

CONCISE COMMUNICATION

Urinary Catheter Indications in the United States: Results from a National Survey of Acute Care Hospitals

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In a survey of acute care hospitals across the United States, we found that many hospitals use indwelling urinary catheters for reasons that are not medically necessary (eg, urinary incontinence without outlet obstruction and patient/family requests). Our findings highlight an opportunity to reduce unnecessary catheter use through promoting awareness of appropriate use.

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Indwelling urinary catheters are commonly used medical devices. An estimated 25% of hospitalized patients have catheters placed during their hospital stay.¹ Guidelines from the Centers for Disease Control and Prevention's Healthcare Infection Control Practices Advisory Committee (HICPAC) recommend limiting the use of indwelling catheters and provide examples of both appropriate and inappropriate indications for catheter use.² Between 20% and 50% of catheters placed in acute care settings may not be medically necessary.^{1,3-5} Reducing inappropriate use of catheters has the potential to prevent catheter-associated urinary tract infection (CAUTI) and other noninfectious consequences of catheter use, such as pain, trauma, and mobility restriction.⁶

Although previous studies have investigated catheter appropriateness in single-site settings, we are unaware of any other studies that have examined indications for catheter placement as used by hospitals across the United States. Thus, we sought to determine how often various indications for catheter use were reported among a nationally representative sample of acute care hospitals.

METHODS

In March 2009, survey questionnaires were distributed to a random sample of US hospitals. Details regarding the sample and survey instrument have been described previously.^{7,8} In brief, the survey instrument was mailed to lead infection preventionists at 588 nonfederal acute care hospitals with at least 50 patient beds and an intensive care unit (ICU). The survey instrument included questions about general facility and infection control program characteristics as well as practices related to preventing CAUTI and other device-associated infections. Respondents were also asked to select all of the indications for catheter placement used at their facility from a list of indications informed by the HICPAC guidelines.² Descriptive statistics were generated to determine frequencies

of indication use. χ^2 and *t* tests were used to assess potential associations between hospital characteristics and the use of the various catheter indications.

RESULTS

A total of 406 hospitals responded to our survey, representing a response rate of 69%. The average bed size was 226, and the mean full-time equivalent infection preventionist was 1.8. A total of 70% of the respondents were registered nurses, and 64% were certified in infection control.

Table 1 illustrates the use of the various catheter indications. A majority of respondents indicated that their facility used catheter indications deemed appropriate by CAUTI prevention guidelines.² Despite this, we found that many hospitals were also using several indications deemed inappropriate by the same guidelines.² Of note, nearly half used urinary incontinence without outlet obstruction (42.4%) and more than one-third used patient/family request (34.2%) as indications for catheter placement. We found that hospitals that were affiliated with a medical school (32% vs 47%; *P* = .01) and facilities with a greater number of full-time-equivalent infection preventionists (2.0 vs 1.6; *P* = .04) reported less frequent use of the urinary incontinence without outlet obstruction indication. Conversely, this indication was reported more frequently among hospitals reporting bed or unit closures due to nurse staffing issues (52% vs 40%; *P* = .05). Hospitals that utilized hospitalists more frequently reported using the patient/family request indication (37% vs 24%; *P* = .02).

DISCUSSION

Although the majority of hospitals responding to our survey reported using indications deemed appropriate by HICPAC recommendations,² several inappropriate indications were used frequently. This finding complements results from a recent study of hospitals participating in a national CAUTI prevention initiative funded by the Agency for Health Research and Quality,⁹ which showed that between 30% and 40% of catheters outside the ICU may not be appropriately indicated.¹⁰ The reported frequent use of urinary incontinence without outlet obstruction in the current study is consistent with prior work showing urinary incontinence as the major cause of initial unjustified catheter placement.⁴ Urinary incontinence is a prevalent condition, ranging from 14% in men to 51% in women,¹¹ and may be a symptom of complex underlying conditions. As such, it is possible that selection of this indication was motivated by particular patient characteristics. Additionally, we found that use of this indication was more frequent in hospitals reporting staffing issues and in hospitals with less support and fewer resources for infection control. The relatively high use of patient/family requests in

TABLE 1. Urinary Catheter Indications (N = 406)

Indication	No. (%)	Appropriate per HICPAC guidelines ²
Output monitoring in critically ill	390 (96.1)	Yes
Prolonged surgical procedures	376 (92.6)	Yes
Acute urinary retention or bladder outlet obstruction	366 (90.1)	Yes
Urinary incontinence without obstruction in patients with pressure sores	328 (80.8)	Yes
Urinary incontinence without obstruction	172 (42.4)	No
Patient/family request	139 (34.2)	No
Nursing workload	36 (8.9)	No
Other ^a	46 (11.3)	...

NOTE. HICPAC, Healthcare Infection Control Practices Advisory Committee, Centers for Disease Control and Prevention.

^a Includes hospice or end-of-life care, surgery/anesthesia, acute and chronic urinary retention, trauma, burn, fracture, immobility, being in intensive care unit, and physician order.

our study parallels recent findings from qualitative assessments identifying patient/family requests for catheterization as one of the barriers to reducing catheter use.¹²

Our study has several limitations. First, as our response rate was not 100%, our results are prone to nonresponse bias. Second, the use of catheter indications at each hospital was based on the response of one infection preventionist. Furthermore, the use of indications was not mutually exclusive, and we were not able to quantify which indications were being used most frequently. Finally, we did not collect patient-level data with which to quantify actual indications used or control for patient-level characteristics.

Limitations notwithstanding, our study provides insights into which indications are being selected for catheter placement in US hospitals. A majority of hospitals reported using catheters for appropriate reasons that are aligned with HICPAC guideline recommendations.² However, we found that several inappropriate indications were also being reportedly used quite regularly. Of note, our findings suggest that specific patient and hospital characteristics may be driving the use of inappropriate indications, such as urinary incontinence without obstruction and patient/family requests. Identifying and implementing strategies that would help bolster infection control programs may help increase awareness of catheter appropriateness and reduce inappropriate catheter use. Additionally, in an era of increasingly patient-centric care, healthcare providers have an increased responsibility for informing patients and family members of the potential consequences of catheters when requests for catheterization are made in the absence of concurrent, appropriate indications.

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