

PEDIATRIC EARLY WARNING SCORE

On Admission
PEWS helps identify early signs of deterioration with a "track-and-trigger" system

0800/2000
PEWS can accurately recognize up to 85% of pediatric patients who will experience clinical deterioration

1200/0000
PEWS can identify clinical deterioration as early as 11 hours before deterioration occurs

1600/0400
PEWS empowers nurses to communicate clinical findings to physicians with confidence

As the score parameters indicate
PEWS bring skilled, critical experts directly to the patient's bedside

Pediatric Sepsis Escape Room

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Components	1	2	3	Score	
Behavior (pick the "worst")	• Playing/Inappropriate	• Sleeping ("but arousable")	• Parents are concerned	• Lethargic/Comatose	
Respiratory (pick the "worst")	• Normal rate	• RR = 10 breaths per minute (bpm) above normal for age	• RR = 20 bpm above normal for age	• RR = 30 bpm or 5 below normal	
Cardiovascular (pick the "worst")	• Pink skin	• Pale skin	• Grey skin	• Grey and mottled skin	
PEWS Nebulizer every 15 mins	• Receives a zero if NO	• Receives 1 point if YES			
PEWS persistent vomiting after surgery	• Receives a zero if NO	• Receives 1 point if YES			

Legend: Low=0-2 Score, Medium=3-4 Score, High=5-6, Very High=7

PHENOMENOM OF CONCERN

Problem: Through anecdotal assessment of the medical record, the Clinical Nurse Specialist (CNS) identified that **nursing staff in the pediatric and oncology departments of a western hospital** were not documenting the Pediatric Early Warning Score (PEWS) and assessment per hospital guidelines.

Theoretical Model: John Hopkins Nursing Evidence-Based Practice Model (JHNEBP)

Method: To address the problem, the following **Quality Improvement** strategies were initiated:

- ✓ Development of an audit tool to assess the electronic medical record (EMR) for the following:
 - ❑ PEWS completed within one hour of admission OR next 4-hour assessment
 - ❑ PEWS completed every 4 hours per hospital guidelines
 - ❑ Identify any records with a PEWS of 3 or greater
 - ❑ If a PEWS score of 3 or greater was documented, was the action and response documented
 - ❑ If a PEWS score of 3 or greater, was the patient transferred to the Pediatric Intensive Care Unit (PICU)
- ✓ Pre-test survey to assess gap in knowledge
- ✓ Educational Intervention: PEWS Pediatric Sepsis Escape Room to enhance knowledge, skills, and attitude regarding pediatric sepsis and PEWS assessment tool
- ✓ Post-test survey to reassess knowledge
- ✓ Evaluation of educational intervention

PURPOSE

Reinforce education of staff to improve identification of early clinical deterioration of pediatric patients and proper documentation of PEWS with recommended interventions, per guidelines

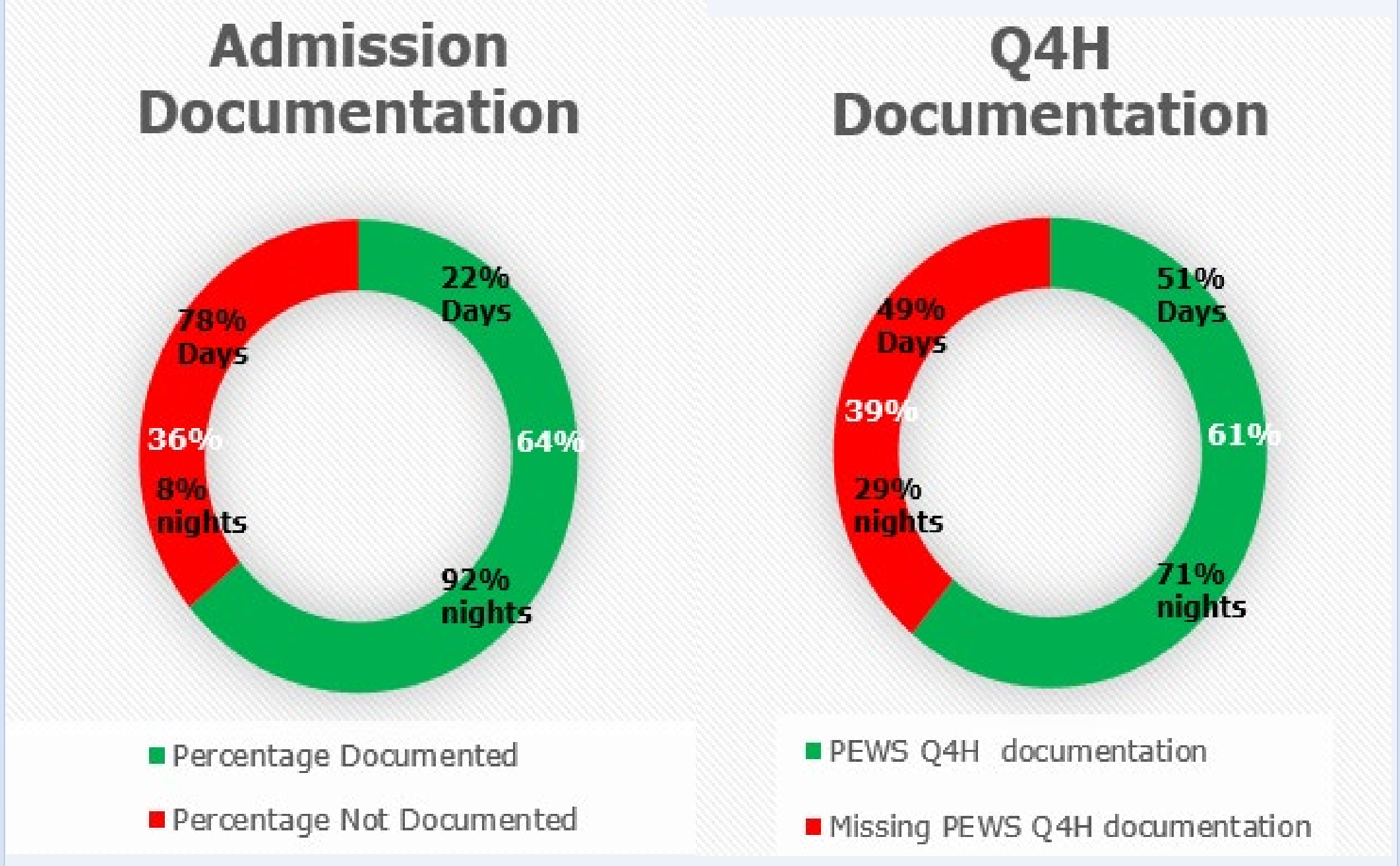
- ❑ The PEWS helps identify early signs of deterioration that can accurately recognize up to 85% of pediatric patients who will experience clinical deterioration.
- ❑ The PEWS can identify clinical deterioration as early as 11 hours before deterioration occurs.
- ❑ The PEWS empowers nurses to communicate clinical findings to physicians with confidence.

PEWS Score	Action	Response	Documentation
Low (0-2)	Continue current level of care	Continue care and reassess in 4 hours or PRN	PEWS score in EMR
Medium (3-4)	Notify clinical supervisor Assess patient together to determine if further evaluation by the MD and/or Rapid Response Team (RRT) evaluation is needed Increase frequency of VS to every 2 hours	Continue care and reassess in 2 hours or PRN Provide interventions as needed Reassess after any intervention Plan care with Health Care Team	PEWS score in EMR Document focused assessment, interventions, and reassessment
High (5-6)	Notify clinical supervisor Notify attending physician and pediatric intensivist Consider RRT evaluation Increase frequency of VS to every 1 hour	Pediatric intensivist will assess and plan Provide interventions as needed Reassess in 1 hour or PRN	PEWS score in EMR Document focused assessment and any interventions Document reassessments
Very High (7-9)	Notify clinical supervisor Notify attending physician, a pediatric intensivist, ED physician, Follow RRT protocol Increase frequency of VS to every 30 minutes	Pediatric intensivist will assess and plan Provide acute intervention Reassess in 30 minutes Transfer to PICU	PEWS score in EMR Document focused assessment and any interventions

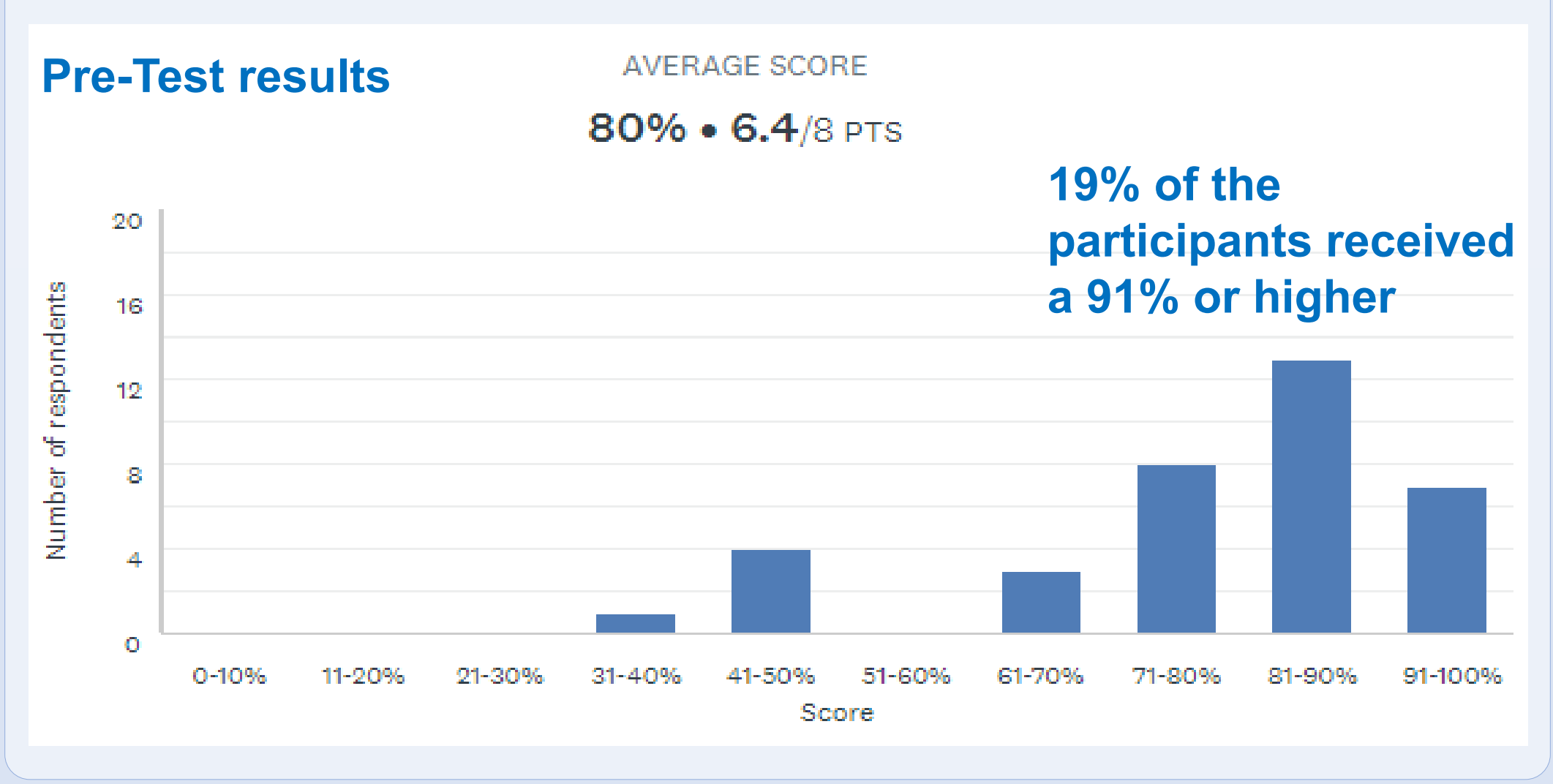
METHOD

- Identified and recruited **Stakeholders**
- **Review and update of hospital guidelines**
- **Development of an audit tool**
- 23 **chart audits** completed
- **Pre-test survey** completed by staff over 15 days via online survey. QR code was created for survey for ease of access. **52% of staff participated.**
- Created **action plan** for educational event
 - Skills and Drills sign up sheet placed in break room in February 2021. Maximum of six staff members per session
 - Skills and drills to be held over six days with 4-hour educational sessions. PEWS Pediatric Sepsis Escape Room to be 1 hour of the 4 hours sessions.
- Adaptation of Colorado Hospital Association's **Pediatric Sepsis Escape Room Education Plan**
- Purchase of escape room **supplies** and **construction** of escape room boards
- Development of **Facilitator Guidebook** based on adaptation of Colorado Hospital Association's Pediatric Sepsis Escape Room Education Plan

PRE-INTERVENTION DATA



4.3% of charts reviewed had a score of 3 or higher documentation of interventions were present



OBJECTIVES

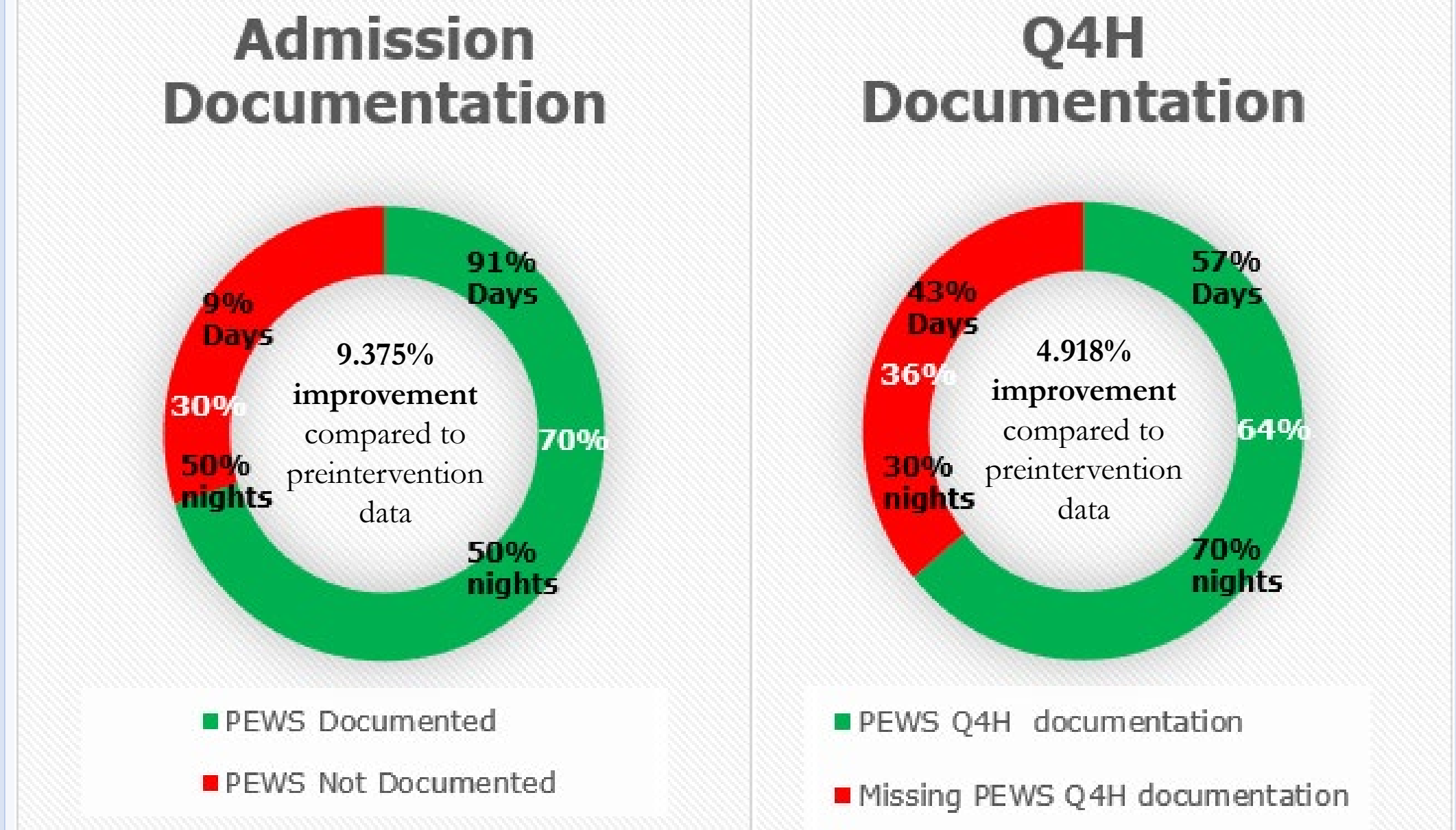
- ✓ To **improve documentation** on admission and Q4H documentation to **90% for both documentation intervals within 6 months**
- ✓ To **improve knowledge from 80% pre-test to 90% or greater post-test**
- ✓ A team of nurses will use clinical findings to calculate the PEWS correctly and **properly identify interventions within the first 15 minutes** of the Pediatric Sepsis Escape Room
- ✓ A team of nurses **will complete all required assessments, interventions, med math calculation for a bolus, and verbalize where to find Intraosseous (IO) supplies and equipment within 30 minutes** of the Pediatric Sepsis Escape room
- ✓ A team of nurses will **correctly identify the proper medication to be administered for sepsis within 40 minutes** of the Pediatric Sepsis Escape room

EDUCATIONAL INTERVENTION

Scan the QR code with your smartphone's camera and then click on the link to take you to a five-minute tour of the Pediatric Sepsis Escape room.

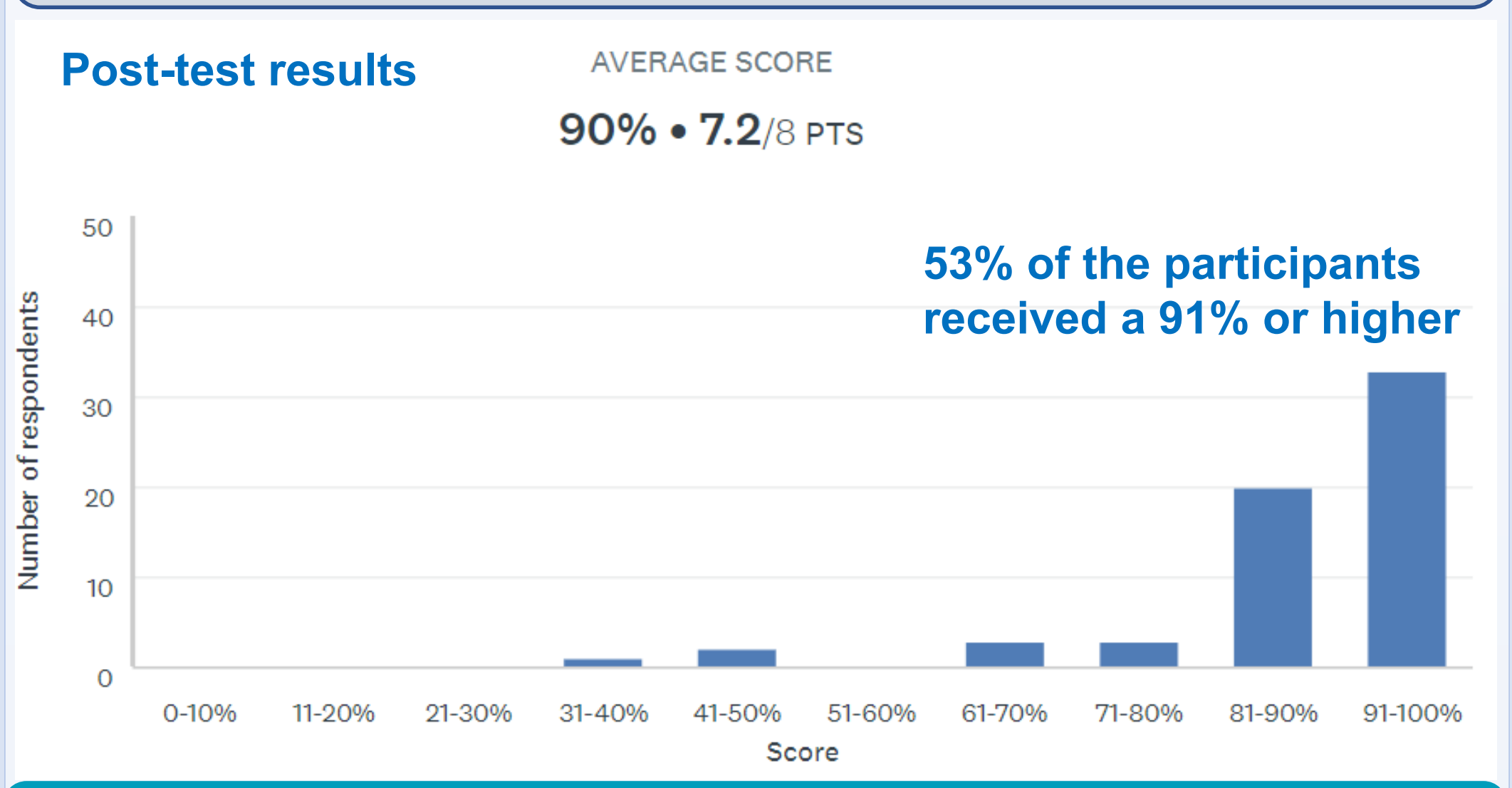
- Staff was given a **PEWS educational handout** and a **badge buddy** before the start of the escape room to use throughout the educational experience
- **Rules were read out loud** by the facilitator before starting the educational intervention
- Staff were **instructed not to share the escape room experience** with their colleagues on the unit
- Staff were informed that the **answers to all the questions/games were in the room**
- Staff were informed that the **experience would be timed**
- Staff were informed at **ALL team members must participate**
- **The facilitator coached staff** when needed; answers were not given
- **91.2% of staff participated in the post-test and evaluation**

POST-INTERVENTION DATA



4.3% of charts reviewed had a score of 3 or higher documentation of interventions were present

100% of the teams met the time goals of the educational intervention. Times ranged from 23 mins to 40 minutes



SIGNIFICANCE OF INTERVENTION

- ✓ Escape rooms are linked to increase learner engagement, increase retention of knowledge, and improvement in quality indicators (Dacanay et al., 2021).
- ✓ Pre-test to post-test showed a **12% improvement**
- ✓ Staff rated their understanding of PEWS at **53.23% extremely well**, 37.1% very well, 8.06% moderately well, 1.92% slightly, and 0% not at all.
- ✓ Admission documentation compliance **increased** by **9.375%** and Q4H documentation **increased** by **4.918%** immediately following intervention
- ✓ **Recommend follow up audit in six months**

REFERENCES

Available upon request/Also available in the "scan me" QR code in the video description

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