

Implementation and Evaluation of a Nonpharmacologic Device to Improve Satisfaction during Immunization

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Problem

Immunization pain is the most common pain experienced by children at their primary care office.

- Children experience **nine to ten vaccines PLUS an annual influenza vaccine** between the ages of 4 and 18 years.
- **Short- and long-term consequences** of untreated pain – fear, anxiety, needle phobia, and healthcare avoidance.

Purpose

- **Quality Improvement Project:** Implement and evaluate a nonpharmacological device designed to improve satisfaction during immunization.
- **Short Term Goal 1:** By the end of the implementation period 100% of children/families educated on the benefits and offered use of the Buzzy will agree to use during immunization.
- **Short Term Goal 2:** Children/families who accept Buzzy use will be satisfied with the immunization experience.
- **Long Term Goal:** Buzzy use will become the standard of care to improve pain management during immunizations.

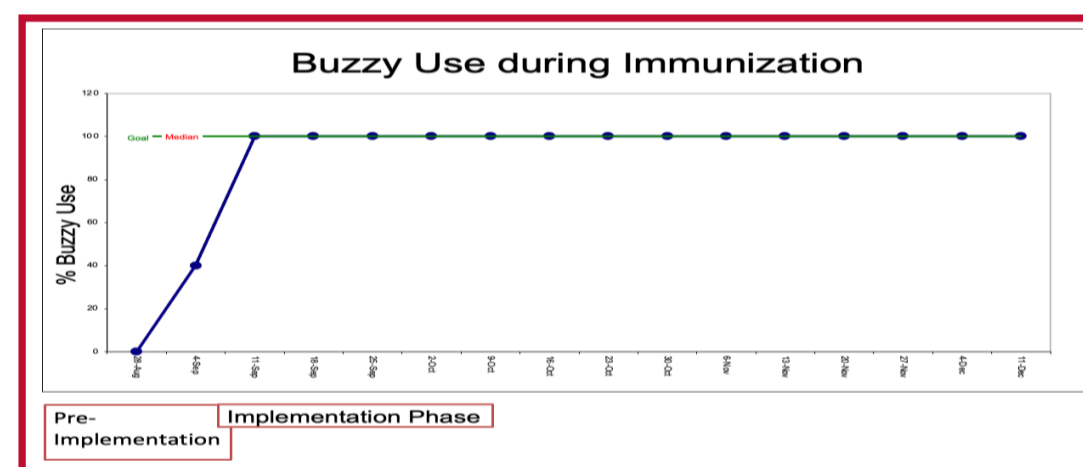
Methods

- **QI project** implemented over a 15-week period in Fall 2020 guided by Kolcaba's Comfort Theory
- **Setting:** a rural pediatric primary care office
- **Eligible participants:** children aged 4-18 years receiving routine immunizations
- **Measures:** LPN training, Buzzy usage, and family satisfaction
- **Implementation Tactics:** Buzzy equipment provided to the practice, Buzzy brochure available for families, device demonstration and training provided

Implementation Methods

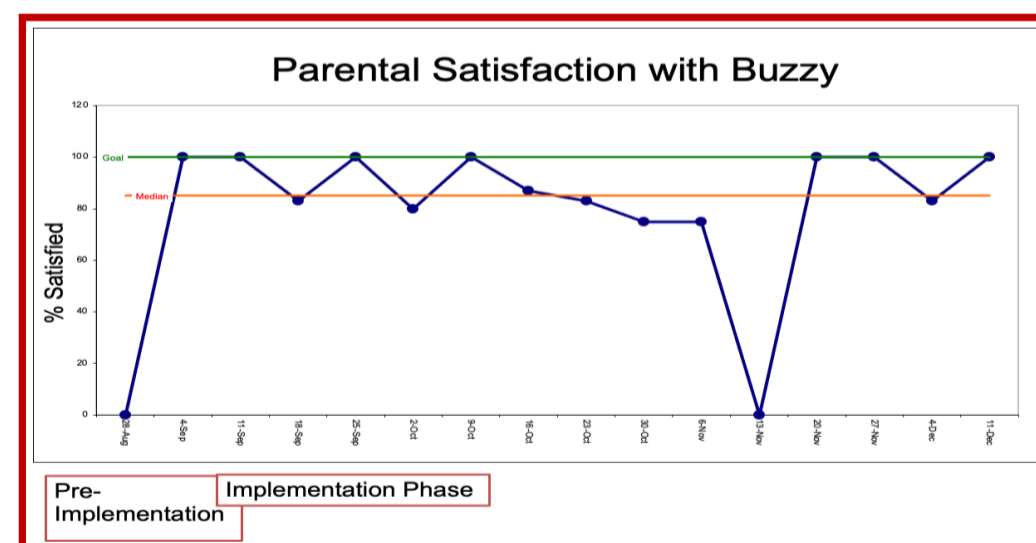
- LPNs were trained in project goals, procedures, paperwork, and Buzzy technique and care during the initial 2 weeks.
- LPNs educated children and families about Buzzy and offered its use during immunizations.
- An Implementation Log was kept to document project criteria met, education provided, Buzzy acceptance and post administration pain scores.
- Satisfaction surveys were given to families who utilized the Buzzy.
- Data related to LPN training and Buzzy utilization were analyzed using run charts. Buzzy satisfaction was evaluated using descriptive statistics.

Results



100%
Buzzy use
acceptance after
LPNs trained

86.3%
overall Buzzy
satisfaction



Age	% satisfied	Mean Pain Score	Satisfied - Mean Pain Score	Not Satisfied - Mean Pain Score
4-6 years	78.4	3	1.6	8
7-9 years	95.2	2.2	1.9	10
10-18 years	93.3	2.4	2.1	6
All Ages	86.3	2.7	2	8

Discussion

- In this QI project, use of the Buzzy resulted in an average pain score of 2.7 out of 10 among project participants.
- Children aged 7 and over reported the lowest pain scores (mean 2.3 out of 10) post administration, while their parents exhibited the greatest satisfaction at 94.4%.
- Results concur with studies indicating that the Buzzy helps reduce pain during immunization (Taddio et al., 2015; Redfern et al., 2018; Sabiner et al., 2015).

Limitations:

- Time required for implementation during influenza vaccination season and low staff to patient ratio impaired the ability to implement Buzzy with every child.
- Decrease in well child visits related to the COVID-19 pandemic reduced the overall number of children presenting for care.

Conclusions

Implications for Practice

- The Buzzy device is an effective tool to improve satisfaction during immunization.

Recommendations:

- Continue to educate, offer, and implement the Buzzy during routine immunizations.

Future QI projects:

- Include the addition of Buzzy distraction cards to use of the Buzzy to improve satisfaction for children under 7 years of age.

Bibliography

For references and contact information, scan the QR code.



Notes

Special thanks to Clinical Site Representative Beverly Clarke, MSN, CRNP, Karen Unruh, LPN, and Pam Keis, LPN for their assistance with this QI project.