Clinical Practice Guidelines, Process Improvement Teams, and Performance on a Quality Indicator for Urinary Incontinence: A Pilot Study

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Background: Previous work by the AMDA Foundation Long-Term Care (AMDA-F LTC) Research Network suggests that urinary incontinence (UI), while prevalent, is not a high priority in the nursing facility (NF) and that barriers to better continence care are discipline-specific. Other studies report that interventions for UI in the NF often are not individualized or are poorly implemented. Implementation of processes of care may be more dependent on facility characteristics than on the attitudes, knowledge, and skill of individual health care workers. We tested the hypothesis that better facility performance on a quality indicator (QI) for continence care (toileting) is associated with a more systematic approach to continence care.

Methods: This is a descriptive study of a cohort of 34 for-profit NFs in the AMDA-F LTC Research Network. Facilities were categorized as either good performers or poor performers based on percentile ranking during a 1-year period on the quality indicator for toileting. Good performers and poor performers were compared based on a number of characteristics.

Results: There were no significant differences between good performers (17 facilities) and poor performers (17 facilities) with respect to occupancy, turnover, performance on other QIs, and cost of continence products. The prevalence of pharmacotherapy for UI was between 7% and 8%, which is consistent with other reports and did not differ between good performers and poor performers. However, good performers were more likely to report the presence of a process improvement team (PIT) for UI (53% versus 18%, \( P = .03 \)) and more likely to report using a clinical practice guideline (CPG) for UI along with a UI PIT (47% versus 6%, \( P = .007 \)).

Conclusions: Facilities that are good performers on the quality indicator for toileting are more likely to report the presence of a process-improvement team for urinary incontinence. Better performance is even more strongly associated with both the presence of a process improvement team and reported use of a clinical practice guideline for urinary incontinence. (J Am Med Dir Assoc 2008; 9: 504–508)

Keywords: Urinary incontinence; clinical practice guidelines; process improvement teams; nursing homes

Urinary incontinence (UI) is prevalent in the nursing facility (NF) and diminishes quality of life for residents who have it.\(^1\)–\(^3\) A report by the Centers for Disease Control and Prevention suggests that the prevalence of UI among NF residents increased from 55% to 65% between 1985 and 1997.\(^1\) Another study using the 1999 to 2002 Centers for Medicare and Medicaid Services (CMS) Minimum Data Set (MDS) reports UI prevalence in facilities in the southeastern United States at 65% on admission and 74% postadmission.\(^2\) The effect of UI on quality of life has been examined using a combined cross-sectional and longitudinal approach to analyze 1994 to 1996 MDS data on over 133,000 NF residents in Kansas, Maine, Mississippi, New York, and South Dakota.\(^3\) Findings support a prevalence of 65% and demonstrate that both existing and new UI decrease quality of life, even among residents who are functionally and cognitively impaired.\(^3\)

Interventions for residents with urinary incontinence include briefs or pads (84%), toileting programs (39%), indwelling catheters (3.5%), and external catheters (1.2%).\(^4\) Despite strong evidence that toileting programs are effective in reducing incontinence for many residents, a study of California nursing facilities found that most incontinent residents were not receiving the scheduled interventions called for in the care plan.\(^5\) The reasons for failure to implement effective continence care are multifactorial and include inadequate knowledge and skills...
about UI in general, inability to implement specific guidelines for UI care in the nursing facility, insufficient staffing, and poor communication among health care professionals and paraprofessionals.6–10

Previous work by the American Medical Directors Association Foundation Long Term Care Research Network (AMDA-F LTC Research Network) suggests that urinary incontinence is not a high priority in the nursing facility setting.11 Limited time and resources are much more likely to be devoted to other common conditions such as delirium, falls, behavioral disturbances, unintended weight loss, and pain.11 In addition, barriers to improved continence care appear to be discipline-specific. For example, physicians appear to be concerned about the anticholinergic effects of available drugs for urinary incontinence while geriatric nurse practitioners cite lack of effective implementation of behavioral interventions and nursing supervisors feel that their direct care staff has insufficient time to assess and manage urinary incontinence given other pressing issues in the nursing facility.11

Because UI is both prevalent and associated with diminished quality of life, CMS issued revised guidance to surveyors for Section 483.25d (Urinary Incontinence, Tag F315) with instructions that an indwelling catheter cannot be used without valid medical justification and that a resident receive treatment to restore continence to the extent possible. Restoring continence requires interventions that are both individualized and consistently implemented. Since implementation of processes of care may have as much to do with facility characteristics as with the attitudes, knowledge, and skill of individual health care workers, we wanted to identify facility factors associated with the quality of continence care. The purpose of this study is to compare the characteristics of a sample of nursing facilities in the AMDA-F LTC Research Network that perform better on the toileting quality indicator with facilities that perform poorly. We hypothesized that better performance on the quality indicator for toileting would be associated with a more systematic approach to continence care, such as the use of UI guidelines or a UI process improvement team.

METHODS

This is a descriptive study of 34 Midwestern nursing facilities in the AMDA-F LTC Research Network. The Research Network, patterned after the primary care practice–based research networks and comprising approximately 300 members at the time of the study, was established by the AMDA Foundation in 2000 in order to promote and facilitate grass roots research in nursing facilities. Network projects start with a question that is generated by one or more network members. The question is then referred to the network’s Steering Committee. If the committee determines that answering the question can provide useful evidence for long term care providers and is likely to be funded, the committee appoints a work group to refine the question, develop methodology, and implement the study following Institutional Review Board approval. The Urinary Incontinence Work Group was appointed and began its work at the Network’s Fourth Annual Meeting in Chicago, Illinois, in October 2004, in response to 2 grass roots questions: Why is urinary incontinence such a problem in the nursing facility? Why are the AMDA guidelines not used more broadly and effectively?

The 34 facilities participating in this study belong to a proprietary chain that has a decentralized approach to clinical care but centralized marketing and purchasing of products and services. Specifically, the administrator and director of nursing in each facility are responsible for developing and monitoring the facility’s processes of care and are accountable for performance on the MDS quality indicators (eg, falls, injuries, medication use, pressure ulcers, weight loss, indwelling catheters). Purchase of resident care products and contracting with pharmacy and other vendors are centralized in the corporate office. Twenty-four of the facilities are located in small towns and 10 in metropolitan areas. Facility size ranges from 65 to 150 beds.

Facilities were categorized by consensus of the researchers and members of the AMDA-F LTC Research Network UI Work Group as either good performers or poor performers based on percentile ranking for the 1-year period starting June 1, 2005, and ending May 31, 2006, on the following MDS quality indicator: “Prevalence of occasional or frequent bladder or bowel incontinence without a toileting plan.” The toileting quality indicator was selected because toileting assistance has been shown to reduce urinary incontinence among nursing facility residents, with approximately one quarter to one third having less than 1 episode per day,12–15 Facilities below the 55th percentile were considered to be good performers on the toileting UI and those above the 55th percentile poor performers. Similar approaches have been used by other researchers to categorize facilities with regard to performance on quality indicators.5,16–18

Table 1 lists the information collected from the 34 facilities. Average daily occupancy, nursing staff turnover data, and cost of continence products for each facility during the study period were obtained from the corporate office. The director of nursing at each facility provided the following: (1) the Quality Indicator report covering the 1-year study period, (2) information about the use of clinical practice guidelines for urinary incontinence, and (3) the presence of a process improvement team or quality improvement committee devoted specifically to urinary incontinence.

The proportion of residents receiving pharmacotherapy for urinary incontinence was calculated for each facility during a 1-month period. Each facility’s federally mandated Quality

### Table 1. Information Collected From 34 Participating Nursing Facilities

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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<tr>
<td>Occupancy</td>
<td>Average daily occupancy</td>
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<tr>
<td>Staff turnover rates</td>
<td>Nursing staff turnover data, data on cost of continence products for each</td>
</tr>
<tr>
<td>Performance on other quality indicators</td>
<td>MDS quality indicators</td>
</tr>
<tr>
<td>Use of clinical practice guideline for UI</td>
<td>The use of clinical practice guidelines for urinary incontinence</td>
</tr>
<tr>
<td>Presence of UI process improvement team</td>
<td>The presence of a process improvement team or quality improvement committee</td>
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<tr>
<td>Percentage of residents receiving incontinence medication</td>
<td>Percentage of residents receiving incontinence medication</td>
</tr>
<tr>
<td>Incontinence product costs</td>
<td>Cost of continence products for each facility during the study period</td>
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Assurance Committee worked with its pharmacy vendor to determine the number of residents who received an order for any antimuscarinic agent used for overactive bladder in September of 2005 (the numerator) divided by the total number of residents receiving drug orders in the facility in September of 2005 (the denominator).

The study was funded by Novartis Pharmaceutical, Inc. and was developed by the Urinary Incontinence Work Group of the AMDA-F LTC Research Network using the approaches previously described. The Work Group and the authors developed the protocol, and the authors supervised data collection and data entry and conducted all analyses. The research protocol was approved by the AMDA Foundation’s designated Institutional Review Board. The Student t test was used to analyze continuous variables and chi-square test to analyze discrete variables. A P value of .05 or less was considered significant.

RESULTS

Seventeen (50%) of the facilities met the criterion for a good performer, that is, their QI reports indicated that they were below the 55th percentile on the toileting QI. Table 2 shows that there were no significant differences between good performers and poor performers with respect to average daily occupancy and annual turnover rate of full-time, permanent staff. Likewise, performance on other MDS quality indicators (including prevalence of indwelling catheters and prevalence of urinary tract infections) was not significantly different between good performers and poor performers.

The annual per resident cost of continence products (briefs, pads, etc) was no different between the good performers and the poor performers (Table 3). Costs for labor, laundry, and skin products were not captured in this study. The prevalence of prescriptions for medications for overactive bladder like- wise was not significantly different (7.9% for good performers and 7.2% for poor performers). However, good performers were more likely to report the presence of a process improvement team (PIT) for UI (53% versus 18%, P = .03) and more likely to report both UI clinical practice guideline (CPG) use and the presence of a PIT (47% versus 6%, P = .007).

DISCUSSION

The major finding of this pilot study is that better facility performance on the MDS quality indicator for toileting is associated with the presence of a process improvement team for urinary incontinence. There is an even stronger association when the facility reports using a CPG for UI along with a PIT. These findings imply that better performance on the toileting quality indicator is associated with a more systematic approach to continence care.

Findings from other studies suggest similar associations between systematic approaches to care and improved outcomes for pain, pressure ulcers, and urinary incontinence. Better staff knowledge about pain assessment and treatment and higher levels of resident and family satisfaction with pain management have been observed using a process improvement team approach to address chronic pain in North Carolina nursing homes. A structured collaborative quality improvement program that included process improvement teams in 29 nursing facilities in New Jersey, Pennsylvania, and Rhode Island was associated with improved processes of care for pressure ulcers. In another study of pressure ulcers, implementation of a CPG for pressure ulcers reduced their incidence from 6.0% to 0.2% in a cohort of Canadian nursing facilities. Urinary incontinence improved in a sample of nursing facility residents in 5 facilities in New York, Virginia, and Georgia when multidisciplinary staff members were trained in a program that consisted of a systematic clinical assessment, toileting protocols, and the addition of tolterodine in selected residents who did not respond to toileting.

Although its small sample size is limiting, there are 3 observations that may strengthen the generalizability of the findings from this study. First, the nursing facilities are representative of typical nursing facilities across country, ie, community-based, for-profit facilities without academic affiliations. Second, the prevalence of pharmacotherapy for urinary incontinence in our study (7.2% to 7.9%) is consistent with other reports. Descriptive, cross-sectional 2002 to 2003 MDS database analyses of almost 30,000 nursing facility residents reported that 7.0% to 8.7% of incontinent residents

| Table 2. Occupancy, Turnover, and Quality Indicator Performance: Good versus Poor Performers |
|----------------------------------|-----------------|-----------------|------------------|
|                                  | Good Performers | Poor Performers | P Value          |
| Average daily occupancy          | 101.8           | 98.5            | NS               |
| Annual turnover full-time staff  | 29.1%           | 22.8%           | NS               |
| Mean percentile behavioral QI    | 54th            | 50th            | NS               |
| Mean percentile pressure ulcer QI| 51st            | 58th            | NS               |
| Mean percentile weight loss QI   | 47th            | 57th            | NS               |
| Mean percentile indwelling catheter QI | 61st          | 59th            | NS               |
| Mean percentile UII QI           | 59th            | 53rd            | NS               |
| Mean percentile falls QI         | 55th            | 50th            | NS               |

| Table 3. Practices and Processes Related to UI: Good versus Poor Performers |
|----------------------------------|-----------------|-----------------|------------------|
|                                  | Good Performers | Poor Performers | P Value          |
| % Residents receiving UI drug    | 7.9             | 7.2             | NS               |
| Annual per resident cost of incontinence products | $379 | $385 | NS |
| CPG use                          | 65% (11/17)     | 65% (11/17)     | NS               |
| UI PIT                           | 53% (9/17)      | 18% (3/17)      | .03              |
| UI PIT and CPG use               | 47% (8/17)      | 6% (1/17)       | .007             |
were receiving pharmacotherapy.\textsuperscript{23,24} Third, the prevalence of PITs for UI in this cohort of 34 nursing facilities (12/34 or 35\%) is consistent with survey findings in a national study of 942 physicians, nurses practitioners, nurses, and nursing assistants in which the prevalence of UI PITs was estimated to be 32\%.\textsuperscript{11}

Some argue that the MDS quality indicator system at its current stage of development is inadequate to differentiate good performers from poor performers.\textsuperscript{25} Others suggest that what is recorded in the care plan or reported on the MDS may not reflect what is actually being done for nursing facility residents.\textsuperscript{5,16–18} In our study, we did not confirm the accuracy of the report of a toileting program for individual residents (the data that generated the facility’s quality indicator) nor did we confirm the presence of a PIT or use of a CPG for UI. However, the clinical leaders in the corporate offices reviewed the QI reports as well as the PIT and CPG data with one of the authors (L.W.L.) and indicated that the information was consistent with their reviews of the activities within these 34 facilities. Anecdotally, directors of nursing at facilities that reported the presence of a PIT focusing on UI indicated that UI had been identified through the quality assurance program as an area of concern on equal footing with other conditions such as falls, behavioral disturbances, pain, weight loss, and pressure ulcers.

The findings from this study have several implications for medical directors of nursing facilities. The new F-Tag and surveyor guidance will result in increased surveyor understanding of and focus on urinary incontinence.\textsuperscript{26} With increasing surveyor scrutiny of urinary incontinence, medical directors can take the lead in improving continence care in the nursing facility by encouraging greater specificity of treatment orders for toileting.\textsuperscript{11,27} In addition to developing and implementing policies that call for a search for remediable contributors, medical directors can propose a policy that all new admissions with incontinence or residents with new incontinence receive a 2- to 3-day trial of toileting assistance.\textsuperscript{27} Each resident’s response to and preference for toileting assistance can then be documented and used to craft the resident’s individualized care plan.\textsuperscript{27} Then, by using available information about toileting care plans from the facility’s MDS quality indicator report and by working with the facility’s administration to calculate the cost of continence products and the prevalence of UI drug prescriptions, the medical director can determine how the facility is managing urinary incontinence. If the facility is above the 50th or 55th percentile on the quality indicator for toileting and there is no process improvement team for UI, then a PIT can be created on the quality indicator for toileting and there is no process improvement team for UI, then a PIT can be created with an explicit set of expectations, including consideration of implementing a CPG for UI. Since toileting programs are the cornerstone of an effective continence program, the MDS quality indicator for toileting can be monitored monthly to track progress. At the same time, the PIT can identify incontinent residents who are not responding to a toileting program and assess these residents for pharmacotherapy or other interventions in addition to the toileting program (if they are cooperating with the toileting during the trial), or for supportive care if they are not cooperative with toileting. Some residents with urge incontinence will respond to the addition of drug therapy to a toileting program.\textsuperscript{14,28} Also, individualized nighttime toileting should be considered, because these interventions can be disruptive to sleep and ineffective for many residents.\textsuperscript{29–31} The cost of continence products can be monitored, as can patient and family satisfaction about continence care. This approach may demonstrate to residents, families, and surveyors alike that the facility is committed to improving continence care.

CONCLUSION

Facilities that are good performers on the quality indicator for toileting are more likely to report the presence of a process improvement team for urinary incontinence. Better performance is even more strongly associated with both the presence of a process improvement team and the reported use of a clinical practice guideline for urinary incontinence.

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REFERENCES


