

Daily SBAR Sheet for Pediatric Patients with Central Lines

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PURPOSE

Evaluate the use of SBAR sheets on compliance of daily bath completion and documentation for patients with central lines.

Significance

- Cost per central line associated-bloodstream infection (CLASBI) is \$48,108
- 28,000 yearly CLASBI preventable deaths
- 65% to 70% of CLASBIs may be preventable during insertion and maintenance of central lines
- The 2020 National and State Hospital Acquired Infection Progress Report stated 1,465 total CLASBI events occurred in pediatric acute care hospitals.
- CLASBI Complications:
 - Prolonged hospital stays
 - Increased mortality rates by 25%
 - Increased cost to patient and hospital

BACKGROUND

- Patients older than two years of age who have central lines are required to receive a daily Theraworx bath for CLASBI prevention
- CLASBI rate 2022:
 - One
- Plan-Do-Study-Act (PDSA) Cycle I - surveyed nursing staff perceptions on daily bathing for patients with central lines from October 2022-December 2022:
 - Survey Results:
 - How often do you forget to document daily baths on patients with central lines:
 - 14% - Never
 - How often do you complete daily baths on patients with central lines:
 - 29% - Always
 - Biggest roles in forgetting to complete/document daily baths for patients with central lines:
 - 52% - Forgetting about the task
 - 69% - It is not passed along in report
 - 24% - It is too time consuming to review the chart to figure out if the daily bath is completed

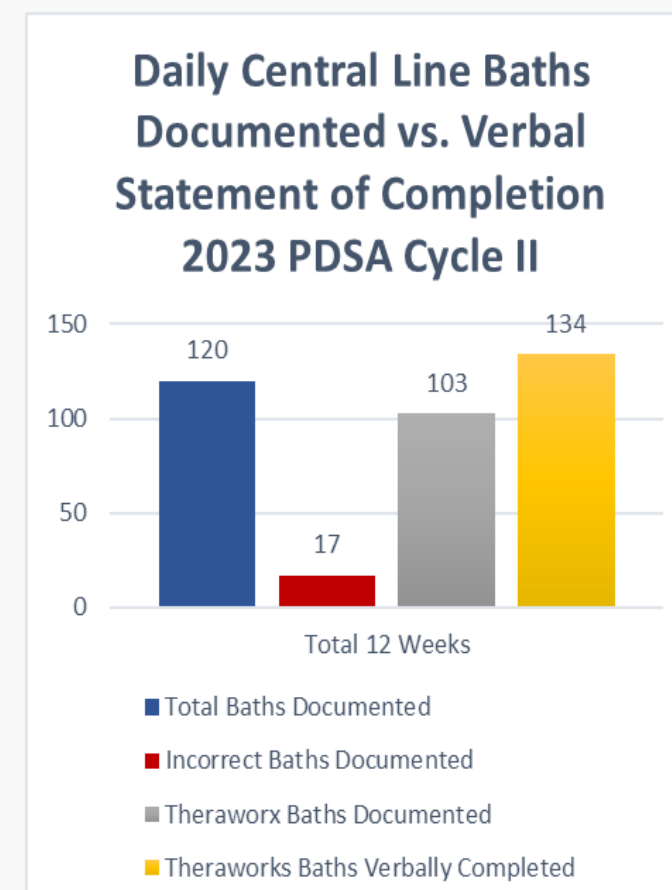
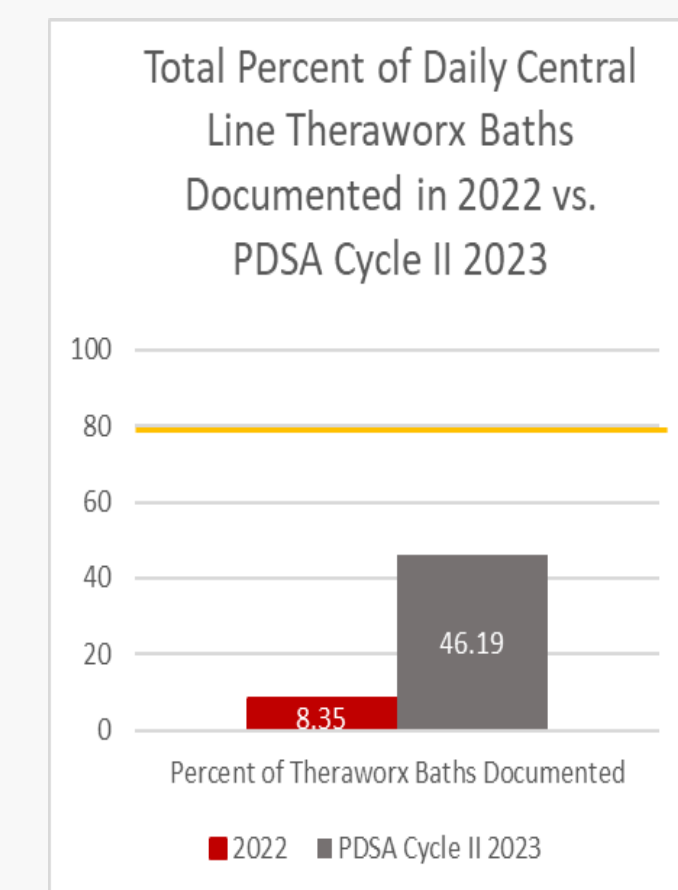
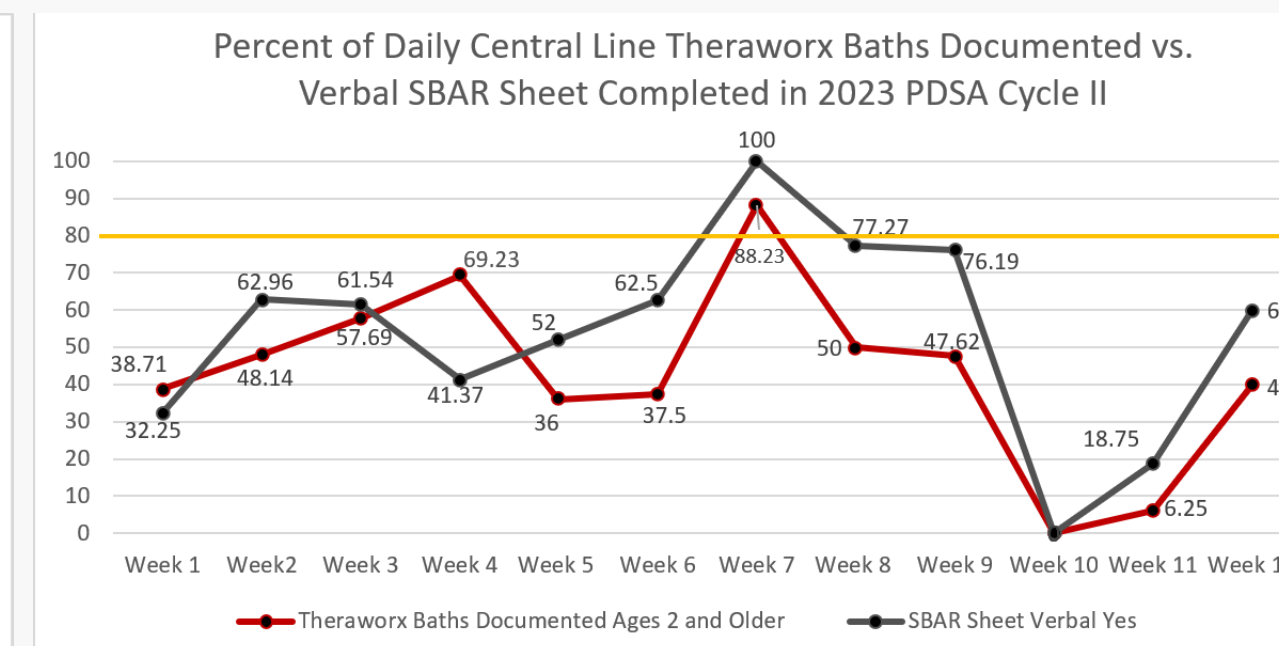
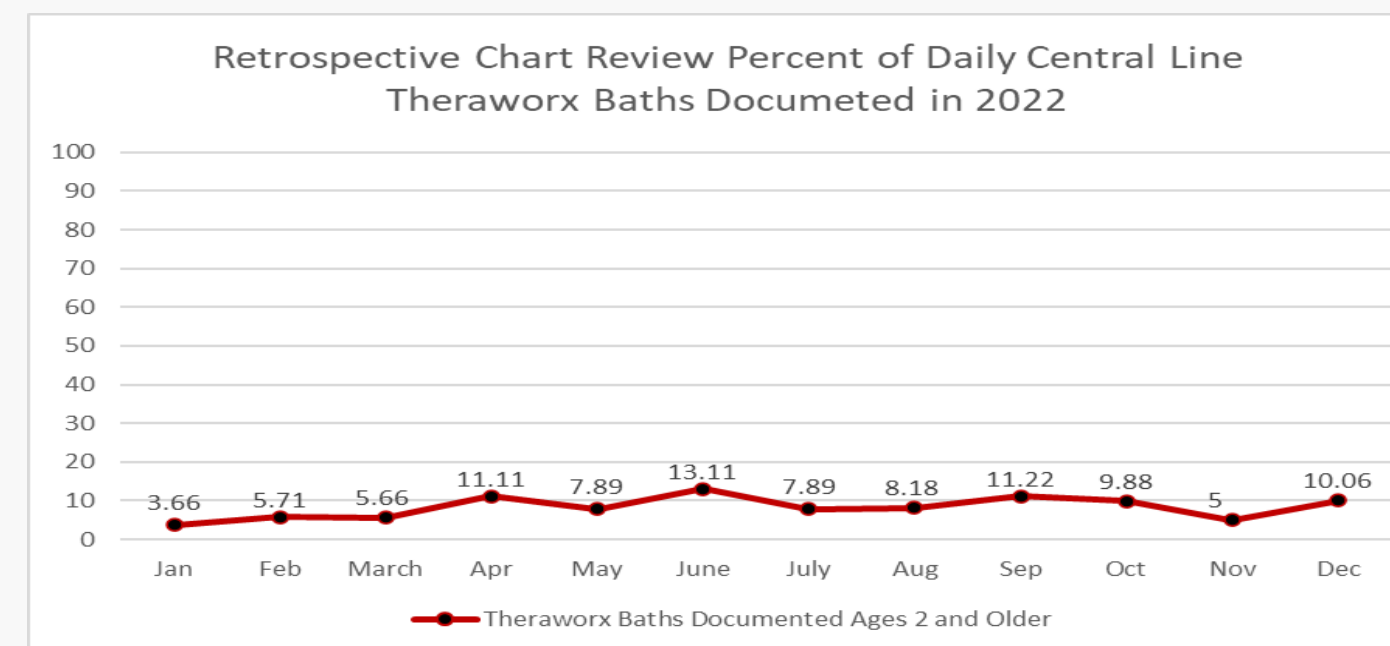
Study Question

In pediatric patients aged two to 21 years with central lines, does having a SBAR sheet increase compliance for CLASBI bundle daily baths?

METHODS

- 45-bed pediatric service line with a pediatric general ward and pediatric intensive care unit
- Retrospective chart review 2022 the pediatric service line had 181 patients with a total of 1,078 central line days
- Inclusion criteria: Two years to 21 years of age, admitted within the pediatric service line, with any type of central line inserted or accessed
- Exclusion criteria: COVID (+) patients, those without an accessed or inserted central line, not admitted within the pediatric service line
- Sample: 68 patients with a total of 223 central line days that met the sample requirements.
- Occurred February 5, 2023, to April 29, 2023
- Intervention SBAR sheet to serve as a daily reminder to complete and document Theraworx baths
- Chi-Square Test
- Alpha level of $\leq .05$ was utilized for all statistical tests

RESULTS



Intervention * SBAR for Daily Central Line Theraworx Baths Crosstabulation

Intervention	SBAR Sheet	Count	SBAR for Daily Central Line Theraworx Baths		Total
			Daily Theraworx Central Line Bath Documented	Daily Theraworx Central Line Bath Not Documented	
No SBAR Sheet 2022	Count	90	988	1078	1078
	Expected Count	159.9	918.1	1078.0	1078.0
	Standardized Residual	-5.5	2.3		
Total	Count	193	1108	1301	1301
	Expected Count	193.0	1108.0	1301.0	1301.0

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	209.409 ^a	1	< .001		
Continuity Correction ^b	206.425	1	< .001		
Likelihood Ratio	165.339	1	< .001		
Fisher's Exact Test				< .001	< .001
Linear-by-Linear Association	209.248	1	< .001		
N of Valid Cases	1301				

^a 0 cells (0.0%) have expected count less than 5. The minimum expected count is 33.08.

^b Computed only for a 2x2 table

CONCLUSIONS

- Increased compliance of documentation for daily central line Theraworx baths with daily reminders are consistent with other studies.
- Reduction in CLASBIs rates due to increased compliance of daily central line Theraworx baths are consistent with other studies.
- This research will improve outcomes for pediatric patients with central lines such as decreased risk for CLASBIs, longer hospital stays, and costs.

IMPLICATIONS

- Having a daily reminder to complete and document daily central line baths increases completion rates of these tasks. An electronic task populating daily within the electronic health record would be beneficial.
- Future PDSA cycles looking into demographics, ages under 2 years, and effects of electronic task if created.
- Continue decreasing CLASBI rates.
- PDSA cycles could be completed on other units of the hospital.
- Completing regular chart audits to assess for continuing improvement of daily central line Theraworx baths documentation.

Limitations

- Resistance from Cerner and IT in creating initial central line daily bath electronic task, resulting in pivoting to an SBAR paper sheet.
- Multiple changes in management, without follow up on concerns from retrospective chart review.
- QI IRB application having to be refiled for change in QI project.
- Respiratory season patient surge causing nursing staff floating from outside units and travelers who do not know the service line rules regarding pediatric patients with central lines to care for this population. Influx in patients and having nursing staff with larger than normal ratios leading to burn out.
- Having an increased period greater than 12 weeks would allow for larger sample sizes of central line days and SBAR sheets being completed.

References:



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