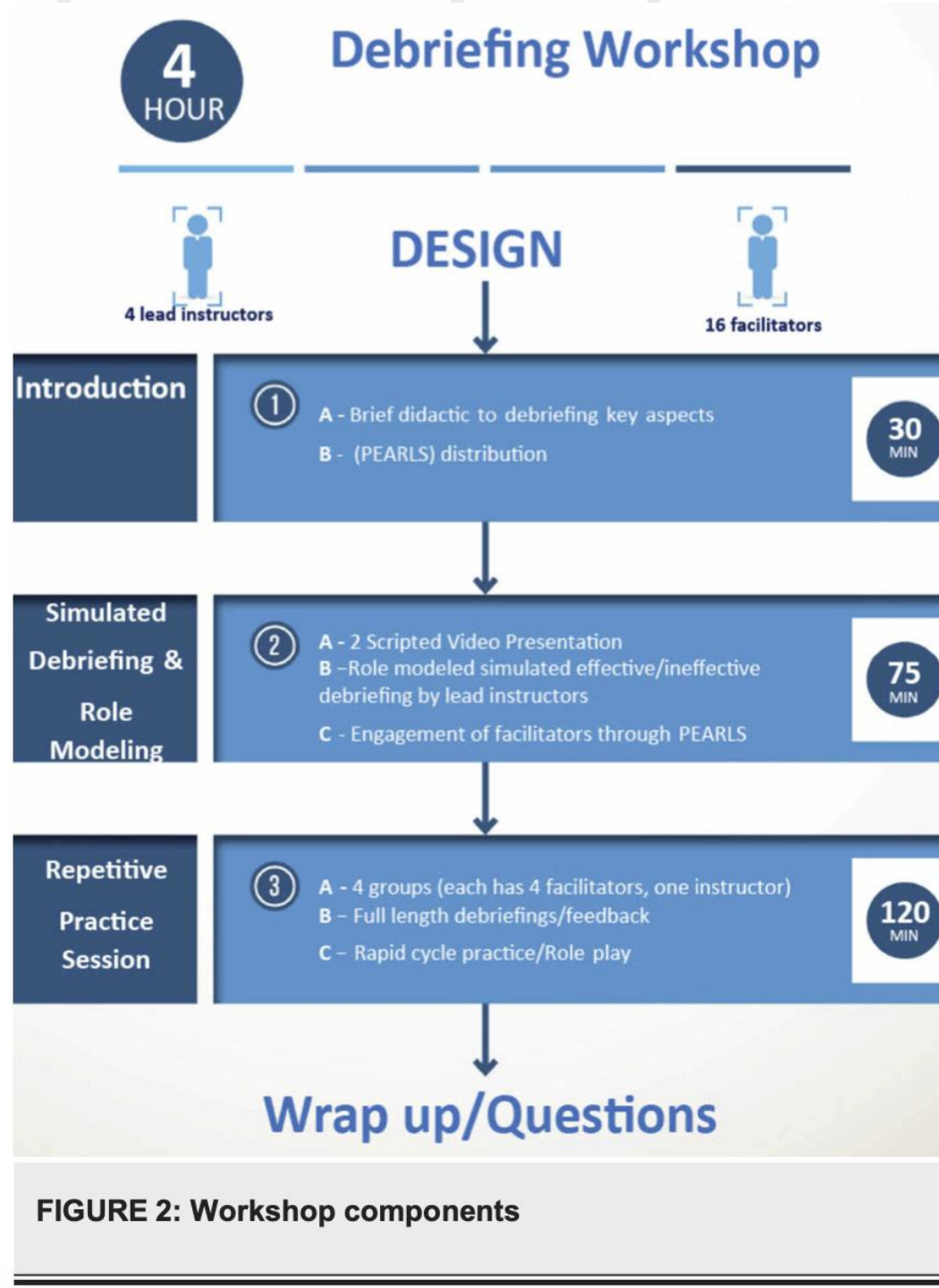


FIGURE 2: Workshop components

Abulebda et al (2020)

	Pre	Post	Change	p-value
1. Identify components of an effective debriefing	3 (1 – 5)	5 (4 – 5)	2 (0 – 4)	.0002*
2. Describe the essential phases of the debriefing process	2 (1 – 5)	4 (4 – 5)	2 (0 – 4)	.0002*
3. Describe the job of the debriefer during the debriefing process	3 (1 – 5)	5 (4 – 5)	2 (0 – 4)	.0001*
4. Identify effective or ineffective debriefing techniques when observing	3 (1 – 5)	4 (4 – 5)	1 (0 – 4)	.0005*
5. Successfully utilize debriefing techniques to conduct an effective debriefing	2 (1 – 5)	4 (3 – 5)	2 (0 – 3)	.0001*

Abulebda et al (2020)

Question	Mean (standard deviation); median (range)
Approach	5 (2.5 – 5)
Environment	1 (1 – 5)
Engagement	4.75 (2.5 – 5)
Reaction	4 (1.5 – 5)
Reflection	4 (2 – 5)
Analysis	4 (1 – 5)
Diagnosis	4 (1 – 5)
Application	4 (1 – 5)
Total (possible range 8 – 40)	31 (13 – 40)

Abulebda et al (2020)

Simulation Training to Interrupt Microaggressions (STIM)

- Microaggressions: "brief and commonplace daily verbal, behavioral, or environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults."

Sue et al (2007)



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www.uweducationforchange.com

**Specific
Aim 1**

Develop a simulation-based training curriculum for pediatric residents responding to microaggressions.

**Specific
Aim 2**

Build capacity within the DOP to support residents in responses to microaggressions through a train-the-trainer faculty model.

**Specific
Aim 3**

Create a user-facing toolkit for dissemination within and outside of SMPH, including faculty facilitator training materials.

Research team



Co-PI's:

Emily Ruedinger MD, MEd
(L)

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MD/MPH Class of
2024



Co-Investigators (L -> R):

Haroon Ali MD

Shiva Bidar-Sielaff MA CDM

Shannon DiMarco MSHS CHSOS

Naomi Takahashi MSW LCSW

Methods



Held focus groups with residents to identify common situations



Generated four cases and pilot scenarios



Recruited SPs with lived experience and provide appropriate training



Recruited faculty for debriefing training and DEI training



Held three simulation sessions (one per resident class)

Psychological Safety: Special Considerations for a Microaggressions Simulation

Pre-brief

- Community agreements
- Mandatory, with opt out
- Growth mindset
- Limited priming

Facilitation

- Residents as bystanders
- No random observers
- SP-safety considerations

Debriefing

- Facilitator training, with emphasis on humility and growth

DEI Facilitator Training

- Debriefing training
 - 2-hour online module
 - 8-hour in-person training
- DEI training
 - Basic microaggression training
 - Microaggressions scenarios (just like the residents)
 - Debriefing strategies specific to microaggressions

Debrief

Introduction

Before we start the debrief, I want to remind everyone of our simulation rules established during the prebrief. We will hold any discussions regarding feelings and performance in confidence within this group and that everyone within this group is intelligent, capable, and is only trying to improve their patient care.

Reactions Phase

Simulation often invokes emotions in the participants. In simulation, we like to address those emotions before discussing the specific aspects of the case.

I'd like to go around and have everyone tell me one word to describe how that simulation felt."

Description Phase

"To reflect and ensure we are all on the same page about the scenario, would someone mind sharing a brief synopsis of the scenario today?"

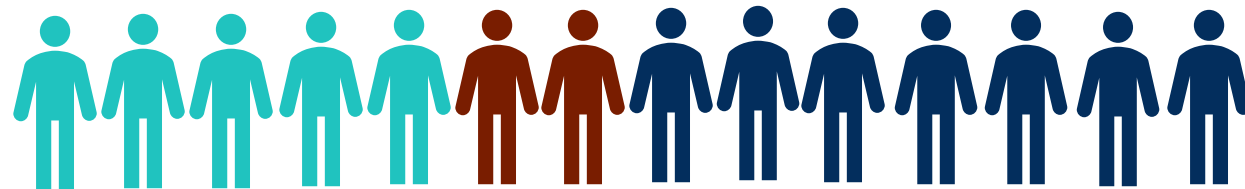
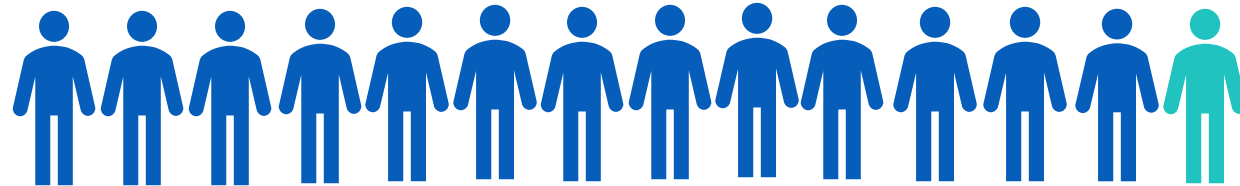
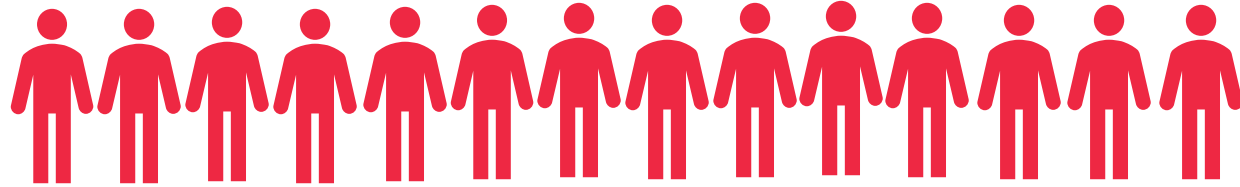
Analysis Phase

1. Describe how microaggressions related to gender can impact providers and staff.
2. Utilize one nonconfrontational technique to address this microaggression with the patient in the encounter.
3. Demonstrate one technique to diffuse tension with the patient after interrupting a microaggression in order to maintain a therapeutic relationship.

Discussion Questions:

- *What went well and what could be improved upon related to utilizing nonconfrontational techniques?*
- *What went well and what could be improved upon related to using techniques to diffuse tension?*
- *How authentic did your chosen approach feel? What are some other possible approaches to interrupt microaggressions related to gender?*
- *If learner used "just a nurse" language or did not clarify at all the nurse's important role: The nurse approaches you afterwards and tells you that she felt insulted that you seemed offended on your attending's behalf after she was assumed to be a nurse.*
- *How would you handle this? How might your response change based on the nature of your relationship with the nurse?*

Results



PGY-1

PGY-3

Faculty

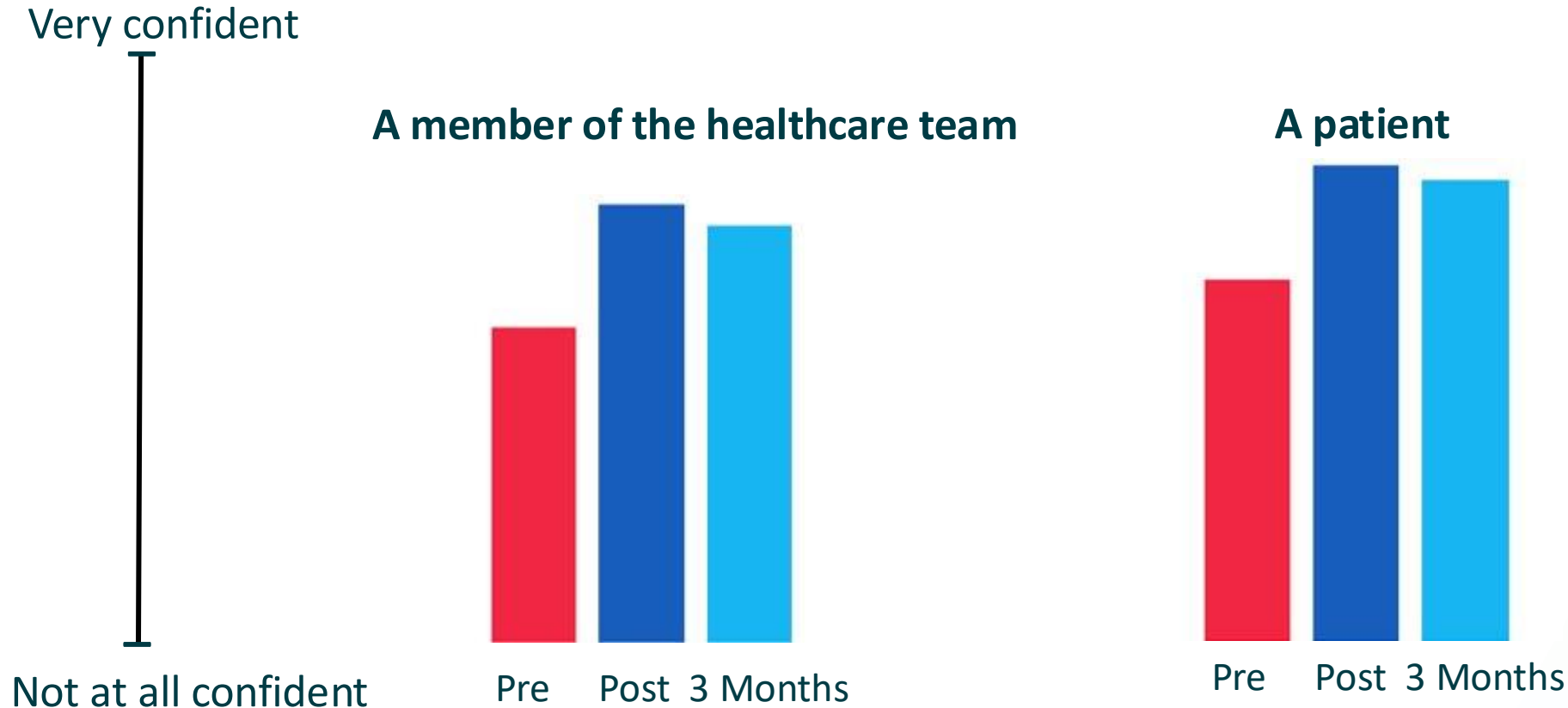
PGY-2

Fellow

All 42 participants reported maintenance of their psychological safety during the simulation

Resident Survey

How confident do you feel in your ability to intervene on microaggressions **directed** toward...



Resident Survey

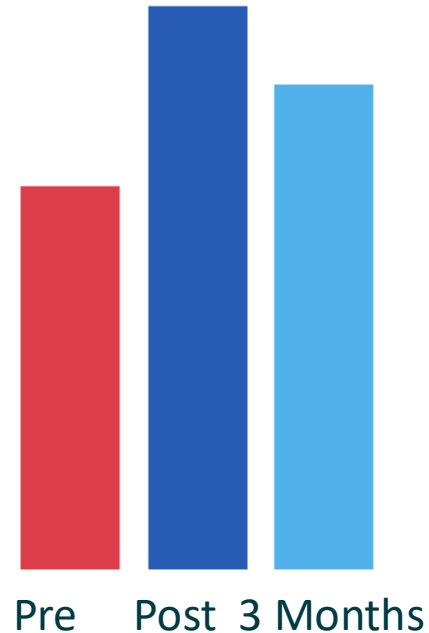
How confident do you feel in your ability to intervene on microaggressions **perpetrated** by...

Very confident

A member of the healthcare team

A patient

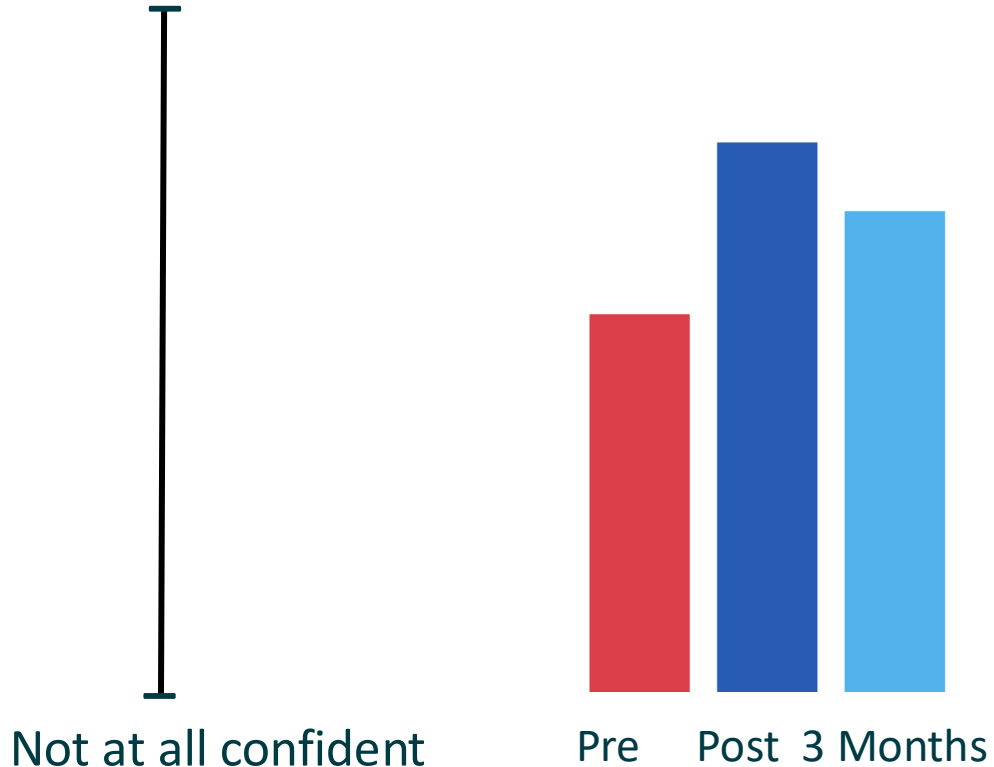
Not at all confident



Resident Survey

How confident do you feel in your ability to utilize a **non-confrontational strategy** to interrupt a microaggression?

Very confident



Not at all confident

Pre Post 3 Months

Resident Focus Groups

It has definitely prompted me to be more reflective and conscious of the way I'm communicating in my interactions and has prompted me to think about ways to intervene as a bystander or active person in the interaction.

...Felt more meaningful than didactic microaggressions trainings I had experienced in the past.

SPs definitely improved the value of the experience and how long lasting my retention in terms of learning from the experience is.

Faculty Focus Group

Participating in the cases as a learner fosters true empathy with the residents.

...Found broad utility in general simulation debriefing framework and skills and found it useful in adjacent situations.

There was one situation that I explicitly addressed with a trainee and felt well-equipped to do so.

Residents who work with [us] now seem more likely to intervene.



Simulation Training to Interrupt Microaggressions (STIM)

About

Start Here

Resident Curriculum ▾

Faculty Curriculum ▾

Dissemination

Creators



What is STIM?

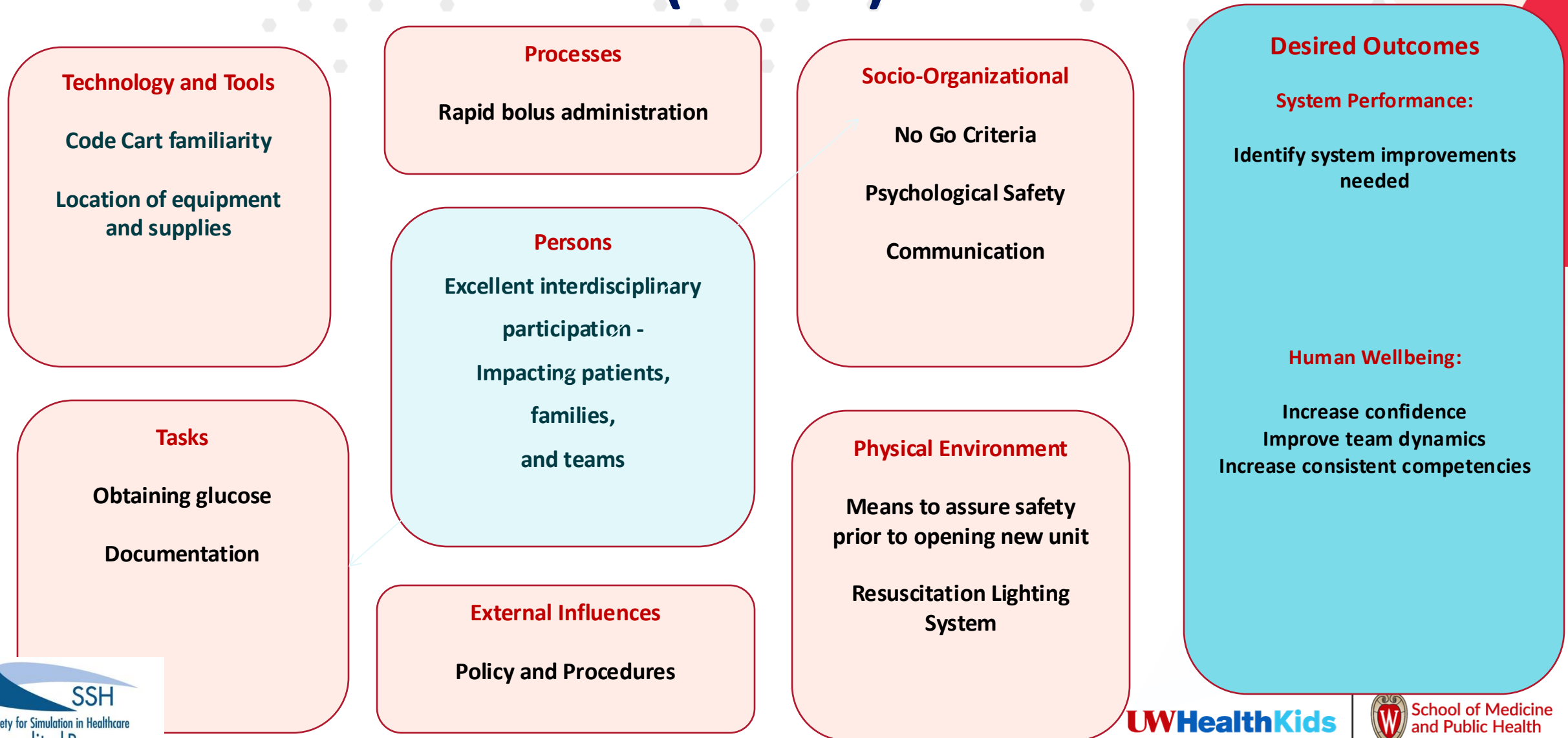
Simulation Training to Interrupt Microaggressions (STIM) is a high-fidelity simulation

stim.pediatrics.wisc.edu

Resuscitation Education and Acute Care Training (REACT)

- In situ, longitudinal, interprofessional simulations
 - Bidirectional communication with pediatric code and rapid response reviews
- Relatively inexperienced clinical staff, whose prior experiences with simulation varied greatly
- Loosely followed Kotter's change model for program development

Resuscitation Education and Acute Care Training (REACT)



Monthly interdisciplinary Mock Codes with designated observers documenting areas of opportunity and success.

People

- Team proficiency in skills and knowledge
- Code team roles
- Hand off communication
- Recognition for need to escalate care

Tools

- Code cart
- Code Blue button
- Resuscitation equipment
- Personal Protective Equipment (PPE)

Tasks

- Airway management
- Chest compression fraction
- Defibrillation
- Code documentation

Physical Environment

- Room readiness
- Team member positions at bedside
- Crowd control

Socio-Organizational Environment

- "Closed Loop" communication
- Culture of "Question and Confirm"
- Team interaction
- Psychological safety via pre and debrief

External Environment

- Incorporation of new workflows
- Way finding

REACT Initiative Outcomes

- Improvement of event scheduling

Increasing number of team members trained in simulation facilitation

Dissemination of lessons learned

"No Go" criteria development

Sustained engagement of interdisciplinary pediatric care teams

Identified psychological safety for team

Development of "REACT is Coming to You" flyer for team readiness

Creation of a room readiness checklist for in situ simulation

Pediatric Code Response Outcomes

Define team roles

Adherence to Pediatric Advanced Life Support algorithms

Improvement of interdisciplinary resuscitation team response

Appropriate escalation of care in a pediatric emergency

Code cart present in room

Optimal Oxygen delivery

Inconsistent use of PPE during resuscitation

Variation in knowledge of code cart content

Inconsistent documentation of resuscitation

Resuscitation Education and Acute Care Training (REACT) In Situ Simulation Education

Is Coming to YOU!!! ❤️

Wednesday, July 26th – 1300 – 1330



What is In Situ Simulation Education?

Learning experiences that include multidisciplinary members of a healthcare team who respond to a pre-determined scenario within a clinical environment with the goal of improving patient care!

Psychological Safety is Essential

REACT in situ simulation education allows a safe place to foster learning where you will be provided with a pre-brief synopsis of the patient scenario in a confidential safe space where mistakes are accepted as opportunities to learn!

Rules of Simulation:

Confidentiality: "What happens in sim, stays in sim"

- *We ask that you keep what happens during the simulation between your simulation group. Individual performance is not being graded and will not be discussed with your leadership or peers. These simulations may be used again in the future, and you are giving your peers an unfair advantage if you give them all the details.*

Basic Assumption:

- *We want to note that we are all under the assumption that everyone performing in the simulation is intelligent, hardworking, and trying to improve their patient care skills.*

Fiction Contract

- *Our last rule is the "Fiction Contract." We strive to make our simulations as life-like as possible, but they cannot be perfect. We ask that you suspend your disbelief and immerse yourself in the simulation to get the most out of your simulation experience today.*

SCENARIO

The December REACT simulation was conducted on P4 for the night shift. The scenario included a 3-month-old with a history of AML. She presented to the ED with neutropenia and a fever of 40C. The ED obtained blood cultures and sent the patient up to the floor.

Upon starting antibiotics the patient became more lethargic and hypotensive requiring fluid boluses. The patient eventually decompensated and lost pulses requiring 5 minutes of CPR.



Charting after a PRRT or Code

- ✓ The patient's primary nurse from the general care floor should write a note after a PRRT with or without transfer and a code
- ✓ A PRRT with transfer can be documented with an SBAR RN SENDING note
- ✓ Code events can be documented in a progress note. Include events leading up to the code and times with all interventions performed including medications given



Escalation of care

On night shift, if you have concerns about your hem/onc patient, do not be afraid to escalate care:

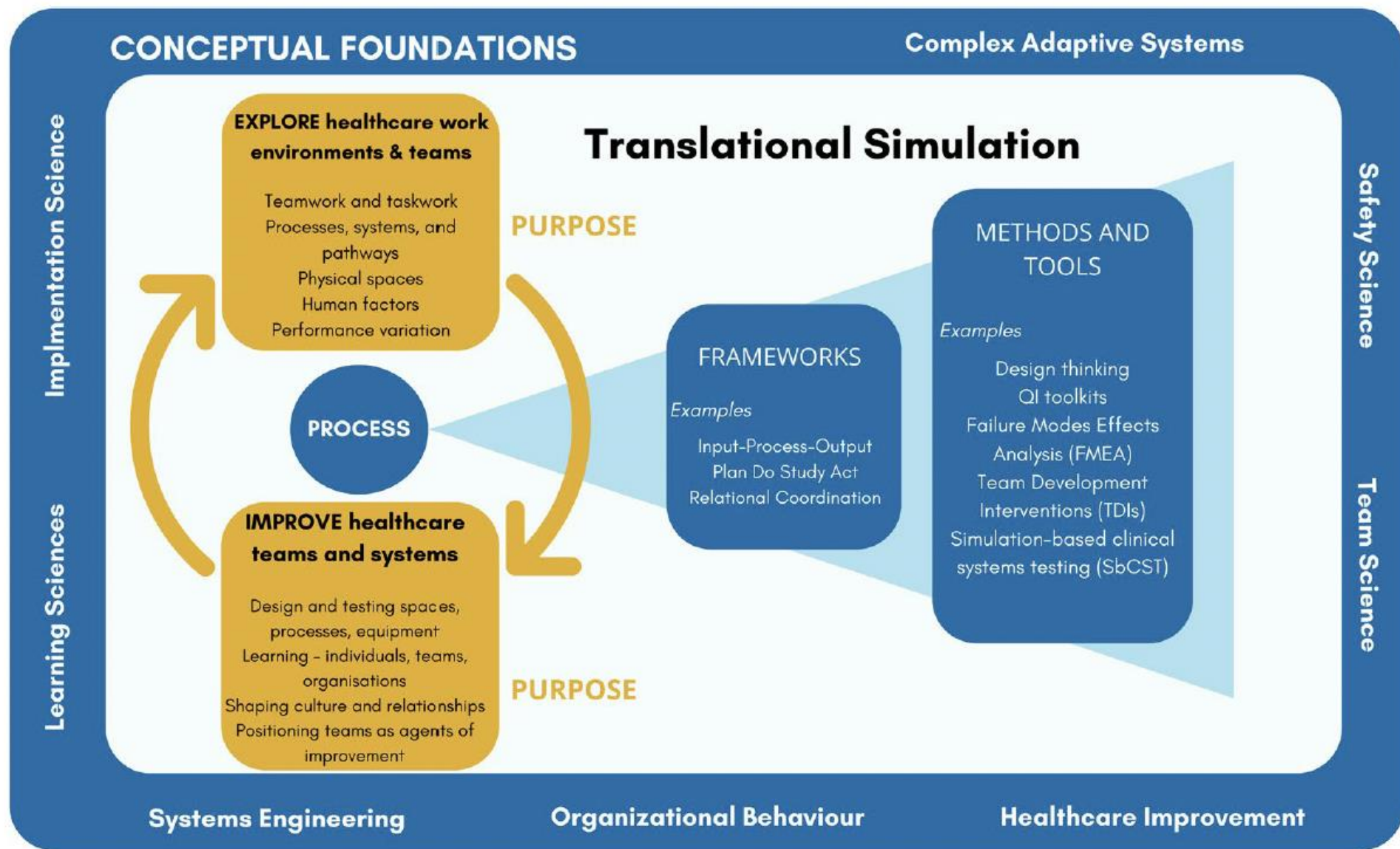
1. Peds resident/intern (hospitalist)
2. Page hem/onc fellow at home
3. Call RRT

Debriefing approach in REACT

- Debriefing training using PEARLS, and then discussion of modifications to PEARLS-Systems Integration
- Developing interprofessional facilitators more challenging, as staff often too busy
- Now developing a co-debriefing model

Objectives

- Describe common frameworks for simulation debriefing
- List examples of applications of techniques of debriefing outside of traditional simulation environments
- **Develop a plan for applying simulation debriefing techniques in novel situations**



Brazil and Reedy (2024)

Some tips and considerations

- Psychological safety is important in and out of sim environments
- Consider novice facilitator development to increase scale
- Learn about other frameworks, such as QI, team science, and systems engineering – and maybe find a collaborator as expert
- Remember that you are an expert in debriefing, but can't do it alone

Objectives and Take-Home Points

- Objectives
 - Describe common frameworks for simulation debriefing
 - List examples of applications of techniques of debriefing outside of traditional simulation environments
 - Develop a plan for applying simulation debriefing techniques in novel situations
- Take-Home Points:
 - Leveraging your talents and expertise to address system needs
 - Simulation debriefing can be a versatile tool

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