A review of a multisite home and alternate site infusion company's catheter infection program. Lessons learned lead to implementation of revised training programs, policy revision and cross departmental integration

Authors: Barbara Prosser, RPh, FNHIA; Don Filibeck, PharmD, MBA, FASHP, FNHIA, BCSCP; Christine Miller, PharmD – Soleo Health

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Background

Central venous catheter (CVC) infection rates are an important metric for home infusion or alternate site providers to track. CVC infections are known therapy-related risks in the home and alternate site population. CVC care and preservation are key pieces of therapy success in patients receiving long-term treatments such as nutritional support and immune therapy.

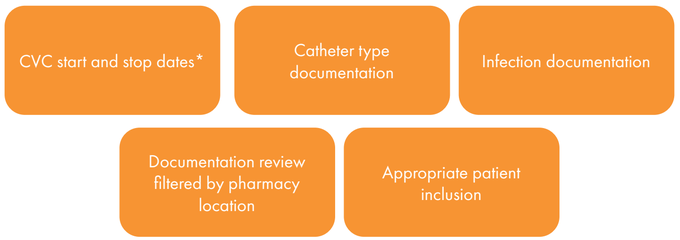
Purpose

This retrospective review of a catheter infection surveillance program was conducted to review the accuracy of reported infection rates. The review included documentation methods, training, dispensing program databases, reports, and data reliability. Lessons learned will improve data collection and the subsequent ability to benchmark and improve processes.

Methods

A retrospective analysis of electronic medical record documentation was performed on patients receiving infusion therapy via CVCs from this complex specialty pharmacy from January to November 2023. Peripheral and midline IV catheters were excluded from this review. The data in Figure 1 were audited for inconsistencies.

Figure 1. Central Venous Catheter (CVC) Data Included in Audit



* Start date was defined as the date the organization assumes care of the catheter. Stop date was defined as the date the catheter was removed, care was assumed by another provider, or the patient was discharged.

Results

Several discrepancies were discovered during this exercise. CVC dwell days determined by start and stop dates were not consistently documented. Start dates reflected catheter placement dates, start of care dates and/or placement dates prior to the initiation of infusion therapy with this provider. Definitions of catheter start and stop dates are not well defined within the industry and may cause a variance in data benchmarking. Stop dates related to the catheter were left blank, missed data entry when documenting a catheter removal/replacement or patient discharge from infusion services. Catheter descriptions were inconsistent across the organization.

Outcomes and Discussion

Several target areas were identified through the audit process. Catheter days were inflated due to missing or incorrect start and stop dates, presenting an inflated or low infection rate per 1000 catheter days. Outlining clear definitions of start and stop dates in policies and procedures will ensure a consistent denominator for calculating infection rates.

Reports should be used to identify potential trends in infection rates, as related to specific providers, referral sources, or site issues. Benchmarking opportunities are key metrics for improvement when the data is complete and comprehensive.

Collaboration with the IT department is critical to ensure reports are pulling the appropriate data. Catheter type, patient status and service type need to be vetted and reviewed as part of the data review.

Monitoring and maintaining an accurate catheter database allows for benchmarking opportunities both inside and outside the organization. Improving infection rates is key to improving patient care. The proposed policy definitions related to a CVC infection surveillance program are listed in Figure 2, with the overall elements of the surveillance program described in Figure 3.

Figure 2. Policy Definition Considerations for a Central Venous Catheter Infection Surveillance Program

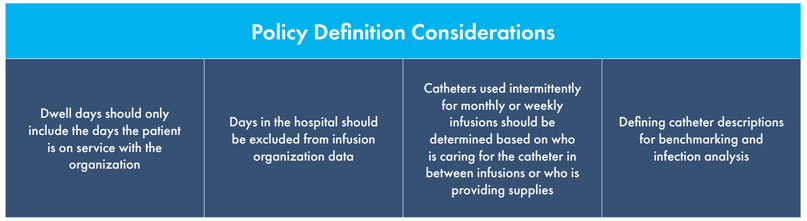
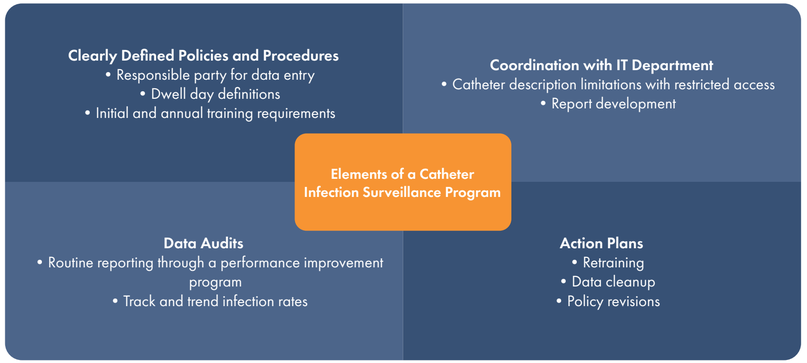


Figure 3. Elements of a Catheter Infection Surveillance Program Within a Multisite Home and Alternate Site Infusion Company



Conclusion

Effective auditing of data entry and reporting is imperative to reporting accurate catheter infection rates. Routine auditing and resulting action plans must be incorporated into an ongoing performance improvement plan. Review of the program should include reexamination and updating of policies and procedures. Training methods and staff orientation needs to emphasize the importance of data entry, especially as it relates to catheter infection monitoring for positive patient outcomes.

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