

“These findings suggest that device days and bed days are equally effective adjustment metrics for comparing healthcare-associated infection rates between hospitals in the setting of stable device utilization” Horstman et al (2015).

Reference:

Horstman, M.J., Li, Y.F., Almenoff, P.L., Freyberg, R.W. and Trautner, B.W. (2015) Denominator Doesn't Matter: Standardizing Healthcare-Associated Infection Rates by Bed Days or Device Days. *Infection Control and Hospital Epidemiology*. March 18th. .

Defining CLABSI rates: Should you use bed days or device days? [#ivteam](http://ctt.ec/ch6rQ+@ivteam)

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Abstract:

**OBJECTIVE:** To examine the impact on infection rates and hospital rank for catheter-associated urinary tract infection (CAUTI), central line-associated bloodstream infection (CLABSI), and ventilator-associated pneumonia (VAP) using device days and bed days as the denominator.

**DESIGN** Retrospective survey from October 2010 to July 2013.

**SETTING** Veterans Health Administration medical centers providing acute medical and surgical care.

**PATIENTS** Patients admitted to 120 Veterans Health Administration medical centers reporting healthcare-associated infections.

**METHODS** We examined the importance of using device days and bed days as the denominator between infection rates and hospital rank for CAUTI, CLABSI, and VAP for each medical center. The relationship between device days and bed days as the denominator was assessed using a Pearson correlation, and changes in infection rates and device utilization were evaluated by an analysis of variance.

**RESULTS** A total of 7.9 million bed days were included. From 2011 to 2013, CAUTI decreased whether measured by device days (2.32 to 1.64,  $P=.001$ ) or bed days (4.21 to 3.02,  $P=.006$ ). CLABSI decreased when measured by bed days (1.67 to 1.19,  $P=.04$ ). VAP



rates and device utilization ratios for CAUTI, CLABSI, and VAP were not statistically different across time. Infection rates calculated with device days were strongly correlated with infection rates calculated with bed days ( $r=0.79-0.94$ ,  $P<.001$ ). Hospital relative performance measured by ordered rank was also strongly correlated for both denominators ( $r=0.82-0.96$ ,  $P<.001$ ).

**CONCLUSIONS** These findings suggest that device days and bed days are equally effective adjustment metrics for comparing healthcare-associated infection rates between hospitals in the setting of stable device utilization.

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