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Daily SBAR Sheet for Pediatric Patients with Central Lines

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Abstract

Problem: The patient's daily central line Theraworx baths were not being documented and completed at a mid-Missouri teaching hospital. After completing a retrospective chart review for 2022, 8.35% (n=90) of daily central line Theraworx baths were documented. Daily central line baths decrease central line-associated bloodstream infections (CLABSI), prolonged hospital stays, and costs.

Methods: The quality improvement (QI) project utilized a pilot retrospective and prospective pre-post-design. A retrospective chart review on daily central line Theraworx baths was conducted on patients two years and older within the pediatric service line who had a central line. A situation, background, assessment, and recommendation (SBAR) sheet was created and filled out by the nursing staff daily. Data collected during the QI project was the daily central line baths SBAR sheet marked as completed or not completed, the type of bath, and the number of CLABSIs within the pediatric service line.

Results: The pediatric service line had 46.19 % (n=103) of daily central line Theraworx baths documented out of 223 central line days. The SBAR sheet improved daily central line Theraworx baths in patients two years and older by 453.17%, showing clinical significance. A statistically significant ($P<0.001$) increase in Theraworx bath documentation occurred when SBAR sheets were marked Theraworx baths completed during the PDSA cycle.

Implications for Practice: Utilizing a daily central line Theraworx bath reminder within the pediatric service line could continue to increase the completion and documentation rates of Theraworx baths and decrease CLABSI rates.

Increasing Daily Bath Compliance in Pediatric Patients with Central Lines

After an initial PDSA cycle at a mid-Missouri tertiary pediatric hospital, a pediatric service line had room to improve compliance with the CLABSI maintenance bundle daily baths. The mid-Missouri pediatric hospital CLABSI maintenance bundle requires patients older than two years of age to receive a Theraworx bath, and patients under the age of two receive a regular soap and water bath. Plan-Do-Study-Act cycle one completed October 2022 – December 2022 used an anonymous survey created by Survey Monkey to nursing staff within a pediatric service line to collect ordinal data on nursing perceptions on completing CLABSI maintenance bundle daily baths. Plan-Do-Study-Act cycle one revealed that 14% of nurses always remember to document daily baths for patients with central lines. In comparison, 29% of nurses stated they always complete daily baths and 71% usually complete daily baths. Nursing perceptions on failure to complete and document daily baths for patients with central lines were: forgetting about the task (52%), figuring out if the task was completed is time-consuming (24%), and the task is not passed along in shift change report (69%). The pediatric service line reported, from January-July 2022, one CLABSI event. Compliance with maintenance care bundles is essential to prevent hospital-acquired infections (HAIs) such as CLABSI events. Having strict implementation of care bundles with high compliance rates can decrease the number of HAIs.

A retrospective analysis of 22,839 pediatric cardiac intensive care unit encounters from 2013-2016 across 22 North American facilities reported that the four most common HAIs in the pediatric population are central line-associated bloodstream infections, catheter-associated urinary tract infections, ventilator-associated pneumonia, and surgical

site infections. Central line-associated bloodstream infections are among the most common HAIs (Alten et al., 2018). An observational and interventional study by Hamza et al. (2021) stated that approximately 65% to 70% of CLABSIs may be preventable with evidence-based strategies for infection prevention implemented during the insertion and maintenance of central lines. The Centers for Disease Control and Prevention (2021) stated that every day one in 31 United States patients contract minimally one infection related to their care. A laboratory test confirms central line-associated bloodstream infections within 48 hours of central line placement and is unrelated to an infection from a secondary site. Most CLABSIs occur when fungal and bacterial species found on the skin trek through the entry site along the catheter's visible surface and into the blood (Haddadin et al., 2022). A cohort study by Paulson et al. (2018) was completed within a 15-bed surgical intensive care unit and reported that the most common bacterial and fungal causes for CLABSIs are *Candida*, *Enterococcus* species, *Acinetobacter baumannii*, and *Staphylococci* species.

From 2015 to 2020, there was an increase in CLABSIs by approximately 24% in acute care hospitals; the intensive care units had the most significant increase in CLABSI rates by 50% (Centers for Disease Control and Prevention [CDC], 2021). The 2020 National and State HAI Progress Report created by the CDC (2021) stated that 1,465 CLABSI events occurred in pediatric acute care hospitals. Of the total CLABSIs in pediatric acute care hospitals, 46% (674) were events recorded from pediatric intensive care units, and 54% (791) were from the general pediatric units. Central line-associated bloodstream infections increase the risk of further complications in patients. A retrospective/observational, quasi-experimental study that had a total of 76,504 patient

days, 28,312 catheter days, and 66 CLABSI cases reported that complications related to CLABSIs are prolonged hospital stays, increased mortality rates of up to 25% and increased costs for the patient and hospital (Bae et al., 2022). A retrospective analysis of the Agency for Healthcare Cost and The Utilization Project's 2016 National Inpatient Sample, the sample for this study covered 46 states, including the District of Columbia, stated that on average, a single CLABSI occurrence can cost \$48,108 (Forrester et al., 2022). A retrospective chart review of patients within a single veteran's medical center by Patel et al. (2022) stated that the yearly preventable deaths related to CLABSIs total 28,000. Implementing CLABSI maintenance bundles reduces the rates of these infections reported in non-intensive and intensive care units.

This quality improvement (QI) project aims to complete PDSA cycle two, which evaluates the use of an auto-populating electronic task within the electronic health record (EHR) on compliance with daily bath completion for patients with central lines. This project aims to achieve 80% compliance for CLABSI daily baths being completed and documented through the electronic task within the EHR and decrease the number of CLABSIs to zero within a 12-week time frame. The primary outcome measure is the number of daily baths completed and documented. The secondary outcome measure would be the number of CLABSIs reported within the units. The framework selected to complete the QI project is the Institute for Healthcare Improvements Model for Change PDSA cycle. The question guiding this project is: In pediatric patients aged two to 21 years with central lines, does having an SBAR daily reminder sheet increase compliance for CLABSI bundle daily baths?

Literature Review

When completing the literature search, the search engines utilized to find articles were CINAHL, Cochrane, EBSCOhost, and PubMed. Key search terms and phrases when using search engines triggered articles to populate. The key search terms and phrases utilized were *bundles, bundle of care, care bundle, protocols, central line-associated bloodstream infection, CLABSIs, hospital-acquired infections, adherence, compliance, electronic alerts, nursing tasks, and electronic health record*. During the literature search, the boolean operators *used were AND and OR*. The initial searches totaled 339 between the four search engines utilized. Inclusion and exclusion criteria were applied to the search engines to find the most up-to-date information and to narrow the number of articles populated. The inclusion criteria applied were articles from 2017-2022, published in English, Peer-Reviewed, all genders, pediatric patients of all ages, and the full article. Exclusion criteria applied during the literature search were patients older than 21, articles not in English, and articles that only had the abstract available. Fourteen articles were selected out of 98 when the inclusion and exclusion criteria were applied. Google was used to search for literature that did not appear within the initial search engines. This literature search added four more articles and three web pages to the references. Literature appraisals were completed on publications to determine if they held clinical and statistical significance. The appraisals examined the articles' ethicality, methods, results, sample sizes, and validity. The final sum of articles selected for the literature review was 21. Several concepts surfaced after completing the literature appraisals.

One concept appeared from the literature appraisals; daily skin bathing decreased the risk of CLABSIs. Therefore, daily baths were added to the standard of care within

central line maintenance care bundles to follow evidence-based practice. A retrospective monocentric cohort study by Martinez et al. (2020) had a sample of 775 patients from a pediatric surgical intensive care unit in France, reported that the use of chlorhexidine gluconate 4% (CHG) in patients with high CLABSI risk factors significantly decreased the prevalence of CLABSIs from 6.14/1000 catheter days to 2.8/1000 catheter days in one year ($P = 0.007$). A quasi-experimental before and after study by Chapman et al. (2021) with a sample of 48,114 patients days post implementation of CHG 4% for patients with central lines found that bathing patients with a CHG 4% solution decreased the prevalence of CLABSIs and infections with multi-drug resistant organisms. Utilization of CHG 4% solution for daily baths in a medical intensive care unit decreased the number of HAIs from 6.5 infections per 1,000 patient days to 3.1 infections per 1,000 patient days which is significantly lower ($P = < 0.001$). The study also reported that on a non-critical care site, the overall decrease of HAIs by 45% was significant ($P = < 0.01$) (Chapman et al., 2021). These articles had a common theme: utilizing daily baths decreases the rates of CLABSIs.

A quasi-experimental before and after study completed by Chapman et al. (2021) reported that CHG 4% is a broad-spectrum antimicrobial effective against gram-negative and positive bacteria. Chapman et al. described the CHG 4% bath checklist utilized for their institution, which listed that a patient's face, between the labia and the tip of a penis, cannot be wiped with the CHG 4% wipes. Using one CHG 4% wipe for each section of the body is the correct way to give a CHG bath: abdomen/back, right leg (thighs to toes), left leg (thighs to toes), and buttocks/groin/perianal area. Jusino-Leon et al. (2019) completed a quality improvement project that wanted to identify barriers that interfere

with the use of CHG wipes. They stated that a downfall of CHG baths is that patients complained of feeling sticky and uncomfortable post-application, which led to refusals. More than removing debris during the cleansing of patients is required to prevent infections. A retrospective analysis, including ten hospitals within the United States, reported that using a topical antiseptic solution and cleaners decolonizes harmful organisms on the human skin and mucosa without disrupting the host microbiome (Renzulli, 2017).

Studies recommend CHG 4% daily baths to reduce CLABSI risks, but the Joint Commission has stated concerns about the potential of CHG resistance, and CHG bathing may create problems in the future (Joint Commission, n.d.). A multicenter randomized control study by Addetia et al. (2019) evaluated the minimum inhibitory concentration for organisms collected concerning CHG 4% bathing and reported that cutaneous *Staphylococcus* isolates with a *gacA4* allele had elevated resistance to CHG 4% ($P = 0.001$). Addetia et al. (2019) reported that completing more studies to find other forms of daily bathing to prevent further resistance to CHG would be beneficial. A retrospective analysis, including ten hospitals within the United States, reported that a lower-than-normal pH preserves the dermal microbiome and reduces harmful bacteria, fungi, or viruses. Theraworx reduces the pH between 5-5.5, which allows the stratum corneum to function at the maximal barrier and immune ability (Renzulli, 2017). Theraworx skin care is a mucosal membrane and topical skin nontoxic application. Theraworx cloths are disposable one-time-use wipes that help decrease the bacteria on the skin. The wipe's ingredients include silver, aloe, vitamin E, and allantoin (Children's Minnesota, 2020). The mechanism of action of Theraworx is that it reduces the pH and optimizes the

stratum corneum layer of the epidermis. The Children's Minnesota website listed the location each wipe would cover; compared to the CHG 4% daily baths, Theraworx is also used on the perineum and face (Children's Minnesota, 2020). A retrospective analysis reported that Theraworx is an approach to infection prevention and the reduction of developing more multi-drug resistant organisms by decreasing the use of antibiotics (Renzulli, 2017).

The Joint Commission (n.d.) stated that implementing best practices had several barriers to reducing/eliminating CLABSIs. These included: a lack of leadership support, a safety culture, inadequate education and training, and nurse-to-patient ratios that are suboptimal. A prospective cohort study, including 136 nursing reports on the association of nursing workload with missed nursing care, reported that nurse-to-patient ratio and patient acuity played a prominent role in adherence to CLABSI maintenance bundles ($P < 0.001$) (Tubbs-Cooley et al., 2019). A quality improvement project by Jusino-Leon et al. (2019) found that patients' refusals were a significant barrier to completing the daily CHG 4% baths. Adding education and audits improves compliance with CLABSI maintenance bundles.

Jusino-Leon et al. (2019) completed a quality improvement project to identify barriers that interfered with using CHG wipes and reported completing education and audits on the documentation and completion of daily CHG baths, adherence to the CHG baths improved from 94% in April to 100% in June. A quasi-experimental before and after study by Bierlaire et al. (2021) included 2,134 central line days in period one and 1,666 central line days in period two, reported that when nursing staff obtained education and explanations of changes in the maintenance bundles; they were more willing to adopt

the changes. A significant decrease in CLABSI rates from 8.4 to 1.8 occurrences per 1000 central line days ($P = 0.02$) and decreased catheter-related complications 47 to 10 occurred during period two after the implementation of the central line bundle ($P < 0.007$). The improvements were related to increased compliance with the changes made within the NICU central line maintenance bundle (Bierlaire et al., 2021). A prospective interventional observational study by Gupta et al. (2018) reported that after the implementation of monitoring for compliance with preventive care bundles and hand hygiene, one hospital had 680 admits in critical care areas, and only 23 of these admits reported HAIs ($P = 0.042$). A stepped wedge cluster-randomized design study by Reynolds et al. (2021) reported that after providing education, audit, and feedback that nursing staff's knowledge ($P = 0.002$), perceptions of CHG bathing ($P = 0.01$), and compliance with the CHG 4% bathing process ($P = 0.009$) increased. Chlorhexidine Gluconate 4% bathing documentation compliance and CLABSI rates did not significantly improve statistically. However, a 27.4% decrease in CLABSI rates implies clinical significance (Reynolds et al., 2021). Compliance with daily bathing has been shown in multiple studies to improve by educating nursing staff, auditing CLABSI maintenance daily bathing, and providing feedback.

A Systematic Review and analysis of 76 articles divided into different categories by Bunting and Klerk (2022) showed that seven out of 10 studies achieved a meaningful compliance rate of $\geq 70\%$ due to EHR modifications such as automatic triggers, prompts, automatic suggestions, and reconfigurations. Four out of 10 studies used Automatic prompts within the EHR, and three showed a final compliance rate of $\geq 80\%$ (Bunting & Klerk, 2022). A retrospective audit by Cheng and South (2020) at a tertiary academic

pediatric hospital completed 131,481 electronic tasks. Most of the tasks created had a two-hour timeframe to be completed by the receiving provider, and only 77.4% of tasks were marked as completed within this time. It is essential to note that 63.16% of the electronic tasks were placed after hours for physicians to complete when there is a lower number of medical staff in the hospital who can complete them. If timeliness was not a factor, then 98.8% of tasks were marked completed through the electronic task. The retrospective audit reported that electronic tasks within the EHR benefit data collection, audits, and task prioritization/reminders. All these beneficial aspects of electronic tasks provide the ability to continue quality improvement within the systems that utilize this ability (Cheng & South, 2020). Reynolds et al. (2021) completed a stepped wedge cluster randomized study, which reported that a task reminder within the EHR increases documentation of daily CHG 4% baths.

Literature appraisals of the articles utilized revealed gaps in the literature. In pediatric and neonatal intensive care units, CLABSI rates are high, but there are no specific methods in current research to avoid CLABSIs altogether. The data ranges throughout the literature review could be explained by the variations of adherence to different elements within the care bundles and patient acuity. Most articles found within the literature search did not consider if emergent insertion of a central line played a role in the risks of CLABSIs. The literature does not show the difference in CLABSIs caused by insertion or decreased compliance in daily baths for maintenance bundles. Limitations were that some of the articles had small sample sizes. Strengths found from the literature search are the generalization of results and a good portion of the articles have similar data.

The Institute for Healthcare Improvements Model for Change PDSA cycle is the framework selected for the QI project at a mid-Missouri tertiary pediatric hospital. The reason for selecting the PDSA cycle is to assess change by planning, trying, observing the outcomes, and making changes based on the data collected from the cycle (Christoff, 2018). The PDSA cycle for this QI project will look at using an automatic electronic task for CLABSI maintenance daily baths and the compliance rate of these daily baths. The PDSA cycle allows for constant reassessment and changes following the initial cycle by completing additional cycles (Christoff, 2018).

In summary, completing daily bathing for CLABSI maintenance bundles have shown to decrease the rates of CLABSIs. However, studies have shown that CHG 4% daily bathing is a reason for bacterial resistance. Another form of daily bathing, such as a Theraworx bath, should be completed for maintenance bundles (Addetia et al., 2019). Compliance with CLABSI maintenance bundles is a significant theme in the literature review. The literature shows that education and audits can increase compliance rates. Utilizing an electronic task within the EHR is statistically and clinically significant in increasing compliance for completing and documenting tasks within the EHR. Using an electronic task within the EHR for daily baths for CLABSI bundles can benefit facilities with compliance issues in completing maintenance bundles and documentation.

Methods

Design

This QI project is a pilot retrospective and prospective pre-post-project utilizing a PDSA cycle framework. Retrospective data will be collected from patient charts dated January 2022 – December 2022 on the number of daily baths completed for patients with

central lines and the total central line days. Implementation of an automated electronic task that fires when patients have orders that acknowledge a central line insertion or that a central line is accessed will occur in January 2023. Prospective data will be collected after implementing the automated electronic task from January 2023-April 2023.

The QI project pivoted to utilize a daily SBAR sheet as a reminder for nursing staff to complete and document daily central line Theraworx baths. The implementation period began in February of 2023. The QI project lasted 12 weeks for an entire PDSA cycle.

Setting

This project will occur in a pediatric service line with 45 beds, including a pediatric general floor and intensive care unit. The two units have approximately 70 nursing staff members. This service line is part of a 390-bed tertiary mid-Missouri hospital. Patients seen at this facility are primarily patients from the rural counties of northern, mid, and southern parts of Missouri.

Sample

A convenience sample of pediatric patients aged two to 21 years, admitted within the service line and with central lines that have an SBAR sheet completed, are included in the PDSA cycle. The patients excluded from this sample are those outside the age range, COVID (+), those who do not have an accessed or inserted central line, and not within the pediatric service line. All central lines, such as an internal jugular, femoral, peripherally inserted central catheter, port, dialysis catheters, and broviac lines, will be included. Charts will be removed from the sample once they have a de-accessed or discontinuation of a central line or become COVID (+). There is no desired sample size.

Intervention

The pilot project will implement an electronic task that automatically fires once providers place orders acknowledging a patient has a central line accessed or inserted. This electronic task provides a space to document daily baths on patients with central lines. The task will fire in the task list at 0900 daily that states "Daily Bath," reminding nursing staff that patients under two should receive a soap and water bath, while patients older than two should receive a Theraworx bath. After documenting the daily bath through the task, the task will disappear for that day and reappear every day until the central line is de-accessed or discontinued.

After receiving barriers leading to the creation of the electronic task, the QI project had to pivot from the electronic task to an SBAR sheet created for nursing staff to fill out on every patient daily who had central lines. The SBAR sheet would require the patient's FIN and age, and it also had a place for nursing staff to check whether the daily central line Theraworx bath was completed and documented for each shift. The sheet would be filled out on each patient until they no longer met the inclusion criteria.

Data Collection/Analysis

This QI project will conduct a retrospective chart review for January 2022-December 2022 on the number of daily baths completed for patients with central lines and the total central line days. The data that is collected retrospectively will be deidentified and anonymous. The facility committee chair will protect the data collected and sent to her from the chart reviews on an Excel sheet in Microsoft Teams protected by username and password.

February 2023, the daily SBAR sheet will be implemented. Nursing staff will fill out the SBAR sheets on patients with central lines that meet the inclusion criteria for 12 weeks. An audit system created by information technology (IT) will pull information from the Cerner power chart on patients with central lines. The data will be collected weekly and sent to the facility advisor for proper data protection, then collected by the DNP candidate into a Microsoft Excel sheet without patient identifiers. The data sent to the facility advisor will be sent to the DNP candidate to compare to the daily SBAR sheets filled out. The total CLABSI rates will be collected weekly by the Department of Infectious Disease and sent to the facility advisor.

The analysis system used for the QI project will be the Chi-square test. These tests will explore the statistical significance of the relationship between the number of daily SBAR sheets marked as completed to the number of Theraworx baths documented within the EHR. A *P* value of <0.05 would state a statistically significant relationship.

Approval Process

The DNP capstone advisory committee approved the Quality Improvement pilot project. The project has obtained approval from the facilities and the University of Missouri-St. Louis (UMSL) graduate internal review board. After pivoting to SBAR sheets, new IRB applications were filed with the facility and UMSL and obtained approval. No risks or harm can occur to the patients from this quality improvement project. No ethical considerations exist for this project, and no sources are funding it. The project's benefits are increasing staff education and compliance with the evidence-based practice of CLABSI maintenance bundles daily baths, which can decrease CLABSI rates.

Results

Daily Central Line Theraworx Baths

A retrospective chart review from January 1, 2022, through December 31, 2022, had 1,078 central line days and 181 two years and older patients. In 2022, the pediatric service line staff documented 90 daily central line Theraworx baths (n=90, 8.35%) (Appendix A). During the implementation period from February 5, 2023, through April 29, 2023, out of 346 central line days and 74 patients, only 223 central line days and 68 patients had SBAR sheets completed and met inclusion criteria. The total number of central line days should equal the number of daily Theraworx baths documented. Out of the 223 central line days, 103 (n=103, 46.19%) central line daily Theraworx baths were documented during the QI project (Appendix B). Seventeen of the central line daily baths were documented incorrectly, meaning either a shower, complete bed bath, sponge bath, or tub bath (n=17, 7.62%) (Appendix B). For the central line days included in this study, 103 baths were not documented (n=103, 46.19%) (Appendix B). One-hundred and thirty-four SBAR sheets were marked as Theraworx bath completed (n=134, 60.1%), and 89 SBAR sheets were marked as Theraworx bath not being completed (n=89, 39.9%) (Appendix C). The nursing staff is not documenting 13.91% of Theraworx baths marked as completed on the SBAR sheet.

During the retrospective chart review for 2022, one CLABSI was indicated in June, which had a 13.11% Theraworx bath documentation rate. June was the highest documentation rate, and the lowest month for documentation of daily Theraworx baths in 2022 was January, with a 3.66% documentation rate (Appendix D). During the PDSA cycle II, the highest documentation rate for Theraworx baths documented was 88.23% during week 7, and the lowest rate was 0% during week 10 (Appendix E). During PDSA

cycle II, the number of SBAR sheets marked as Theraworx baths completed was more significant than the amount of Theraworx baths documented, except for weeks one and four (Appendix E). During the QI implementation period, the pediatric service line had zero CLABSIs.

This PDSA cycle utilized A chi-square test of independence to examine the relation between daily SBAR sheets completed and the documentation rate of Theraworx baths in the EHR. The relation was significant, $\chi^2 (1, N=223) = p < .001$ (Appendix F). Table one shows that following the implementation of the daily central line Theraworx bath SBAR sheets, the pediatric service line had a 46.19% documentation rate, a percentage increase of 453.17% from the 2022 documentation rate of 8.35% (Appendix A).

Discussion

Implications of this QI project accomplished the purpose of auditing and increasing documentation rates of daily central line Theraworx baths within the pediatric service line. The goal of 80% documentation rates for daily central line Theraworx baths was achieved during week seven of the PDSA cycle (Appendix E). The most likely reason for meeting the goal in week seven is that after week six, a six-week analysis was completed and shared with the pediatric service line to show progress and encourage nursing staff to continue participating in filing out daily SBAR sheets and documenting the daily Theraworx baths. During week ten, zero data was reported due to no patients meeting inclusion criteria due to zero SBAR sheets being completed. The lack of compliance during week ten is likely related to the respiratory patient surge that was occurring nationwide and suboptimal nurse-to-patient ratios during this time.

During the QI implementation period, out of the 68 patients and 223 central line days, the stated secondary goal of zero CLABSI rates was achieved. The increase in compliance with documentation by 453.17% due to having daily SBAR reminders shows a clinically significant change consistent with results using daily electronic tasks for staff (Cheng & South, 2020; Bunting & Klerk, 2022). The decrease in CLABSI rates was consistent with other studies (Chapman et al., 2021; Martinez et al., 2020; Reynolds et al., 2021).

Barriers to documentation rates for the QI project are related to the respiratory season patient surge caused nursing staff from outside units to float to the pediatric service line and travelers who do not know the service line rules regarding pediatric patients with central lines to care for this population. The influx of patients had nursing staff with larger than standard ratios leading to burnout. The pediatric service line had multiple changes in management without follow-up on creating an electronic task within the EHR due to concerns from the retrospective chart review. A prospective cohort study by Tubbs-Collet et al. (2019) found similar barriers during this QI project.

Limitations of this QI project included resistance from Cerner and IT in creating the central line daily bath electronic task. The QI project had to pivot and create an SBAR sheet for nursing staff to fill out daily, stating whether they had completed the daily Theraworx bath for patients ages two and older. A New IRB QI application was filed, delaying the data collection start time. A limitation of having paper SBAR sheets is that nursing staff only sometimes filled out the SBAR sheets, as the binder that held the SBAR sheets was on the charge station and not always remembered. Finally, having a

period more extended than 12 weeks would allow for larger sample sizes of central line days and daily central line Theraworx SBAR sheets completed.

Recommendations for future endeavors include creating an electronic task for the EHR to ensure visual reminders every time staff logs into the EHR that will disappear once the task is completed. The electronic task would allow staff to quickly document the central line daily baths without entering the patient's chart and going to the hygiene tab. Findings from this QI project may guide future PDSA cycles, including demographics, patients with central lines under two years old who receive daily soap and water baths, and patients outside of the pediatric service line.

Conclusion

In this QI project, having an SBAR sheet to remind nursing staff to complete and document their daily central line Theraworx baths increased the documentation rate of the daily central line baths and showed a decrease in CLABSI rates. Future PDSA cycles and data collection should take place for ongoing QI investigations.

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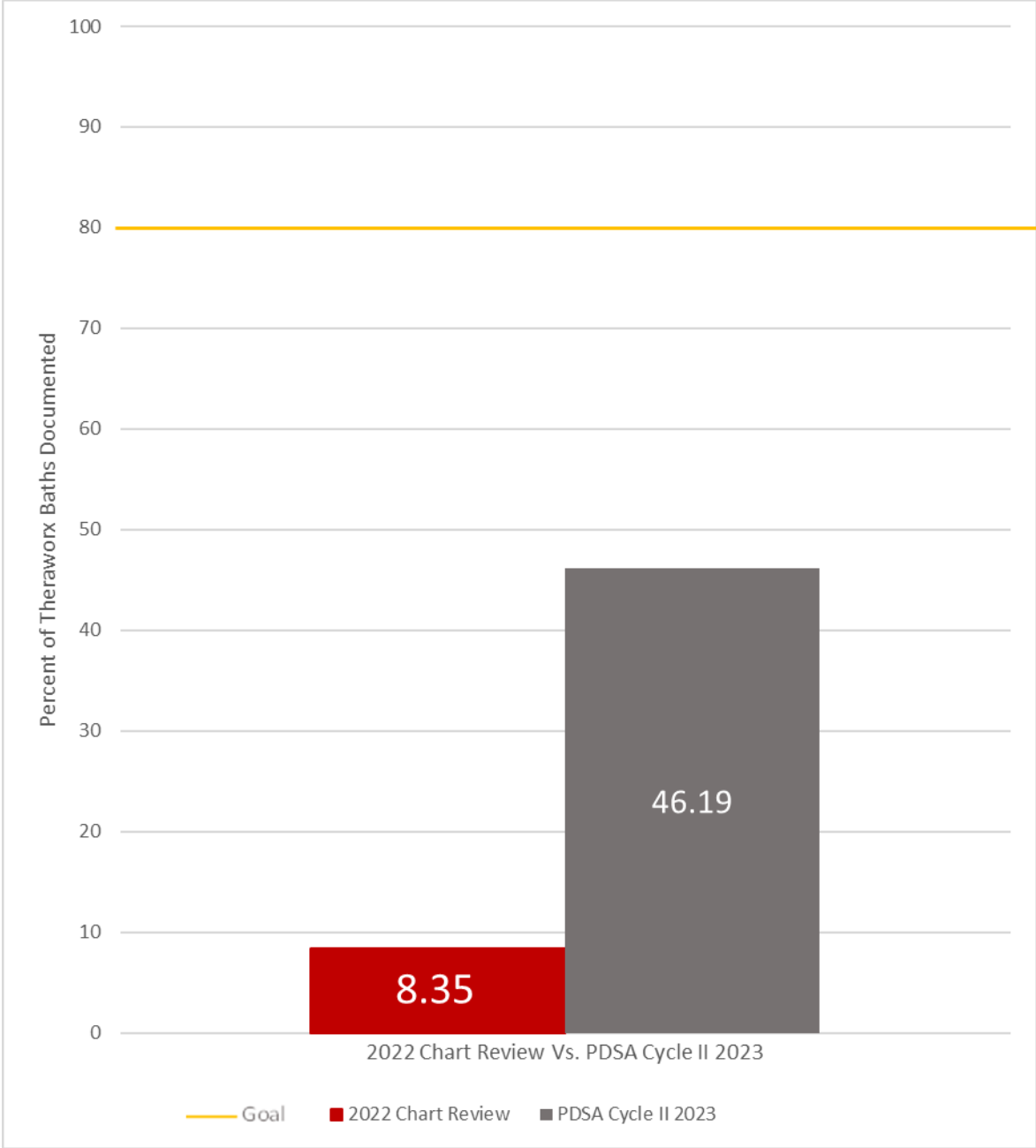
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Appendix A

Figure 1

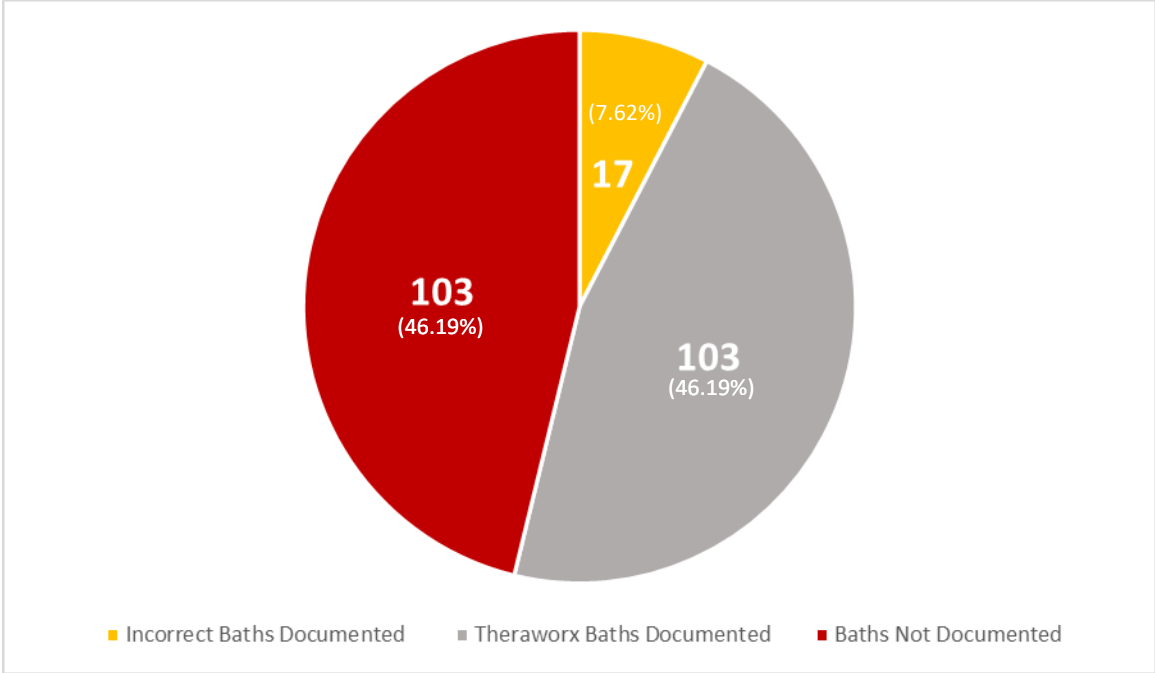
Total Percent of Theraworx Baths Documented



Appendix B

Figure 2

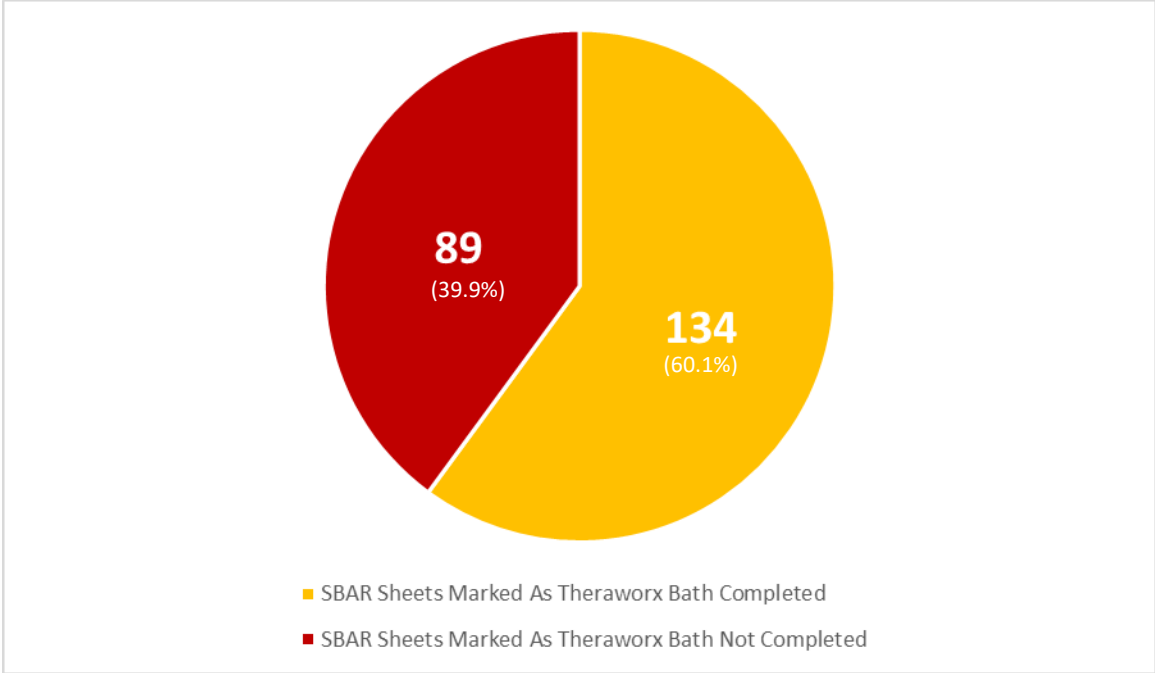
Total Daily Central Line Baths Chart Audit PDSA Cycle II



Appendix C

Figure 3

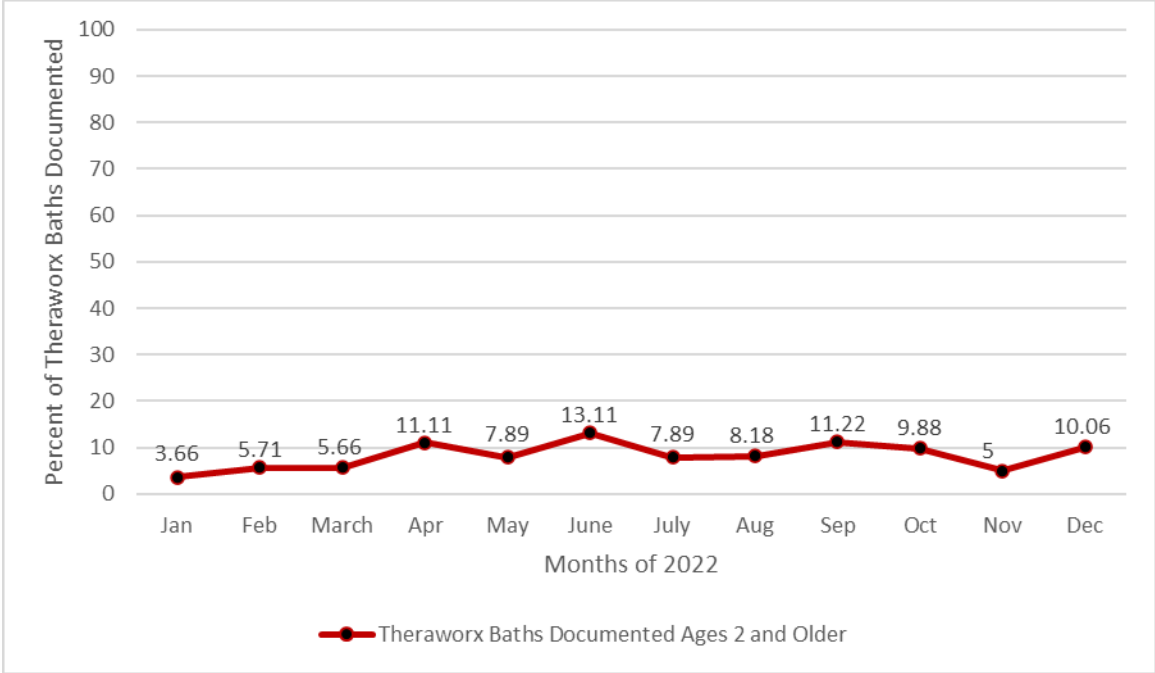
PDSA Cycle II Daily SBAR Sheets Completed



Appendix D

Figure 4

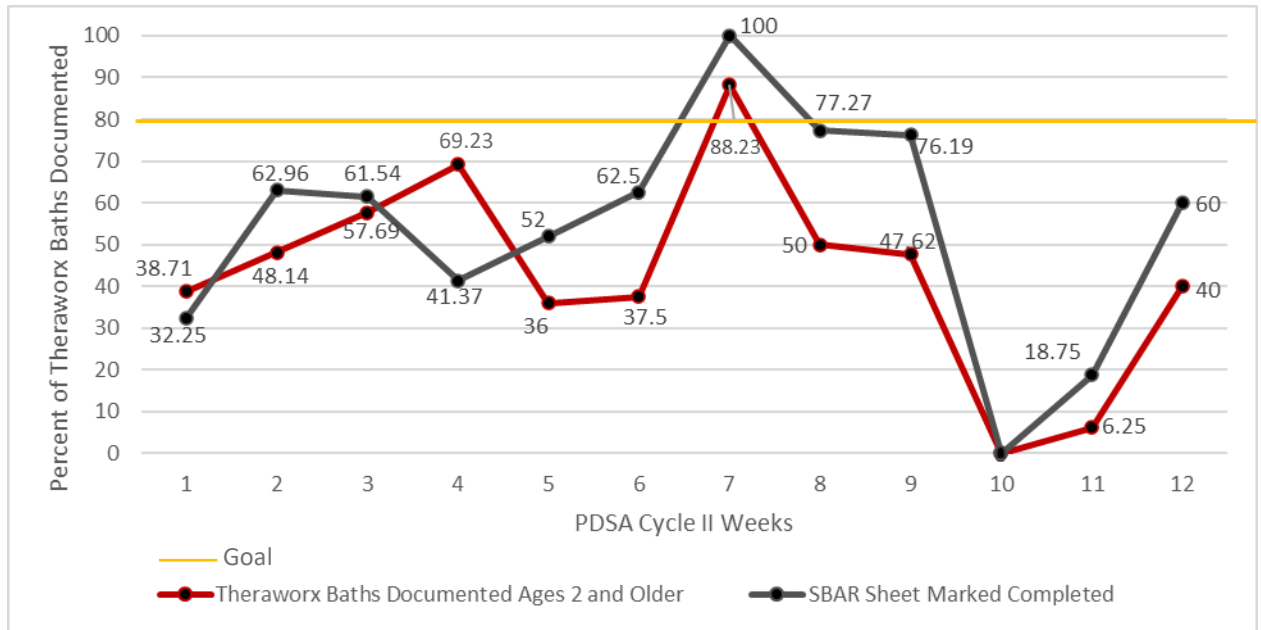
Retrospective Chart Review



Appendix E

Figure 5

PDSA Cycle II



Appendix F

Table 1

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