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If We Know Better, Why Don't We Do Better?

A QI Project Aimed at Addressing Pain Related to Vaccinations

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Introduction

- Evidenced-based tools have long existed to combat pain and anxiety associated with needle sticks; however, the gap between knowledge and uptake of these tools persists (Edwards & Hackell, 2016).
- In Summer 2017, CMKC joined a multicenter QI project to increase use of a bundled package of comfort measures (CMs) for needle procedures called the Comfort Promise (Friedrichsdorf et al., 2018).
- The COVID-19 mass vaccination clinics provided an opportunity for rapid uptake across CMKC.

Methods

Context: Vaccine clinics were staffed by nurses and Child Life specialists from across CMKC locations, with PDSAs completed based on FDA approval of the vaccine for specific age groups (see below).
Intervention: All patients should have been offered the bundled package of CMs. However, given the logistics of a fast-paced mass vaccine clinic, PDSA 1 focused on CMs with rapid training/application time that might be used in lieu of topical lidocaine. New education was made available on the CMKC website to encourage family application of topical lidocaine at home. Patient age and survey data from the preceding PDSA cycle helped determine specific targets for improvement in the next PDSA.

Before each clinic, education and supplies were provided to nursing to support use of the target CMs within that age-based PDSA cycle. e.g.:

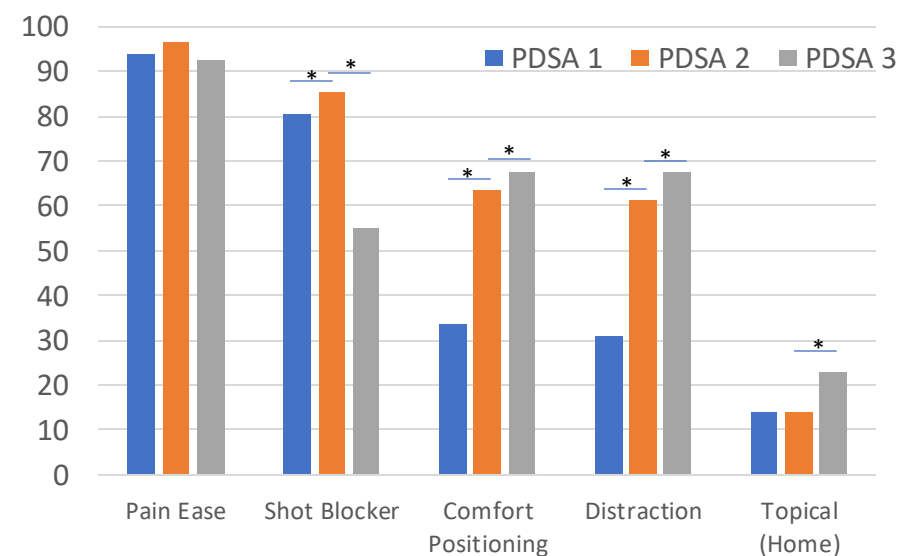
- PDSA 1: Pain Ease + Shot Blocker (12y+)
- PDSA 2: Comfort Positioning + Distraction (5-11y)
- PDSA 3: Breastfeeding + Sucrose (6m-4y)

Study of the intervention: Following vaccination, families completed surveys on CMs offered/used, perceived helpfulness, intention to use again, and general satisfaction.

Analysis: Given that data were collected in short bursts, rather than continuously over time, data are represented below as the overall % of patients offered a specific CM within each PDSA cycle.

- Use of breastfeeding and/or sucrose (not pictured in figure) was targeted in PDSA 3 with use documented at 5.2% (22.8% under 2 years).
- Families reported that the CMs used helped with pain/distress (PDSA 1: 71%; PDSA 2: 88%; PDSA 3: 88%).
- Intention to use the same CMs for the second dose was also high across cycles, i.e. yes/maybe (PDSA 1: 83%; PDSA 2: 96.4%; PDSA 3: 98.5%).
- Overall family satisfaction with mass vaccine process was high, supporting high acceptability and feasibility of modified CM bundle approach (PDSA 1: 93.5; PDSA 2: 96.1; PDSA 3: 97.4; all on 100 point scale).

Results



- Use of specific CMs increased when targeted by a PDSA cycle, "*" indicates significant differences.
- Topical lidocaine increasingly was applied by families prior to vaccine visit.

Discussion

CM Uptake:

- Once a specific CM was targeted by a PDSA cycle, use generally remained the same or better in future PDSAs.
- Use of the Shot Blocker, however, was significantly lower in the 6m-4y group (PDSA 3).
- Family satisfaction and intention to use again was high despite modifications to a traditional CM bundle (i.e., not using topical lidocaine).
- Contingency planning is critical for success.

Future Directions:

- Taking nurses out of their normal day to day clinic supported flexibility and openness.
- Mass vaccine clinics created a catalyst for enterprise-level change.