Utilizing a Novel Mobile Technology to Support Clinical Guideline Awareness and Adherence Across CHOP's Newborn Care Network

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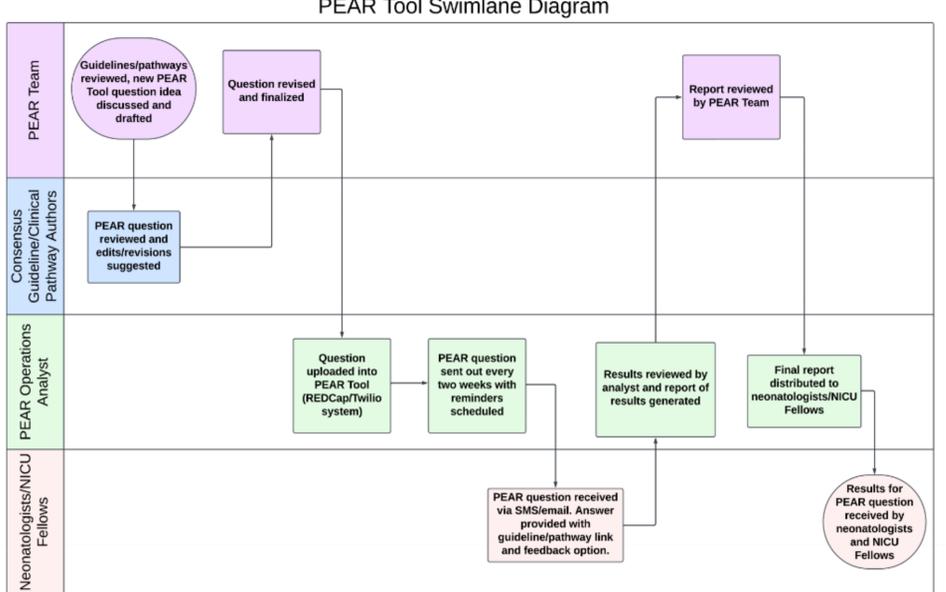**Children's Hospital of Philadelphia®**

Background/Context

- CHOP's Newborn Care Network (CNBCN) is comprised of 20 NICUs in PA and NJ (Mixture of Level II/III/IV NICUs)
- Evidence and consensus-based guidelines to standardize & improve care
- Implemented the Practicing Excellence, Adherence, and Resource (PEAR) Tool to assess and improve awareness and adherence to guidelines

REDCap® Research Electronic Data Capture

twilio

Every 2 weeks

Objectives/Aims

- QI network initiative focusing on raising awareness and adherence to evidence and consensus-based guidelines
- Increase engagement with resources/related consensus updates and implementation across network
- **Primary Aim:** Increasing the PEAR Tool response rate to over 65% within 12 months starting May 2024

PEAR Tool Swimlane Diagram

Methods

- Respondent group comprised of 107 Neonatologists across 16 CNBCN sites with 20 participating fellows
- SMS delivered scenarios twice per month with response captured via SMS reply, followed by immediate answer feedback and resource

1. Directions with option to initiate question at user's convenience

2. Clinical care scenario immediately provided with answer choices

3. Preferred answer choice provided and direct guidance to access the corresponding resource

-- To begin the survey, reply to this message with any text.

Tue, Sep 3 at 3:31PM

Hi

Please complete the survey below. Thank you!

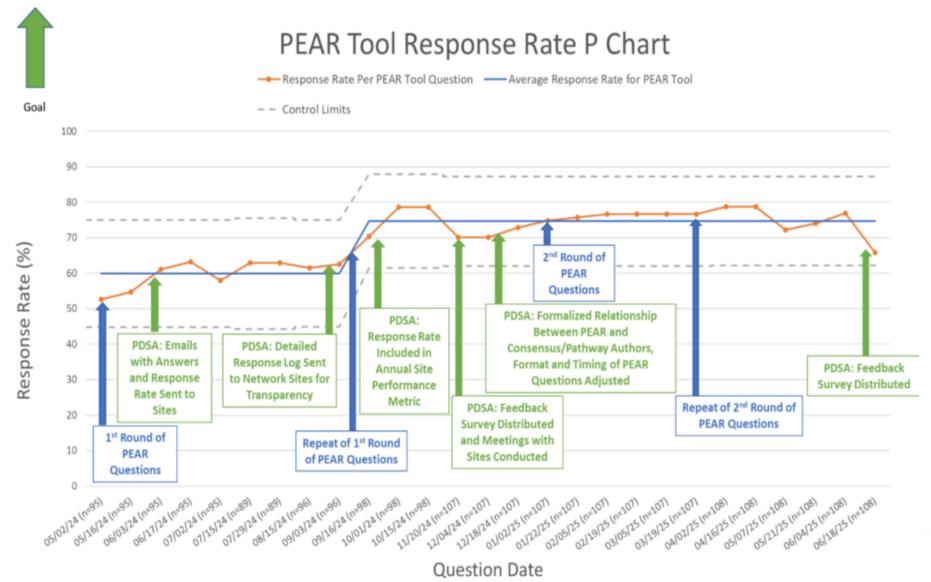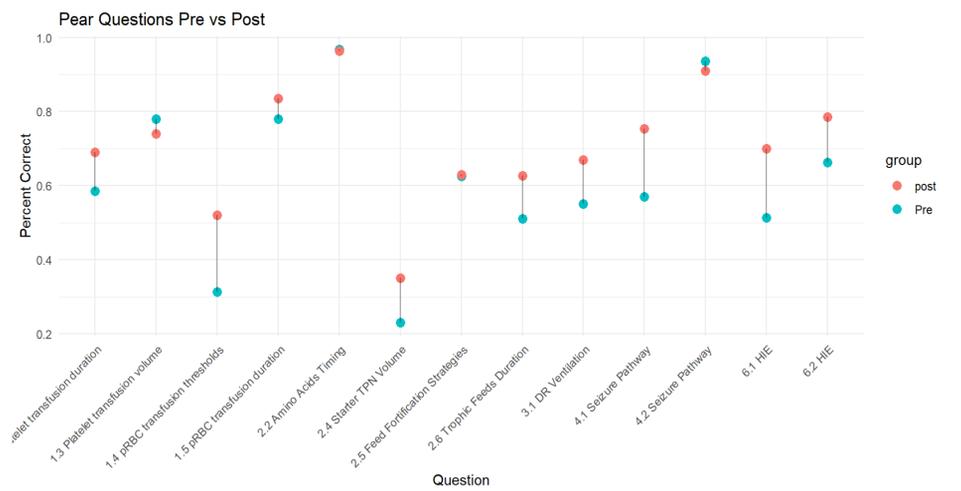3. Scenario: transfusion guidelines

27-week 2-day-old male infant being worked up for thrombocytopenia and suspected sepsis. Currently is NPO with a platelet count of 15,000. The decision is made to transfuse this platelets given the patient's thrombocytopenia.

What volume of platelets would you transfuse? (1) 5 ml/kg, (2) 10 ml/kg, (3) 15 ml/kg, (4) 20 ml/kg.

2

Thank you for your answer! For this scenario, 10 ml/kg is the preferred answer. Here is the guideline for more info: https://askneo.chop.edu/docs/July/CHOP_Transfusion_Guidelines_Brief.pdf

PEAR Tool Response Rate P Chart

Results/Evaluation

- **Increase in overall response** rate from May 2024 through June 2025 **of 15%** (increasing from 60% to 75%)
- Response rate when 2nd round of question was asked showed preferred response rate increase from **62% to 70% (p<0.001)**
- Initial Net Promoter Score (NPS) 25 improved to 49 in second feedback survey
- Sparked expedited review and revision of 3+ consensus statements

Pear Questions Pre vs Post

Conclusions/Next Steps

- Novel and user-friendly question delivery and response collection can increase engagement and adherence with clinical guidelines
- Regularly capturing stakeholder feedback followed by implementation can keep the project's value and buy-in high
- Twilio SMS engagement service reliability is questionable for current state
- Possible AI use case for question generation from CHOP consensus guidelines and best practice resources