MEDICATION AND PATIENT BARDODE SCANNING IMPROVEMENT INITIATIVE

Nanaimo Regional General Hospital

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Summary

Nanaimo Regional General Hospital is the first acute care site to utilize bar code scanning technology on the island. Bar-code scanning of patients and medications is an important component of a Closed Loop Medication System (CLMS) that aims to maximize patient safety by improving positive patient identification (PPID) and verifying medications at the point of medication administration. High bar-code scanning rates for patients and medications during bedside administration is linked to reduced medication errors. This technology was implemented in March of 2016 as part of the EHR activation. Three years after go live scanning rates were suboptimal so decision was made to launch a cross site initiative for two key purposes

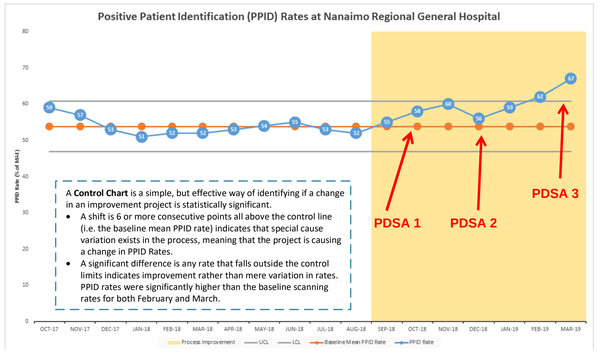
Aim

I. - To understand why there is difference between scanning rates for patients and medications within specific units as well as for the site as whole

- To identify barriers to scanning patients and medications by unit and for the site as a whole (workflow, staffing, equipment, & others)
- To identify, select, implement and evaluate options for bar-code scanning compliance
- To outline on-going monitoring and compliance processes and tools to ensure sustainability of positive outcomes

II. To learn from NRGH experience to inform regional work and future site activations

Results



Area	Positive Patient ID Rates,%	% improved	Positive Med ID Rates, %	% improved
PACU	93	11%	93	11%
Orthopaedics	78	28%	89	13%
Medical Floor 5	76	110%	85	35%
Transitions	75	19%	90	11%
Medical Floor 4	74	51%	87	18%
Rehab	74	30%	80	0%
Surgical	71	8%	82	13%
SSS	71	1%	77	4%
Palliative	69	10%	69	10%
DRU	66	10%	83	20%
General Medicine	57	19%	77	13%
Perinatal*	51	8.5%	70	35%
RADU*	34	10%	41	0%
PSY*	4	100%	42	0%
PIC*	0	0%	12	33%
PES RADU*	0	0%	0	0%

on target
below target
special area

- 8 units have achieved target rates of 70%

- 7 units improved by 15% or more

*Special areas

16 inpatient areas

70% target for patient scanning

19.2% improvement

1 Identifying Barriers to Scanning

Root cause analysis is an approach for identifying the underlying causes of an issue so that the most effective solutions can be identified. As a very first step our clinical leadership team got together to gather the current knowledge of the 'why.'

People

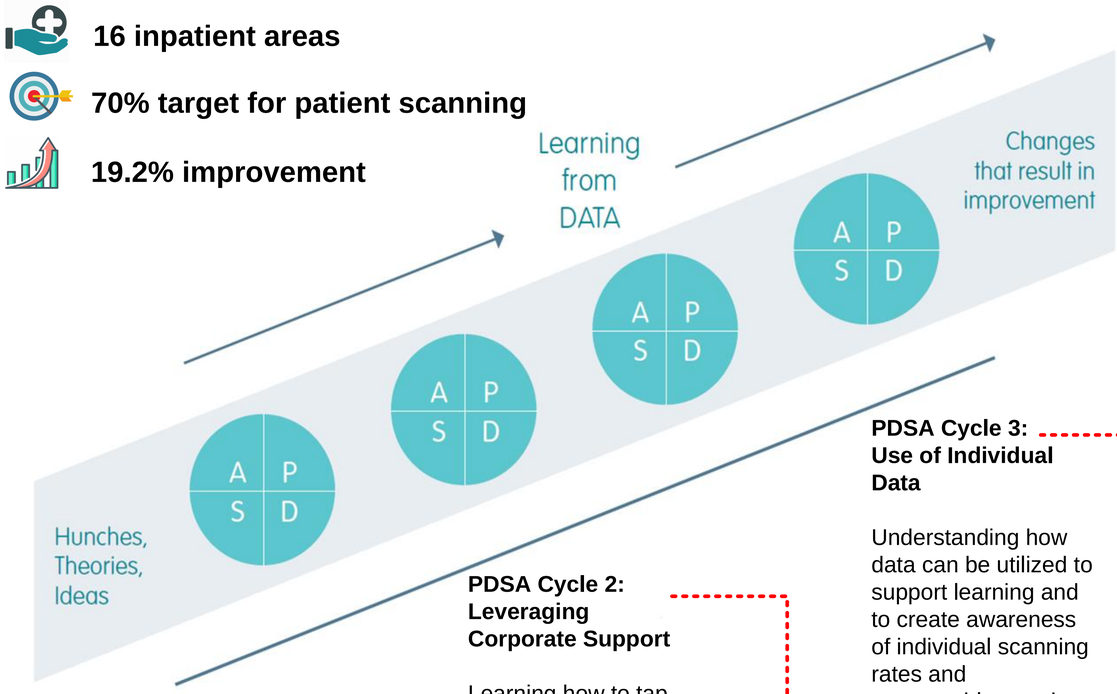
- Med process not followed (not working in MAR)
- Not taking med carts to bedside (=more steps)
- Options to enter '.' or 'Other' as a reason for over-riding
- No consequences for not using
- Do not want to use computer (challenge)
- Staff do not trust equipment after failed trial of portable scanners (ED)
- Sustaining practice change
- Pts non compliant/pts with dementia

Process

- No room to take med carts in
- MAR summary
- Location of narcotics
- Time of day
- Orders are mostly placed after meds administered (ED)
- Patients on precautions
- Takes longer
- Patient workload – too busy
- Computers freeze (multiple charts open, etc.)

Equipment

- Limited scanner range
- Some meds do not scan (IV bags, fluids)
- Battery dies
- Only have scanner on WOW – only 5 RN wow in dept.



PDSA Cycle 1: Site Engagement

Getting out the 'why" behind the importance of this work. Posting and discussing scanning rates

PDSA Cycle 2: Leveraging Corporate Support

Learning how to tap into our corporate resources and the value they bring:

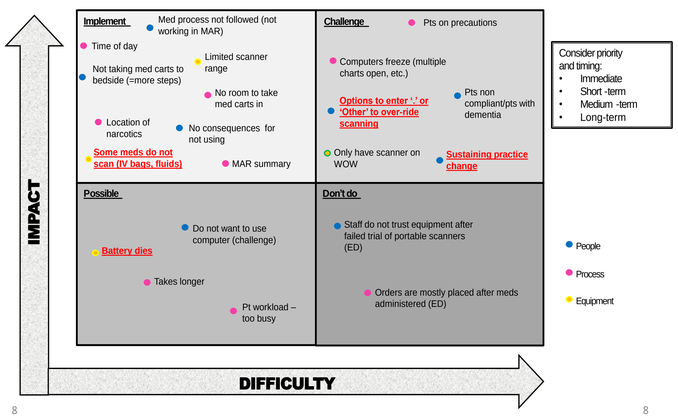
- Pharmacy
- Clinical Informatics
- Patient Registration
- Medication Safety
- Professional Practice
- Device Management
- Decision Support
- Process Improvement

PDSA Cycle 3: Use of Individual Data

Understanding how data can be utilized to support learning and to create awareness of individual scanning rates and accountable practice

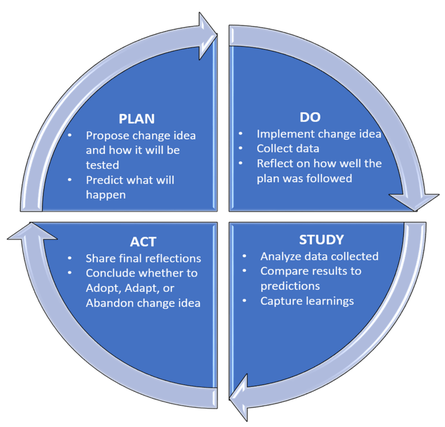
2 Prioritizing Solutions

A PICK chart is a visual tool for organizing ideas. PICK charts are often used after brainstorming sessions to help an individual or group identify which ideas can be implemented easily and have a high payoff.



3 Testing Change

The PDSA Cycle (Plan-Do-Study-Act) is a systematic process for gaining valuable learning and knowledge for the continual improvement of patient care. It is used to test an improvement idea by trialing a change.



4 Key Achievements and Leanings

How do we use data in a supportive and non-punitive way?

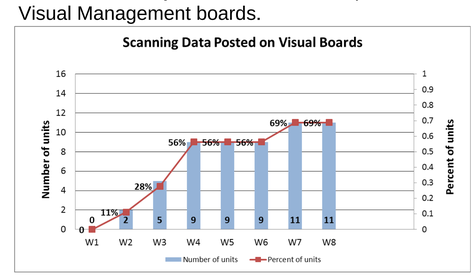
- Site leadership now has access to individual scanning rates. As part of the validation process and to continue learning, unit leadership are having follow up conversations with individual nurses based on their individual scanning rates. Conversations are focused with nurses who are well above or well below the 70 % site target and help validate the data, understand the barriers further and hear their experience with the medication administration process. If required, the CNEs & CNLs provide education and support to frontline users.

How do we include other disciplines to improve care together?

- **Clinical Informatics:** eliminated free text area for bar code scanning to account for human factor.
- **Device Management** reviewed all meds to ensure they are physically scanning; clarified perceived processes by clinical staff around scanning; conducted a cost-benefit analysis of best practice and provided recommendations for patient registration bands; perform regular checks of all scanning devices and WOWS.
- **Patient Registration** send new bands to the inpatient units for those patients whose length of stay is greater than 30 days.
- **Pharmacy:** initiative to increase scanning by using pigtails; continue improving process to report meds that are not scanning; work with manufacturers for meds that don't scan.
- **Decision support** provided weekly data reports by site and by unit.

How do we start the conversation and inform practice change?

- **Team work:** interdisciplinary working group was created to understand the context behind the results and to look at what we can do to improve. Weekly focused discussions at the site Quality meeting
- **Cohesive operational leadership:** clinical leads discuss the results and importance of this work with staff
- **Consistent communication**, weekly progress updates around what needs to be done and next steps.
- **Presentation and use of data:** scanning data was distributed weekly to clinical leads and posted on Daily Visual Management boards.



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