

## ORIGINAL ARTICLE

# Hospital-Acquired Catheter-Associated Urinary Tract Infection: Documentation and Coding Issues May Reduce Financial Impact of Medicare's New Payment Policy

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**OBJECTIVE.** To evaluate whether hospital-acquired catheter-associated urinary tract infections (CA-UTIs) are accurately documented in discharge records with the use of *International Classification of Diseases, Ninth Revision, Clinical Modification* diagnosis codes so that nonpayment is triggered, as mandated by the Centers for Medicare and Medicaid Services (CMS) Hospital-Acquired Conditions Initiative.

**METHODS.** We conducted a retrospective medical record review of 80 randomly selected adult discharges from May 2006 through September 2007 from the University of Michigan Health System (UMHS) with secondary-diagnosis urinary tract infections (UTIs). One physician-abstractor reviewed each record to categorize UTIs as catheter associated and/or hospital acquired; these results (considered "gold standard") were compared with diagnosis codes assigned by hospital coders. Annual use of the catheter association code (996.64) by UMHS coders was compared with state and US rates by using Healthcare Cost and Utilization Project data.

**RESULTS.** Patient mean age was 58 years; 56 (70%) were women; median length of hospital stay was 6 days; 50 patients (62%) used urinary catheters during hospitalization. Hospital coders had listed 20 secondary-diagnosis UTIs (25%) as hospital acquired, whereas physician-abstractors indicated that 37 (46%) were hospital acquired. Hospital coders had identified no CA-UTIs (code 996.64 was never used), whereas physician-abstractors identified 36 CA-UTIs (45%; 28 hospital acquired and 8 present on admission). Catheter use often was evident only from nursing notes, which, unlike physician notes, cannot be used by coders to assign discharge codes. State and US annual rates of 996.64 coding (~1% of secondary-diagnosis UTIs) were similar to those at UMHS.

**CONCLUSIONS.** Hospital coders rarely use the catheter association code needed to identify CA-UTI among secondary-diagnosis UTIs. Coders often listed a UTI as present on admission, although the medical record indicated that it was hospital acquired. Because coding of hospital-acquired CA-UTI seems to be fraught with error, nonpayment according to CMS policy may not reliably occur.

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Since implementation of the Hospital-Acquired Conditions Initiative<sup>1,2</sup> (known commonly as the "no pay rule") on October 1, 2008, by the Centers for Medicare and Medicaid Services (CMS), hospitals no longer receive additional payments from CMS to treat certain hospital-acquired conditions (Table 1). The idea behind the policy was to give hospitals an incentive to prevent hospital-acquired conditions by removing the extra payment that hospitals previously could receive when patients developed hospital-acquired conditions. The first hospital-acquired condition selected for nonpayment was the most common hospital-acquired infection: catheter-associated urinary tract infection (CA-UTI). CA-UTI is not a new problem, and despite several studies and publications during the past 30 years that have identified risk factors and strategies to reduce CA-UTI risk,<sup>3-14</sup> it remains a common condition. Prolonged catheterization is the single most important risk factor for CA-UTI.<sup>13-15</sup> Urinary catheters

are often placed unnecessarily,<sup>5</sup> are in place without physician awareness,<sup>16</sup> and are not removed promptly when no longer needed.<sup>5,17</sup> Thus, CA-UTI easily met the criteria to be selected for nonpayment. Not paying for CA-UTI seems to be a strategy to save money and to motivate hospitals to develop systems to prevent hospital-acquired CA-UTI, such as avoiding unnecessary use of urinary catheters and implementing other preventive strategies<sup>7,14</sup> for patients who require catheters.

Although not paying for a complication seems like a simple strategy, the Hospital-Acquired Conditions Initiative is implemented by using complicated patterns of the *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)* codes that hospitals use to request payment according to the diagnosis-related group-based Inpatient Prospective Payment System. Three *ICD-9-CM* codes must each be listed accurately to trigger nonpayment for a hospital-acquired CA-UTI:<sup>1,2,18</sup> (1) a code for a UTI as a secondary

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TABLE 1. Hospital-Acquired Conditions Not Eligible for Payment from Centers for Medicare and Medicaid Services<sup>1,2</sup>


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Effective October 1, 2008

- Catheter-associated urinary tract infection<sup>a</sup>
- Decubitus ulcer (pressure ulcer)
- Vascular catheter-associated infection
- Falls and trauma
- Serious preventable "never events":
  - Foreign object retained after surgery
  - Air embolism
  - Blood incompatibility
- Deep vein thrombosis or pulmonary embolism after certain orthopedic surgeries
- Manifestations of poor glycemic control
  - Diabetic ketoacidosis
  - Nonketotic hyperosmolar coma
  - Hypoglycemic coma
  - Secondary diabetes with ketoacidosis
  - Hyperosmolarity
- Surgical-site infections after certain surgeries
  - Mediastinitis after coronary artery bypass
  - Certain orthopedic surgical-site infections
  - Certain bariatric surgical-site infections
- Considered for future implementation
  - Ventilator-associated pneumonia
  - Staphylococcus aureus* septicemia
  - Clostridium difficile* infection
  - Iatrogenic pneumothorax
  - Legionnaires disease
  - Delirium

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<sup>a</sup> Focus of our study.

diagnosis (that is, not the principal reason for hospitalization), (2) the additional code 996.64 to indicate that the UTI was catheter associated, and (3) the newly required present-on-admission indicator code to indicate the UTI's status as *not* present on admission.<sup>19,20</sup> If hospitals do not assign these 3 codes accurately for each UTI diagnosis listed, the hospitals could receive extra payment by default.<sup>18</sup>

Because of this complexity, we were interested to discover whether UTIs are being coded accurately to trigger nonpayment as mandated by the CMS Hospital-Acquired Conditions Initiative. We hypothesized that because multiple codes are required to identify a UTI as a hospital-acquired CA-UTI, many hospital-acquired CA-UTIs would be misidentified in hospital coding and would thus result in hospital payment by default, which would defeat the policy's financial incentive to improve care.

## METHODS

### Design and Data Sources

To address our research question, we evaluated operational issues in the implementation of the CMS Hospital-Acquired Conditions Initiative at the level of the individual patient discharge and the individual hospital. We conducted a ret-

rospective review of the medical records of a random sample of 80 hospitalized adults who were discharged during the period May 2006 through September 2007 from the University of Michigan Health System (UMHS) with a coded secondary diagnosis of urinary tract infection (UTI). This project was reviewed by the UMHS institutional review board, which judged the project not to need approval because no human subjects participated. Our sample was generated by the UMHS Clinical Information and Decision Support team, in a process that first identified all hospitalizations with UTI as a secondary diagnosis within the chosen time period and then created the random sample of cases for review with use of a random number generator.

Our medical record review used 2 sources of data: the complete medical record for the hospitalization, and the accompanying administrative discharge abstract that includes the diagnosis codes as applied by the hospital coders to request payment for the hospitalization after the patient was discharged. By the time we started reviewing medical records, the patients had been discharged several months in the past and the administrative discharge abstracts had been completed in routine fashion by hospital coders.

First, 1 physician-abstractor (J.M.) trained in UTI and CA-UTI clinical criteria reviewed each medical record comprehensively (including all notes of providers [defined as physicians, physician assistants, and nurse practitioners] and nurses, diagnostic studies, discharge summaries, and provider orders) to answer 3 questions:

1. Was the use of a UTI code justified for this hospitalization? That is, does the medical record contain evidence that a UTI was present, suspected, diagnosed, or treated during hospitalization?
2. Was the UTI associated with a urinary catheter (ie, catheter associated)?
3. Was the UTI present on admission or hospital acquired?

Definitions applied by the physician-abstractor in answering these 3 questions are detailed in Table 2.

The criteria for justifying use of a UTI code were purposely chosen to be broad; the patient had to have at least 1 symptom, test result, or provider documentation that indicated that a UTI was present, suspected, or treated. These broad criteria (instead of the strict diagnostic criteria used for UTI surveillance data collection by the Centers for Disease Control and Prevention [CDC]<sup>21,22</sup> or the National Healthcare Safety Network<sup>22,23</sup>) were used because hospital coders use similarly generous criteria when deciding whether to apply a UTI diagnosis code to the hospital payment request. Similarly, in clinical practice (as opposed to research trials), physicians commonly diagnose and treat UTIs on the basis of common clinical criteria (such as pain with urination or fever with need for frequent urination),<sup>24-27</sup> often without confirmatory urine test results, rather than requiring strict diagnostic criteria to be met before initiating treatment. Admittedly,

TABLE 2. Terms Used by Physician-Abstractor in Data Extraction from Medical Records of 80 Cases of Urinary Tract Infection (UTI)

Term	Definition
Urinary tract infection	Satisfies at least 1 of the following criteria: Symptoms: <sup>24-27</sup> dysuria, urinary frequency, urine with strong odor or cloudy appearance, fever with no other source, abdominal pain Test results: <sup>24-27</sup> positive urine culture result, abnormal urinalysis result (leukocyte esterase, nitrite, pyuria with more than 5 white blood cells, hematuria, or bacteria), or supporting radiologic test results (such as abdominal computed tomographic scan consistent with pyelonephritis or renal abscess) Diagnosis: suspected UTI or treated UTI documented by provider
Catheter associated	Satisfies both of the following criteria: Catheter type used: Foley, suprapubic, nephrostomy, external or condom, or intermittent straight catheterization UTI diagnosed after placement of catheter or within 7 days after catheter removal
Present on admission	Satisfies at least one of the following criteria: Symptoms or studies for UTI suspected or diagnosed less than 48 hours after hospitalization Listed as a diagnosis by provider less than 48 hours after admission Listed as present-on-admission condition by provider
Hospital acquired	Not present on admission

whether physicians were diagnosing UTIs without adequate supporting clinical evidence is an interesting question that is beyond the scope of this study. For example, if a physician listed UTI as a diagnosis of a condition that was treated during the hospitalization, the hospital coder is instructed and justified to list the diagnosis of UTI as a discharge diagnosis, regardless of whether the patient's medical record contained symptoms or test results to support this diagnosis. Simply put, hospital coders are not diagnosticians or clinicians; they choose diagnoses to list to justify the hospital payment requests, on the basis of a limited review of provider documentation and summaries of major test results.

Our physician-abstractor categorized a UTI as being hospital acquired if the provider documentation indicated that it was hospital acquired, if the first symptoms occurred more than 48 hours after hospitalization, or if results supportive of a diagnosis of UTI were obtained from tests administered more than 48 hours after admission. We chose more than 48 hours after admission as the time definition to apply, because many clinical references used in physician training define a hospital-acquired condition as occurring a minimum of 48 hours after admission,<sup>24,26</sup> although it is acknowledged that ideally, the categorization of an infection as hospital acquired is a decision best made by the provider by individualizing the time criteria for the patient's condition.<sup>21</sup> Currently, although hospital coders are now required by the CMS to indicate each diagnosis as being either present on admission or hospital acquired,<sup>1,2,20</sup> neither the CDC nor the CMS has provided more specific guidance to hospital coders or physicians regarding how to differentiate present-on-admission and hospital-acquired infections: no exact required time frame after admission has been indicated; coders are simply recommended to query providers for clarification if documentation is unclear.<sup>1,2,28</sup>

Our physician-abstractor was blinded to the diagnosis codes assigned to the discharge by the hospital coder (be-

yond knowing that all patients in the sample had received a secondary diagnosis of UTI) until completion of all medical record review and initiation of comparative analysis between UTI categorization by physician-abstractor and by hospital coders. The physician-abstractor also collected comorbidity data from the medical record regarding patient characteristics that epidemiologic studies indicate are risks for hospital-acquired infections in general and risks for UTIs specifically.<sup>15,24,29,30</sup>

Next, we evaluated the codes assigned by the hospital coders for the purpose of requesting hospital payment. Specifically, for each hospitalization, we evaluated the administrative discharge abstract to answer 3 questions:

1. Which *ICD-9-CM* code for secondary diagnosis of UTI was used?
2. Was the urinary catheter-associated code (996.64) listed?
3. Was the UTI diagnosis identified as present on admission or not present on admission (ie, hospital acquired) by use of the present-on-admission indicator variable?

Then, we compared the categorization by the physician-abstractor (considered the gold standard) of UTIs as catheter associated and/or hospital acquired with the diagnosis codes assigned by hospital coders.

Finally, we compared our medical record sample results regarding frequency of catheter association code use with those in larger data sets. We first assessed the annual rate of catheter association code use for all adult discharges from UMHS hospitals with a secondary diagnosis of UTI. Then, we determined the frequency of catheter association code use at the statewide and nationwide levels by using the publicly available online Healthcare Cost and Utilization Project (HCUP) data set tool HCUPnet<sup>31</sup> to query the state inpatient databases for Michigan (2007) and California (2006) and the 2007 National Inpatient Sample. Using HCUPnet, we per-

formed simple queries for the frequency of annual discharges for adults with secondary diagnoses of UTI (*ICD-9-CM* codes<sup>1,2</sup> 112.2, 590.10, 590.11, 590.2, 590.3, 590.80, 590.81, 595.0, 597.0, and 599.0) and the frequency of the urinary catheter association code 996.64. We then created a ratio of the annual number of discharges that listed the catheter association code 996.64 as a secondary diagnosis divided by the annual number of discharges that listed any of 10 UTI *ICD-9-CM* codes as secondary diagnoses. This ratio yielded an approximate estimate of the frequency of catheter association code use, compared with the total number of UTI cases designated as secondary diagnoses; this calculation was necessary because the query tool does not permit a search of discharges that list both a UTI code and the catheter association code. The HCUPnet query tool also does not yet provide the present-on-admission variable to identify whether UTIs were present on admission.

## RESULTS

### Patient Population Characteristics

Our random sample of 80 adult patients discharged with a secondary diagnosis of UTI had the following characteristics: 56 (70%) were women; mean age was 58 years (range, 19–92 years); median length of stay was 6 days (range, 1–104 days); 11 (14%) had been transferred from other hospitals, and 6 (8%) had resided in nursing homes prior to hospitalization. Many patients in our sample had complex comorbidities, including organ transplant (10 patients [12%]), cancer being treated for cure or palliation (19 patients [24%], including 10 [12%] receiving chemotherapy during the hospitalization), paralysis (7 patients [9%]), acute renal failure (23 patients [29%]), chronic renal failure (20 patients [25%]), diabetes mellitus (24 patients [30%]), dementia (4 patients [5%]), history of recurrent UTIs (13 patients [16%]), and obstructive uropathy (17 patients [21%]) from cancer, severe prostate hypertrophy, or neurogenic bladder. Nine of the 80 patients also had decubitus ulcers.

### UTI Categorization by Physician-Abstractor

Overall, 77 of 80 patients had evidence of a UTI during the hospitalization according to symptoms, results of diagnostic studies, or physician notes that listed UTI as a potential or confirmed diagnosis. Urinary catheter use was common in our sample; 50 patients (62%) used a urinary catheter during hospitalization. Overall, indwelling transurethral catheters (Foley) were used for 38 (48%) of patients, non-indwelling catheters (such as intermittent straight catheters or condom catheters) were used for 9 (11%) of patients, a nephrostomy was used for 2 (2%) of patients, and a suprapubic catheter was used for 1 (1%) of patients. An examination of patterns of catheter use for the 28 patients who developed hospital-acquired CA-UTI revealed that, for 18 patients (64%), a Foley catheter was placed after admission; for 4 patients (14%), a

Foley catheter was in place before admission (with no UTI present on admission); and for 6 patients (21%), an intermittent straight catheter was used.

Overall, our physician-abstractor categorized 37 (46%) of the UTI cases as hospital acquired, including 28 CA-UTIs and 9 non-CA-UTIs (Figure 1). Of note, in our sample of 80 patients, provider notes did not explicitly identify *any* UTIs as “hospital acquired” or “nosocomial.” When the provider notes on the admission evaluation did not state UTI as a diagnosis (which would have designated it a present-on-admission UTI), it was necessary to apply the more than 48 hour cutoff to many cases to discern whether UTIs were hospital acquired. Overall, 28 (35%) of cases of UTI were categorized as both hospital acquired and catheter associated, which is the category that no longer should generate additional payment according to the CMS Hospital-Acquired Conditions Initiative. Patients who developed hospital-acquired CA-UTIs had longer lengths of stay (median, 13 days) than patients whose UTI would still generate payment for hospitals (such as present-on-admission UTIs or non-CA-UTIs) (4 days;  $P < .001$ ) and were more likely to have been admitted as a transfer from another hospital (8 of 28 patients with hospital-acquired CA-UTI, compared to 3 of 52 patients with UTI that was not hospital-acquired CA-UTI;  $P = .01$ ).

### UTI Categorization by Hospital Coder

To be included in our sample, all administrative discharge abstracts submitted for payment for patients’ hospitalizations contained *ICD-9-CM* codes for UTIs that were listed by hospital coders as secondary diagnosis codes. Specifically, the *ICD-9-CM* code 599.0 (“urinary tract infection, site not specified”) was listed for 76 patients (95%); acute pyelonephritis (590.1) was coded for 1 patient (1%); and yeast UTIs (112.2, “candidiasis of other urogenital site”) were coded for 3 patients (4%). Hospital coders categorized 20 UTIs (25%) as hospital-acquired by coding “no” for the present-on-admission indicator. Hospital coders did not use the catheter association code (996.64) for *any* of the 80 medical records. Therefore, according to categorization of the UTI by hospital coders in the administrative discharge data set, none of these patients had hospital-acquired CA-UTIs.

### Comparing UTI Categorization by Physician-Abstractor and Hospital Coder

Figure 1 shows a comparison of how the UTI cases were categorized by the physician-abstractor and the hospital coders. The most important difference in UTI categorization is that although the physician-abstractor identified 36 (45%) of the UTI cases as CA-UTIs (including 28 [35%] that were hospital-acquired CA-UTIs), the hospital coders had categorized none of these cases as catheter associated, because the catheter association code (996.64) was never listed. The second important difference in UTI categorization involved

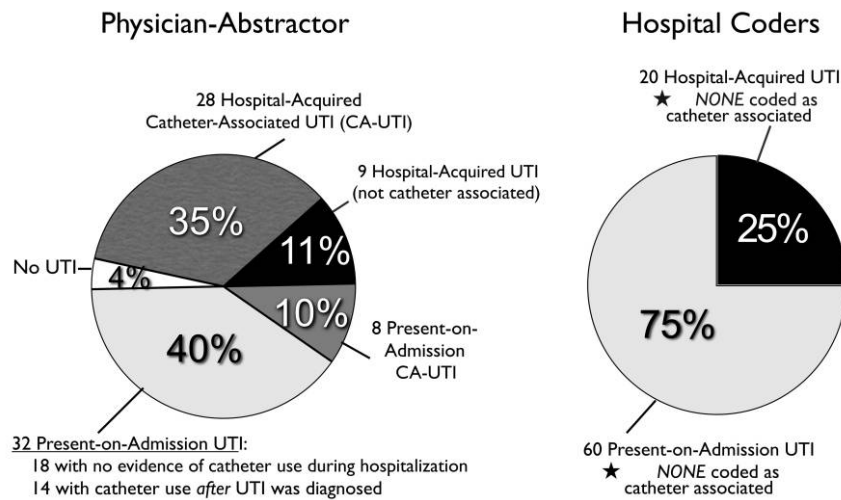


FIGURE 1. Comparison of urinary tract infection (UTI) categorization as present on admission (diagnosis less than 48 hours after hospitalization) or hospital acquired and as catheter associated or not catheter associated. *Left*, Physician-abstractor categorization based on all available medical record data from hospitalization, including provider notes, diagnostic data, and nursing notes. *Right*, Hospital coder categorization, as listed on the discharge abstract submitted for hospital payment, in the form of a present-on-admission indicator variable for UTI diagnosis (coded as “Yes” if present on admission or “No” if hospital acquired) and the presence or absence of the *International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)* catheter association code 996.64, in addition to any 1 of 10 *ICD-9-CM* codes for UTI (112.2, 590.1, 590.11, 590.2, 590.3, 590.80, 590.81, 595.0, 597.0, and 599.0).

assigning the present-on-admission status of the UTI; there was agreement between the physician-abstractor and hospital coder in 61 cases (76%), whereas the majority of the remaining cases had been listed by coders as present on admission (18 cases [22%]) although the medical record review by the physician-abstractor supported the conclusion that the UTI was clearly hospital acquired. In only 1 case did the hospital coder indicate that the UTI was hospital acquired when the physician-abstractor indicated that it was present on admission. Therefore, the majority of differences in assignment of UTI status at admission by the hospital coder compared with the physician-abstractor would be in favor of hospital payment, because UTIs that are listed as present on admission would be eligible for payment.

#### Comparing Medical Record Sample Results with Larger Data Sets

Because the hospital coders had not used the catheter association code for any of the cases in our random sample, we queried the UMHS hospital coders' use of the catheter association code for the entire fiscal year of 2007. Among 34,504 UMHS discharges in 2007, there were 2,855 cases of UTI listed as a secondary diagnosis, and for only 35 (1.2%) cases was the catheter association code applied. In addition, an examination of the present-on-admission variable revealed that only 3 of the 35 cases of CA-UTI were coded as hospital acquired. Therefore, according to the administrative discharge records submitted to request hospital payment, there were only 3 cases of hospital-acquired CA-UTI in fiscal year 2007.

We next compared UMHS hospital coders' use of the catheter association code (996.64) with its use in other data sources: CDC estimates of the proportion of cases of hospital-acquired UTI that are catheter associated and the use of the catheter association code by hospitals in Michigan and California and nationwide. According to the CDC, 66%–87% of all hospital-acquired UTIs are catheter associated;<sup>8</sup> therefore, we would anticipate a higher percentage of UTIs listed as secondary diagnoses to be categorized as catheter associated than the 1.2% found in our UMHS hospital. Using the HCUPnet query tool,<sup>31</sup> we found that use of the catheter association code was similarly rare in the coded annual discharge records of Michigan hospitals in 2007 (0.9%) and California hospitals in 2006 (1.1%). In addition, according to the weighted estimates from the 2007 HCUP National Inpatient Sample, the catheter association code was used at a similarly low rate (1%) in available data sets from hospitals across the nation.

#### DISCUSSION

The most important finding of this study is that hospital coders rarely applied the catheter association code 996.64 to identify secondary-diagnosis UTIs as CA-UTIs, in contradiction to the results of our medical record review and of prior epidemiologic studies, which demonstrate a high frequency of CA-UTIs. In short, medical record review by the physician-abstractor indicated that 45% of UTIs listed as secondary diagnoses were catheter associated, including 35% that were

both catheter associated and hospital acquired. Yet, no cases in our sample and only 1.2% of cases of secondary-diagnosis UTI at UMHS during 2007 were identified as CA-UTIs by hospital coders in the administrative discharge data set. Similarly, our exploratory analyses of Michigan, California, and nationwide discharge data also indicate that the catheter association code is applied to only approximately 1% of all secondary-diagnosis UTIs submitted for payment. The rare use of the catheter association code to identify UTIs as catheter associated seems to be universal and not unique to our hospital. It is concerning that cases of CA-UTI (the most common type of hospital-acquired infection) are rarely identified in the data source that is used to trigger nonpayment for this complication as required according to the Hospital-Acquired Conditions Initiative. Accordingly, if no improvements are made in applying diagnosis codes to accurately identify hospital-acquired CA-UTIs, the nonpayment policy will have little if any effect on hospital reimbursement for this complication, because hospitals will continue to be eligible for additional payment for UTIs that are not correctly identified as hospital-acquired CA-UTIs. Furthermore, hospitals that face little financial incentive (or penalty) may be unlikely to invest in the processes necessary to improve care.

Our finding of rare use of the catheter association code is also supported by the results of an analysis by Zhan et al<sup>32</sup> using the Medicare Patient Safety Monitoring System database from the CMS, which also showed that fewer than 1% of UTIs were categorized as catheter associated using the catheter association code 996.64. Because the work of Zhan and colleagues also suggested that use of the catheter placement procedure codes (57.94 and 57.95) may identify more cases of CA-UTI, we also queried our sample of 80 patients to determine whether use of these procedure codes would identify more cases of CA-UTI. Our sample included only 1 patient for whom a catheter placement procedure code was listed. Although the hospital coders had not used the 996.64 code to identify this patient's infection as CA-UTI, the UTI was present on admission; therefore, application of the catheter placement procedure code would not have changed classification of this UTI from payment to nonpayment (because all present-on-admission UTIs are eligible for payment).

We explored several reasons why hospital coders may not be applying the catheter association code 996.64 to discharge records of patients with a CA-UTI. During the process of our medical record review, urinary catheter use was often documented only in the nursing notes (specifically, in the bedside flow sheet where urine output was documented) and catheter use was rarely apparent from examination of the physician notes. In discussion with hospital coders, we learned that hospital coders are instructed<sup>28</sup> to obtain diagnosis information for payment purposes only from provider notes (that is, notes of physicians, physician-assistants, or nurse practitioners) and not from nursing notes. If a hospital coder does review nursing notes and suspects a diagnosis that is not apparent from provider notes, the hospital coder must then verify the diag-

nosis with a provider, and the provider would need to change the provider documentation to reflect this additional diagnosis. However, reviewing nursing notes for potential diagnoses that then necessitate communication and additional documentation from a provider is a resource-intensive step.

Some limitations of our study should be noted. Our medical record review involved only 1 academic medical center and used a modest number of medical records. However, as stated above, the rare use of the catheter association code that occurred in our sample also occurred in larger statewide and national data sets. In addition, we identified limitations regarding which documentation hospital coders can review to obtain diagnoses for assigning codes, which involves federal regulations that do not apply uniquely to UMHS hospital coders. Another important limitation is that the medical record review occurred for patients discharged prior to the October 1, 2008, initiation of the CMS Hospital-Acquired Conditions Initiative. Therefore, at the time the hospital coding was applied, there were no financial consequences for listing UTIs as catheter associated or not catheter associated, because both generated payment. Importantly, however, the coding requirements for identifying CA-UTI have not changed in years, and the hospital coders in this particular medical center also have had training and experience in assigning the present-on-admission status code since 2004.

In conclusion, we found that hospital coders rarely used the catheter-specific code 996.64 to correctly identify CA-UTI for patients discharged with secondary-diagnosis UTIs. In addition, hospital coders often coded UTIs as present on admission when the medical record indicated that the UTIs were hospital acquired. Misclassification of UTIs has important implications for hospitals, payers, and policy makers. Unfortunately, the issue of inaccurate identification of UTIs in the payment request data set on which this policy is being implemented does not seem to have been explored or anticipated during the development of this CMS policy. The underreporting of catheter use would have become apparent if the low rates of catheter association code use demonstrated in readily accessible public data sets of hospital payment requests (HCUP) had been compared with the high rates of nosocomial CA-UTIs revealed by the epidemiological studies that were cited in the discussion and justification of choosing this condition for nonpayment.<sup>1,2</sup> Because coding of hospital-acquired CA-UTI seems to be fraught with error, nonpayment as required by CMS policy for this complication is unlikely to occur reliably if there is no improvement in the accuracy and completeness of coding for hospital-acquired CA-UTI. Accordingly, the effective implementation of this policy will require an enhanced auditing process by the CMS, which could vitiate any financial gains anticipated from nonpayment for this complication, because of the additional time, effort, and training that would be required for medical record reviewers to complete a comprehensive review to determine whether UTIs are catheter associated and hospital acquired.

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