Title:
Effect of an educational program and new data collection method on rates of central line insertion data collection, use of sterile technique strategies, and incidence of catheter-related bloodstream infections in a medical intensive care unit (ICU).

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Problems:
Need for improved data collection methods to determine what steps line inserters are taking to ensure sterile technique; and need for improved observation of the tenets of sterile technique to reduce the incidence of catheter-related bloodstream infections.

Aim:
To increase the percentage of lines for which insertion data are collected by 50% within 2 months in a medical ICU; to increase the number of strategies for sterile line insertion employed by inserters by 10% within 2 months in a medical ICU; to decrease the incidence of catheter-related bloodstream infections by 10% within 2 months in a medical ICU.

Key measures for improvement:
Percentage of central line insertions for which data regarding sterile insertion technique are collected; number of strategies for sterile line insertion employed by inserters; incidence of catheter-related bloodstream infections.

Process of gathering information:
Data regarding line placement technique were gathered in two ways: initially line inserters were randomly surveyed after they placed a line by two data collectors stationed in the ICU. After our intervention, data were collected by voluntary completion of an online form that automatically generated a line placement procedure note.

Data on the actual number of line placements in the ICU were collected independently by ICU data collection personnel not affiliated with this study. These data collectors also documented all incidents of catheter-related bloodstream infections as defined by a strict set of predefined criteria.

Analysis and interpretation:
Table 7.1 Results before and after providing an educational session on proper sterile technique in line placement, posting reminder notices and introducing an online standardized procedure form and note.