A Quality Improvement Project to Increase Medication Administration Safety at a Local Parochial School

Jennifer Sevilla DNP, FNP-BC

Problem Statement

In the school setting, the lack of a structured medication administration policy and inadequate staff training may lead to undesirable events, causing actual or potential harm to a child. At one local parochial school it was identified that:

•Staff had no formal training in medication administration process

•Absence of licensed health care provider on campus

•Medication administration accounted for roughly **10% of health related visits** to the front office

•**21% of the student population had one or more chronic medical conditions**

•Electronic school health records found nearly **100%** of medication administration events had missing, incorrect, or incomplete documentation; missing dose, drug, and/or route details

Project Purpose

The purpose of this QI project was to enhance the safety of the medication administration process at a local parochial school

The project aligned with the overarching aim of **safety** by implementing a process to help avoid harm to students from the care that is intended to help them

The clinical question proposed : **"In a local parochial school, does implementation of an outcome-focused medication administration protocol, including use of simulation training for staff members, significantly reduce the amount of documented and simulated medication administration errors, compared to current school practices, over a 3-month period?"**

Model/Nursing Theory

The Six Sigma Model directed the QI project

The Six Sigma Model uses a stepwise process called Define, Measure, Analyze, Improve and Control (DMAIC)

- **Define** project objectives and milestones
- Identify project steps were quality could be **Measured**
- **Analyze** the root causes for inefficiency and/or safety deficits
- Create solutions to **Improve** on current processes
- **Control** new system by monitoring, tracking performance, and achieving the intended changes

Jean Watson's Theory of Human Caring guided the QI project

- Emphasizes the importance of providing moments of care to children
- Ultimately leading children to the discovery of self
- Develops and sustains a helping, trusting, and caring relationship

Methods

Subjects (Participants)

- Convenience sample of school staff members who administer medications during school hours
- Sample demographics consisted of middle-aged women

Setting

- Private Catholic Parochial school in suburban area of Hillsborough County
- No formal school health clinic; health needs were addressed in one, semi-private room within a shared front office space

Instrument/Tools

The Medication Administration Safety Assessment (MASAT) Tool

- Uses binomial scale to measure competence in the "five rights of medication administration"
- Evaluates safety/accuracy during the medication administration process
- Content validity index value of 0.93
- Reliability rating of "excellent" by subject matter experts
- Allowed for formative feedback in low-risk, simulated environment

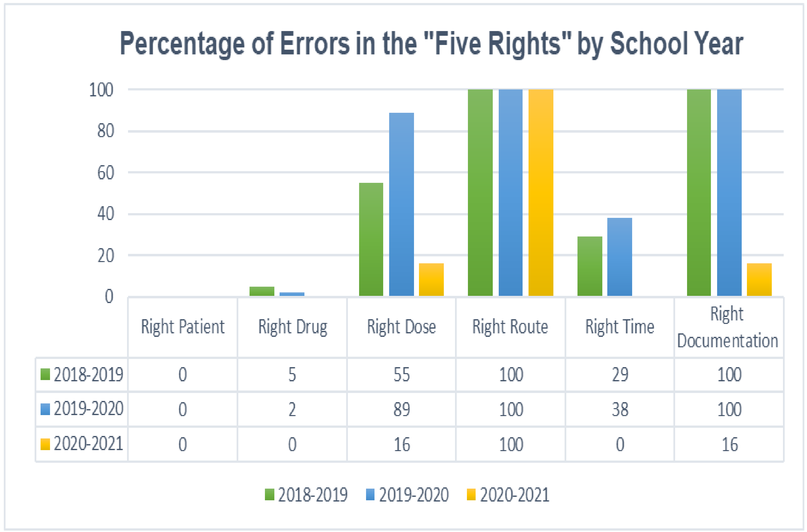
Retrospective Review of Electronic Student Visit Data

- Compared documented medication administration errors before and after the QI intervention

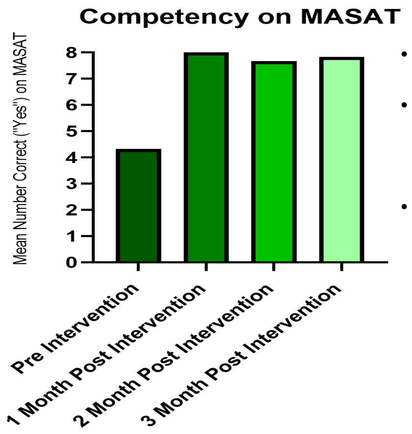
Intervention and Data Collection

1) Collaborated with school principal (key stakeholder) to identify staff who perform medication administration
2) Individually asked staff members to perform three simulated medication administration events using their usual techniques
3) Staff members then participated in educational training
4) Following educational training, participants were given medication administration simulation containing three new scenarios
5) Simulations repeated at monthly intervals for three months, using new scenarios at each encounter
6) DNP student utilized MASAT to capture data at all phases of the QI project
7) At completion, DNP student performed a retrospective review of student visit data from electronic school health records
8) Results from the QI interventions were compared and measured

Results



	Right Patient	Right Drug	Right Dose	Right Route	Right Time	Right Documentation
2018-2019	0	5	55	100	29	100
2019-2020	0	2	89	100	38	100
2020-2021	0	0	16	100	0	16



Discussion

Results demonstrated a significant reduction in both documented and simulated medication administration errors by participants

Using a paired *t* test to compare data, P values comparing competency on the MASAT at pre intervention, and 1-month, 2-month, 3-month post intervention were **statistically significant** ($p \leq 0.05$)

Retrospective review of electronic student health visit data from three different school years found that following the intervention, there was a **significant reduction** in documented medication administration errors in all "five rights" categories, excluding "right route"

Limitations

- Small sample size of participants
- One participant withdrew from QI project
- School health policy changes related to COVID-19 pandemic; parents encouraged to give medications at home and keep child at home if sick, resulting in less medications administered during school hours
- Due to COVID-19 pandemic, more students (especially those with chronic health conditions) were enrolled in remote learning and not physically present on school campus
- Students "self carrying" and administering their own medications
- In 2020-2021 school year, medication administration consisted of 2.5% of student health visits, a decrease of roughly 75% from previous school years

Implications for Advance Practice Nursing

Combining education and simulation training can assist schools in reducing or preventing medication administration errors by unlicensed personnel

Sustainability

- Resource binder with all educational content/materials was provided for school staff
- A positive relationship was established between the parochial school and the USF College of Nursing, resulting in future collaborations and the possibility of a USF College of Nursing led student health clinic within this school
- The training/simulation could be introduced to other parochial schools in the area

References

Please scan QR code for complete reference list

Education and training in the medication administration process enhances student safety and well-being.
A healthy child makes a good student; A good student makes a healthy society

UNIVERSITY of SOUTH FLORIDA