

Impact of Urinary Incontinence Related to Overactive Bladder on Long-Term Care Residents and Facilities: A Perspective From Directors of Nursing

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ABSTRACT

The current study assessed the impact of urinary incontinence (UI) on residents, staff, care processes, and quality measures in long-term care (LTC) settings. A 70-question quantitative online survey was sent to directors of nursing (DONs) who had worked for ≥ 1 year in a ≥ 100 -bed facility ($\geq 80\%$ LTC beds). Of the 62% of residents with UI, 40% were always incontinent, and 81% used incontinence products for UI. Overall, 59% of DONs reported that UI management contributes to certified nursing assistant turnover. Approximately 36% of resident falls occurred while trying to get to the bathroom. LTC quality measures reported as significantly impacted by UI included urinary tract infection and falls with major injury. Only 14% of residents with UI were treated with medication. Most (75%) DONs were unaware of any link between anticholinergic medications and risk of cognitive side effects. These results highlight the need for improved UI treatment, awareness, and management in this population. [*Journal of Gerontological Nursing*, 48(7), 38-46.]

Overactive bladder (OAB) is a syndrome associated with bothersome symptoms of urinary incontinence (UI), urgency, frequency, and nocturia (Lightner et al., 2019).

UI, and specifically urgency UI, is much more prevalent in long-term care (LTC) facilities than in the community; 65% to 70% of individuals aged ≥ 65 years in LTC facilities re-

port not being in complete control of bladder function (Gorina et al., 2014; Zarowitz et al., 2015). UI is a significant predictor of permanent transition from home care to nursing home care in residents with dementia (Young et al., 2020), and 42.3% of individuals admitted to nursing homes directly from home have UI on admission (Holup et al., 2017). Over a 2-year period, approximately 40% of residents from Brazilian nursing homes experienced an increase in UI, with disabilities at baseline, functional decline during the study period, and receipt of potentially inappropriate medication as predicting factors for continence decline (Jerez-Roig et al., 2019).

Health care resource use and economic burden of UI and OAB in

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the United States is considerable. OAB and its treatment with anticholinergic medications is associated with increased physician office visits, emergency department visits, prescriptions, diagnostic tests, hospital admissions, and falls/fractures (Stefanacci et al., 2021; Szabo et al., 2019; Yehoshua et al., 2016). Total cost of OAB in the United States was projected to be \$83 billion in 2020 (Coyne et al., 2014). In LTC settings, residents with UI or OAB have higher health care resource use and costs than residents without UI or OAB (Stefanacci et al., 2021; Sura et al., 2021). Older adults with OAB are also more likely than those without OAB to have comorbidities—including cardiovascular and central nervous system disorders, cognitive impairment, and urinary tract infection (UTI)—and polypharmacy (Asche et al., 2012; Ganz et al., 2016).

UI and OAB are associated with substantial staff and facility burden in LTC facilities in terms of laundry, incontinence products, and time spent with residents. Indeed, approximately 89% of LTC residents need assistance toileting (Harris-Kojetin et al., 2019). Many older adults have impaired mobility, making bladder training and toileting programs difficult; as a result, facilities often manage UI with incontinence products and bedding changes rather than toileting programs (Zarowitz et al., 2015). Treatment of UI and associated urgency and frequency with anticholinergic medications or use of drugs with anticholinergic properties is associated with increased risk of falls and impaired cognitive function (Dmochowski et al., 2021; Ruxton et al., 2015; Szabo et al., 2019). Co-existing falls and UI impose a greater risk for disability than either condition alone because the risk of disability multiplies as the number of geriatric syndromes increases (Rosso et al., 2013). Ultimately, the functional dependence of older women with UI is twice as high compared to women without UI, requiring increased nursing home assistance (Omli et al.,

2013). Falls are associated with high health care costs and increased caregiver burden in LTC facilities (Florence et al., 2018; Zarowitz et al., 2015). It is not surprising, therefore, that staff turnover (particularly certified nursing assistants [CNAs]) can be high in these facilities (Lerner et al., 2014; Temple et al., 2011). Providing support for staff is critical. The Triple Aim was put forth by the Institute for Healthcare Improvement to improve the health care system in the United States. A fourth aim was added (Quadruple Aim) to address the need for the well-being of care professionals, without which an effective health care system cannot be achieved (Bodenheimer & Sinsky, 2014; Stefanacci, 2018).

The direct medical costs associated with UI in nursing homes are also considerable. In a recent large cohort study, nursing home residents with OAB had significantly higher health care use in terms of hospital, outpatient, physician, and emergency department visits and prescriptions compared with matched controls without OAB, as well as significantly higher total annual direct costs (Sura et al., 2021). Costs associated with OAB with comorbidities are higher than those associated with the same comorbidities without OAB (Durden et al., 2018).

Appropriate management of the burden associated with OAB and UI in LTC facilities can have an important impact on quality-of-care measures. The Centers for Medicare & Medicaid Services (CMS) (2022) has developed a care quality rating system for LTC facilities to provide residents and their families with an easy way to understand assessment of LTC facility quality. The rating system uses an Overall Quality Rating of 1 to 5 stars based on LTC facility performance in three domains: state health inspections, staffing levels, and claims-based quality measures. Examples of physical and clinical quality measures related to UI for long-stay residents (>100 days) include the percentage of residents experiencing one or more

falls with major injury, experiencing a UTI, needing increased help for activities of daily living (ADLs), and high-risk residents with pressure ulcers (CMS, 2022). As UI can impact residents, staff, and facilities, understanding the effects of UI on care and quality measures is important to guide management of UI in LTC facilities. Therefore, the goal of the current study was to describe, from the perspective of directors of nursing (DONs) in LTC, the resident care processes, costs, staff time, and impact on CMS quality measures associated with UI and the management of UI in the LTC setting.

METHOD

Survey Overview

Because DONs are most involved in quality measures, a quantitative online survey was sent to DONs of LTC facilities through the National Association of Directors of Nursing Administration in Long Term Care (NADONA) and the American Association of Post-Acute Care Nursing (AAPACN) member listservs via emails sent by the respective association. The listservs included an estimated 4,200 individuals through NADONA (approximately 75% of whom are DONs) and 1,500 DONs through AAPACN; some overlap may have existed between listservs. Eligibility criteria for survey respondents included working in a skilled nursing facility and being employed at their current facility for ≥ 1 year in a ≥ 100 -bed facility with $\geq 80\%$ LTC beds. Of survey respondents, 25 selected that they were best described as RNs, one was a nurse practitioner, and others noted the following degrees: 32 had an Associate or Bachelor of Nursing degree, seven had a Master of Nursing degree, four had a Doctor of Nursing degree, and two reported Other.

The survey comprised 70 questions categorized into six sections, including a background screener, facility characteristics, UI and resident care, UI product costs and burden, UI impact on

TABLE 1
Facility, Resident, Urinary Incontinence (UI), and Resident Care Characteristics

Characteristic	Value
Facility, <i>N</i>	71
No. of long-term care residents, mean	115.3
Part of chain, <i>n</i> (%)	46 (64.8)
Uses electronic medical record for charting, <i>n</i> (%)	66 (93)
Separate memory unit, <i>n</i> (%)	25 (35.2)
Affiliated with an assisted care facility, <i>n</i> (%)	12 (16.9)
Resident, female, % ^a	68.3
Comorbidities and relevant medical history, % ^a	
UI	62.2
Leaks due to urgent need to urinate (urgency)	29.2
Leaks triggered by coughing, laughing, or exercise (stress UI)	22.7
Leaks due to a neurological condition	30.4
Leaks due to an unknown cause	25.7
Mild cognitive impairment	45.9
Dementia (including Alzheimer's disease)	45.6
Depression	42.6
Moderate renal impairment	18.8
Severe renal impairment	18.4
Nonverbal	10.6
UI and resident care characteristics, % ^a	
Frequently incontinent (≥ 7 episodes over the past 7 days)	34.8
Always incontinent (no continent voiding)	40.4
Can verbalize urgency	28.5
Leaks due to urgent need to urinate	29.2
Enrolled in trial toileting program	45.7
Showing improvement from toileting program	20.9
Using UI products	81.3
Types of UI products used, % ^b	
Briefs	81.5
Pads	17.4
Absorbent sheets	4.8

^a Mean percentage.

^b Among residents with UI who use incontinence products.

CMS quality measures, and UI treatment (**Table A**, available in the online version of this article). The facility characteristic section collected information about respondents' facility, including number of residents, electronic medical record use, and basic resident demographic and clinical information. The general UI and resident care section collected information on the number of residents in the facility with UI as well as symptoms, severity, and management of UI. The incontinence product costs and burden section collected information on the average monthly costs of incontinence products and the time and costs associated with staff time to manage UI needs. The UI impact on CMS quality measures section collected information on falls, injuries, skin rashes, UTIs, and urinary catheter use. The UI treatment section collected information on UI medication use and reasons for treatment initiation/discontinuation. The survey was estimated to take 30 minutes to complete, and respondents could enter/exit as needed before completion. Respondents were asked to answer the questions for their LTC residents with UI and not for their temporary rehabilitation residents. Response types included yes/no, multiple choice, and numerical responses. Respondents were notified ahead of time regarding what information would be needed to provide an answer and were asked to provide their best estimate for each question. Name and email could be given voluntarily to receive reimbursement, and this information was kept separate from individual responses to protect anonymity.

Statistical Analysis

All data were reported at an aggregate level and not at the individual skilled nursing facility level. Data were presented using descriptive statistics reported as means unless otherwise specified.

RESULTS

The survey was conducted from February 27, 2020, to May 11, 2020. Overall, 102 DONs completed the

TABLE 2

Centers for Medicare & Medicaid Services Quality Measures Considered by Respondents^a to be Most Challenging to Manage or Improve and Most Significantly Impacted by Urinary Incontinence Issues

Characteristic	Most Challenging to Manage (%)	Most Challenging to Improve (%)	Most Significantly Impacted (%)
Received an antipsychotic medication	47.9	49.3	5.6
Increased need for help with ADLs	42.3	42.3	39.4
Worsened ability to move independently	38.0	32.4	19.7
Experiencing one or more falls with major injury	31.0	33.8	46.5
High-risk with pressure ulcers	29.6	21.1	40.8
With a urinary tract infection	26.8	19.7	46.5
Quality of life	12.7	8.5	29.6
Catheter inserted and left in their bladder	5.6	9.9	14.1

Note. ADLs = activities of daily living.

^a N = 71.

screening questions, and 81 met inclusion criteria. A total of 71 complete responses were received and included for analysis. The survey did not collect respondents' demographic data.

LTC Facility and Resident Characteristics

Facility characteristics and resident demographics are shown in **Table 1**. The LTC facilities had a mean of 115.3 residents, and 64.8% of facilities were part of a chain. Facilities had an average of 68.3% female residents; 45.9% of residents had mild cognitive impairment, and 45.6% had dementia or Alzheimer's disease. DONs estimated that approximately 62% of residents experienced UI (**Table 1**). Survey results also noted that one third of residents (35.2%) took their oral medications by crushing, which requires additional staff time for administration. Characteristics of residents with UI (e.g., ability to verbalize urgency or a need to urinate, briefs/products for UI) are also summarized in **Table 1**.

Resident Care and UI Impact

LTC facilities with a mean of 115.3

residents had an average of 14.3 falls per month per facility, with 35.7% of falls occurring while trying to get to the bathroom. Falls triggered a care plan review in 91.5% of residents; 8.5 staff members were involved with meetings and follow up for a fall incident, and the total time spent on care plans post-fall was 2.3 hours. More than one half (54.9%) of respondents considered UI to be a major or significant cause of UTI. DONs reported that 26.3% of skin rashes and 30.9% of skin infections that developed as a result of urine wetness required medical treatment, with 10.4% of rashes or infections leading to antibiotic use.

CMS quality measures reported to be challenging to manage/improve included help with ADLs, worsening ability to move independently, and falls with major injury (**Table 2**). CMS quality measures that were most significantly impacted by UI included UTI, falls with major injury, and pressure ulcers (**Table 2**).

Among residents with UI, 14.5% were treated with medications for OAB (**Table 3**). Of treated residents, 58.8% entered the LTC facility on a medication for UI (mirabegron, 15%;

oxybutynin or other anticholinergic medication, 45.3%); 41.2% were prescribed OAB medication in the facility (mirabegron, 8.2%; oxybutynin, 37.2%). Common reasons for initiation of drug therapy for UI included diagnosis of an incontinence-related condition (i.e., OAB), resident or family request, falls/fractures, or high frequency of bathroom requests related to urgency/frequency becoming burdensome to staff (**Table 3**). Approximately one in seven (14.4%) residents who were receiving UI medication prior to admission to the LTC facility had it discontinued after admission. Common reasons for discontinuation were lack of efficacy (physician defined), drug-drug interaction (consulting pharmacists' recommendation), and safety or tolerability issues (consulting pharmacists' recommendation) (**Table 3**).

Approximately two thirds of DONs reported that their facility assessed treatment response either by subjective (i.e., perception of fewer incontinence pads/products being used, fewer bathroom visits) or quantified/documented methods (e.g., tracked amount of fewer incontinence pads/

TABLE 3
Treatment Characteristics Among Residents With Urinary Incontinence (UI)

Characteristic	Value ^a
Treated with medication ^b	14.5
Residents who entered facility with a medication for UI	58.8
Oxybutynin or other anticholinergics	45.3
Mirabegron	15
Discontinued UI medication in the facility	14.4
Residents prescribed a medication for UI in the facility	41.2
Oxybutynin	37.2
Mirabegron	8.2
Reasons for initiating UI drug therapy, <i>n</i> (%) ^c	
Diagnosis of an incontinence-related condition (i.e., OAB)	49 (69)
Resident or family request	38 (53.5)
Falls/fractures	19 (26.8)
High frequency of resident bathroom requests become burdensome/time consuming to staff	19 (26.8)
Change/decrease in MDS status	11 (15.5)
Other	6 (8.5)
Reasons for discontinuing drug therapy, <i>n</i> (%) ^c	
Physician discontinued due to lack of efficacy	53 (74.6)
Consulting pharmacist recommended due to drug interaction risk/issue	42 (59.2)
Consulting pharmacist recommended due to safety/tolerability issues	39 (54.9)
Physician discontinued due to safety/tolerability issues	29 (40.8)
Family requested discontinuation	10 (14.1)
Other	5 (7.0)
Staff requested discontinuation	3 (4.2)
Assessment of improving condition after drug therapy ^c	
Subjective assessment ^d	41 (57.7)
Quantified/documented assessment ^e	47 (66.2)
Resident articulation/verbalization of improvement	37 (52.1)
No formal process	16 (22.5)
Other	4 (5.6)

Note. OAB = overactive bladder; MDS = Minimum Data Set.

^a Mean percentage unless otherwise noted.

^b Mean percentage of residents with UI, 62.2%.

^c More than one option could be selected, so percentage will not add up to 100%.

^d Perception of fewer incontinence pads/products being used, fewer bathroom visits, etc.

^e Tracked amount of fewer incontinence pads/products, bathroom visits, etc.

products, bathroom visits) after initiating pharmacological treatment for UI; however, 22.5% of facilities had no process to formally assess improvement. Only 18 (25.4%) of 71 DONs reported being aware of any link between anticholinergic medications and risk of cognitive side effects.

Economic and Staff Burden

Survey data indicated a substantial UI economic and staff burden (Table 4). DONs responded that most (71.8%) incontinence products were purchased at the facility level. The monthly cost of incontinence products was \$5,407, with higher costs noted when purchasing at the facility level than the chain level; monthly laundering costs were \$5,497, with slightly higher costs reported at the facility level than the chain level. More than one half (53.5%) of DONs considered the cost of incontinence products to be “higher” or the “highest” compared with other supplies for the LTC facility.

UI burden was also considerable for facility staff. UI products were checked for wetness every 2.5 hours, and surprisingly, 5.6% of DONs reported that staff always changed UI products, even if residents were dry (Table 4). CNAs performed most UI product changes and spent 56.4% of their time managing UI needs. Per shift, CNAs changed an average of 36.6 UI products and assisted with an average of 25.5 toileting episodes, taking 12.1 and 12.9 minutes per episode, respectively. Per shift, staff performed an average of 1.7 bed linen changes owing to wetting accidents. DONs reported that management of incontinence can impact staff turnover, with 59.2% reporting this to be “definitely a major cause,” “probably a significant cause,” or “some cause” of CNA turnover (Table 4).

DISCUSSION

In this web-based survey study of 71 DONs, approximately two thirds of residents in their LTC facilities had UI, and 40% were always incon-

TABLE 4
Urinary Incontinence (UI) Product Costs and Burden^a

Characteristic	Overall (N = 71)	Facility (n = 46)	Chain (n = 25)
Cost Burden			
Products purchased at the facility level, n (%)	51 (71.8)	51 (100)	0
Monthly cost of products for the facility, USD	\$5,407	\$6,179	\$3,437
Mean monthly cost of UI products compared with other supplies for facility, n (%)			
Highest	16 (22.5)	15 (29.4)	1 (5)
Higher	22 (31)	18 (35.3)	4 (20)
Average	32 (45.1)	17 (33.3)	15 (75)
Lower	1 (1.4)	1 (2)	0
Monthly laundering costs, USD	\$5,497	\$5,683	\$5,023
Staff/Time Burden			
How often briefs/pads are checked for wetness, h	2.5	2.5	2.3
Always changed, n (%)	4 (5.6)	3 (5.9)	1 (5)
Who typically changes pads/briefs, n (%) ^b			
CNA	71 (100)	51 (100)	20 (100)
Nurse	29 (40.8)	22 (43.1)	7 (35)
Resident	24 (33.8)	18 (35.3)	6 (30)
Other	5 (7)	4 (7.8)	1 (5)
CNA time spent managing UI needs, %	56.4	56	57.5
CNA salary, USD	\$22,327	\$21,787	\$23,705
Nurse time spent managing UI needs, %	13.8	13.7	14.2
Nurse salary, USD	\$44,811	\$44,290	\$46,138
Number of UI products changed per shift	36.6	30.9	51
Staff time for a CNA to change a brief, min	12.1	12.6	10.7
How many times (per shift) bed linen changed due to resident wetting accidents	1.7	1.8	1.5
Number of toileting assists per shift	25.5	20.8	37.6
Staff time for toileting assist, min	12.9	13.4	11.7
Turnover Burden			
Managing residents with UI, contribution to CNA turnover, n (%)			
Definitely a major cause	1 (1.4)	1 (2)	0
Probably a significant cause	18 (25.4)	15 (29.4)	3 (15)
Some cause	23 (32.4)	16 (31.4)	7 (35)
Unlikely a cause	27 (38)	17 (33.3)	10 (50)
No, definitely not a cause	2 (2.8)	2 (3.9)	0

Note. USD = United States dollar; CNA = certified nursing assistant.

^a Values are mean percentage unless otherwise noted.

^b More than one option could be selected, so percentages will not add up to 100%.

tinant. This prevalence of UI in our survey is consistent with that reported previously (Gorina et al., 2014; Xu & Kane, 2013). Results from national survey data on nursing home residents in the United States ($N = 2,416,705$) indicate that 70.3% of residents were not in complete control of their bladders (Gorina et al., 2014). A cross-sectional study reported a UI prevalence of 65.2% across 8,620 nursing home residents in Minnesota (Xu & Kane, 2013).

UI is a burden in LTC facilities from a resident management standpoint, with CNAs spending, on average, 56% of a shift managing UI needs (e.g., assistance with toileting, changing UI products). Indeed, the effects of UI can be particularly challenging to manage in LTC facilities when residents' ability to move independently worsens, when they become more reliant on LTC staff for ADLs, or when their quality of life is impacted. Studies have shown a significant association between UI and impaired mobility and ADL deficiencies in nursing home residents (Jachan et al., 2019; Jerez-Roig et al., 2016; Saga et al., 2015). UI in LTC facilities is also associated with reduced ADLs and quality of life, especially with frequent (at least daily) urine leakage (Hacker et al., 2020; Jachan et al., 2019). Costs incurred by LTC facilities for the management of UI are also substantial. In our survey, 72% of UI products were purchased at the facility level, and 54% of DONs considered cost for products to be higher compared with other supplies. The costs of CNA time and nursing time spent on managing UI needs were also substantial.

CMS quality measures were directly impacted by UI and OAB in our study, especially UTI, falls with major injury, and pressure ulcers. Our survey showed that facilities had an average of approximately 14 falls per month per facility, with more than one third of falls occurring while trying to get to the bathroom. Staff burden and costs of falls in nursing homes are consid-

erable, with the total annual health care spending attributable to falls estimated at \$49.5 billion and accounting for 6% and 8% of Medicare and Medicaid expenditures, respectively (Florence et al., 2018). Resident falls were also a burden to staff in terms of post-fall meetings and changes in patient care plans.

A treatment gap around medications for UI was observed in our survey. Despite a high prevalence of UI in the surveyed facilities, only 14% of residents with UI were currently receiving medication for UI/OAB. There was also a high percentage of DONs (75%) who were unaware of any association between anticholinergic medications, which are the mainstay of OAB treatment, and risk of cognitive side effects (Araklitis & Cardozo, 2017; Welk & McArthur, 2020; Woodford, 2018). Treatment of OAB with anticholinergic medications is not always beneficial in this population given that the rates of falls and fractures increase with anticholinergic drug burden (Szabo et al., 2019). Our survey described substantial staff burden associated with UI identification and assessment of effect of UI treatment, as well as consultant pharmacists' and physicians' assessment of efficacy, adverse events, and drug-drug interactions. These results underscore the important benefit and risk considerations associated with anticholinergic medications used to treat older individuals with UI.

In addition to the considerable staff burden, time, and cost associated with care for residents with UI in LTC facilities, UI can be a contributor to CNA turnover. UI is also reported to be a major contributor to UTI and falls while trying to get residents to the bathroom in the LTC setting, which further encumbers staff and leads to substantial time reviewing patient care plans. Cross-sectional data from 944 U.S. nursing homes reported that staffing levels and involvement in resident care planning were significantly associated with nursing assistant staff turnover (Temple et al.,

2011). High CNA turnover leads to lack of familiarity with residents and their requirements and increases deficiencies in quality of care and resident measures (Lerner et al., 2014).

All aspects of a LTC facility's Quadruple Aim (patient experience, patient outcomes, clinician experience, cost of care) (Berwick et al., 2008; Bodenheimer & Sinsky, 2014) are negatively affected by the management of UI. The patient experience with UI related to OAB is impacted in terms of quality of life from factors such as falls, anticholinergic adverse events, and other issues raised in our survey, and patient outcomes are also affected in the form of the facility's CMS quality measures. Response to voiding needs of residents with UI is therefore an important aspect of a resident's experience in LTC facilities. In a study of 1,560 nursing home residents in Texas, 48% experienced UI, and only 54% of these residents had a documented UI care plan for their incontinence (Harrison et al., 2019). Resident satisfaction with nurse responses to calls and satisfaction with the facility was positive and statistically significant only for those residents with a documented incontinence care plan. Clinician experience of working with residents with UI related to OAB is particularly difficult for CNAs. The facility work environment can have an important effect on resident outcomes; reports have shown that residents in facilities with stronger staff cohesion had better incontinence outcomes than residents in facilities with lower staff cohesion (Temkin-Greener et al., 2012). Lastly, the cost of care is increased with managing UI through the increased use of incontinence products and staff time and turnover. All elements of the Quadruple Aim have the potential to be improved through better management of UI related to OAB in LTC facilities. A person-centered, decision support tool approach to management strategies for urinary continence care that may be useful in attaining these goals is currently

in development (van Houten et al., 2020). Indeed, when combined with pharmacological therapy, behavioral therapy, such as prompted voiding, leads to improvements in continence outcomes, particularly in patients who are cognitively intact and are on a toileting program (Newman, 2019). Evidence-based guidelines for the management of frail older individuals have also recently been published (Gibson et al., 2021).

LIMITATIONS

The current study is limited by its small sample size, dependence on the accuracy of DON recall for some survey items, and low response rate; however, the web-based survey was sent in late February/early March 2020, so the low response rate may be due in part to the coronavirus disease 2019 pandemic. Data for residents' length of time at the facility, direct medical costs associated with UI (beyond UI supplies), the number of CNAs per shift, and nursing time spent toileting residents would have been useful information to report but was not collected. The monthly cost of incontinence products did not specify whether the items were disposable versus reusable; some changes involve reusable products (e.g., sheets, bed pads), which will add to laundry costs. In addition, data for medications that residents were receiving beyond those for treating UI were not collected. Therefore, we were unable to assess the potential impact of those medications on fall risk, risk for increasing overflow incontinence, or diminishing awareness of urinary urgency or the likelihood of voiding. Survey results may also not be representative of all DONs and facilities, as 20% of respondents who were employed by a LTC chain belonged to the same organization.

CONCLUSION

The impact and management of UI related to OAB is a substantial burden to LTC facilities, as well as to their residents and staff. Our survey

identified high incidence of falls due to urgency and high CNA turnover, as well as substantial financial impact of UI on supplies, laundry, and staff time. The survey also showed low rates of pharmacological treatment for UI and low awareness of anticholinergic treatment risks. These results highlight the need for improved treatment and management of UI related to OAB in this population, additional methods to improve CMS quality measures with respect to UI, and more LTC facility-wide initiatives, including educational outreach to increase awareness of potential adverse effects and burden of anticholinergic treatment, as well as process development to ensure most appropriate treatment for UI in selected residents. An area of improvement may be implementing a combination of toileting programs and drug therapy limiting anticholinergic medication use. More research is needed in this population to understand what is currently being provided to residents with UI with or without associated OAB symptoms of urgency and frequency, as toileting programs are a mainstay of residents with mobility (Aharony et al., 2017). However, residents with mobility issues requiring staff assistance for toileting may benefit from safe and efficacious medication to control urgency, allowing more time to access the toilet. In this case, drug therapy that does not add to anticholinergic burden would be most appropriate.

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Quantitative Online Survey for Directors of Nursing – Urinary Incontinence in Long Term Care

Sample/Screenener

- Targeting 150 DONs
- Work in skilled nursing facility (if Yes, proceed to next criteria; If No → terminate)
- Been at current facility 1+ years (if Yes, proceed to next criteria; If No → terminate)
- Minimum 100 bed facilities (if Yes, proceed to next criteria; If No → terminate)
- At least 80% of facility is long term care beds (if Yes, proceed to next criteria; If No → terminate)

Introduction to the project

IQVIA, a life sciences consulting firm, is conducting research on urinary incontinence and the impact it has in skilled nursing facilities (SNF). Your responses will be used to help educate others in the industry and potentially lead to improved health outcomes.

The goals of this research are to understand resident care processes, costs, and staff time associated with managing urinary incontinence related to overactive bladder (OAB). As some of the information being asked (e.g., costs, number of incidents) may not be readily available, you may enter/exit the survey at any time to obtain the information you need. All answers and estimates should be provided to the best of your ability, so feel free to enter/exit the survey as needed, providing answers to all of the questions. For your convenience and preparation purposes, a list of statistics needed is provided at the beginning of each section of the survey.

A few other notes about the survey:

- Many questions will require a response in the form of a percentage. Please provide an approximate answer to the best of your ability. Only numerical responses will be accepted.
- Please answer all questions for your long-term residents only (do not include temporary rehabilitation residents).
- The survey will take about 30 active minutes, but you may enter/exit as needed before completion.
- IQVIA will keep the source of each comment that you provide completely confidential, using the responses only in an aggregate form. All information is for research purposes only and will not be reported at the individual SNF level.

Facility Characteristics

For this section, you will need to estimate the following. Feel free to collect ahead and/or can go in and out of the survey as needed to obtain this information.

- Name of EMR system (if applicable)
 - Percentage of your long-terms residents who are
 - a. Female
 - b. Have mild cognitive impairment (not yet dementia)
 - c. Have dementia (including Alzheimer's disease)
 - d. Have depression/treated for depression
-
- How many long-term care residents are there in the SNF? (data validation: 0-1,000)
 - Is your facility independent or part of a chain?
 - Independent

- Part of chain (if selected, please list chain)
- Does your facility use an electronic record/EMR/EHR system for charting?
 - Yes (if yes, please check which EMR/EHR system below)
 - No
 - American Healthtech
 - Blue Strata
 - gEHRiMed
 - MatrixCare
 - Netsmart (formerly HealthMEDX)
 - NetSolutions
 - Optima
 - PointClickCare
 - Epic
 - Other (Specify)
- Does your facility have a separate memory unit?
 - Yes
 - No
- Is your facility affiliated with an assisted living facility?
 - Yes
 - No
- What percentage of your long-term residents are female? (data validation: 0-100)
- What percentage of your long-term residents have mild cognitive impairment (not yet dementia)? (data validation: 0-100)
- What percentage of your long-term residents have dementia (including Alzheimer's disease)? (data validation: 0-100)
- What percentage of your cognitively impaired and dementia residents are non- verbally communicative? (data validation: 0-100)
- What percentage of long-term residents have depression? (data validation: 0-100)
- What percentage of long-term residents are treated for depression? (data validation: 0-100)

General Urinary Incontinence and Resident Care

Please note, throughout the remainder of this survey, we will be using the term urinary incontinence. For the purpose of this survey, we are defining urinary incontinence in association with overactive bladder (OAB).

For this section, you will need to estimate the following. Feel free to collect ahead and/or can go in and out of the survey as needed to obtain this information.

- Percentage of long-term residents who have urinary incontinence
 - Among urinary incontinent residents, the percentage who:
 - a. Are in each MDS incontinence designation
 - b. Are on a toileting program/show improvement on toileting program
 - c. Can verbalize the need to urinate
 - d. Need briefs and/or other types of incontinence products
-

- What percentage of your long-term residents suffer from urinary incontinence? (data validation: 0-100)
- Of your urinary incontinent residents, what percentage would you classify as (must add up to 100%)
 - Occasionally incontinent (<7 episodes of incontinence over the last 7 days) (data validation: 0-100)
 - Frequently incontinent (≥ 7 episodes of incontinence over the last 7 days) (data validation: 0-100)
 - Always incontinent (no continent voiding) (data validation: 0-100)
- What percentage of urinary incontinent residents can verbalize they have urgency and/or can verbalize they need to urinate? (data validation: 0-100)
- Among your urinary incontinent residents, what percentage do you think experience (can add up to more than 100%)
 - Leaks due to sudden and urgent need to urinate (data validation: 0-100)
 - Leaks triggered by coughing, laughing, or exercise (data validation: 0-100)
 - Leaks due to a neurological condition impairing bladder control (data validation: 0-100)
 - Leaks due to an unknown cause (data validation: 0-100)
- Out of the options listed above, how are you able to ascertain the trigger of leaks the resident is experiencing? Check all that apply
 - The resident told me
 - The nursing staff observed this
 - Other (please specify)
- What percentage of urinary incontinent residents are put on a trial toileting program at any time upon entry to the home (e.g. scheduled toileting, prompted voiding, or bladder training)? (data validation: 0-100)
- What percentage of urinary incontinent residents show improvement from a trial toileting program? (data validation: 0-100)
- How is resident improvement identified once they are on a toileting program? Check all that apply
 - Subjective assessment of resident improvement (perception of fewer diapers being used, fewer bathroom visits, etc.)
 - Quantified/documented resident improvement (e.g., tracked amount of fewer diapers, bathroom visits, etc.)
 - Resident articulation/verbalization of symptom improvement
 - There is no process to formally assess for improvement of condition
 - Other (please specify)
- What percentage of urinary incontinent residents are in briefs and/or other products for urinary incontinence on an ongoing basis? (data validation: 0-100)
- Among urinary incontinent residents who use incontinence products, what percentage
 - Use briefs (data validation: 0-100)
 - Use pads (data validation: 0-100)
 - Use absorbent sheets (data validation: 0-100)
- What percentage of residents have severe renal impairment (i.e., eGFR 15 to 29 mL/min/1.73m²) (data validation: 0-100)
- What percentage of residents have moderate renal impairment (i.e., eGFR 30 to 59 mL/min/1.73m²) (data validation: 0-100)

Incontinence Product Costs and Burden

For this section, you will need to estimate the following. Feel free to collect ahead and/or can go in and out of the survey as needed to obtain this information.

- Average monthly costs to facility for incontinence products
 - Frequency of checking resident's briefs for wetness
 - Percentage of CNA's time spent managing urinary incontinence needs (changing briefs and/or toilet assists)
 - Percentage of nurse's time spent managing urinary incontinence needs (changing briefs and/or toilet assists)
 - Average CNA salary (in dollars per hour)
 - Average nurse salary (in dollars per hour)
 - Average number of urinary incontinence products (briefs/pads) changed in a typical shift by a CNA/other staff?
 - Average number of minutes it takes to change briefs/pads
 - Number of times per day bed linens have to be changed due to resident wetting accidents
 - Average monthly laundering costs for your facility
-
- Average number of toileting assists in a typical shift by CNA/other staff
 - Average staff time (in minutes) required for a toileting assist
-
- Are urinary incontinence products purchased at the facility or chain level?
 - Facility
 - Chain
 - What is the average monthly cost of urinary incontinence products for the facility? Please provide best estimate. (data validation: 0-100,000)
 - Would you say that the average monthly total cost of urinary incontinence products is (check answer that applies):
 - Highest cost compared to other supplies for the home
 - Higher cost compared to other supplies for the home
 - Average costs compared to other supplies for the home
 - Lower cost compared to other purchase items for the home
 - How often (in hours) are residents in briefs/pads checked for wetness?
 - When briefs/pads are checked for wetness, are they always changed (even if dry) or only changed if wet?
 - Always changed
 - Only changed if wet
 - Who typically changes the pads and briefs for residents? Check all that apply
 - Resident themselves
 - CNA
 - Nurse
 - Other (please specify)
 - What percentage of a CNA's time is spent managing urinary incontinence needs (changing briefs and/or toilet assists) (data validation: 0-100)

- What percentage of a nurse's time is spent managing urinary incontinence needs (changing briefs and/or toilet assists) (data validation: 0-100)
- What is a CNA's average salary?
- What is a nurse's average salary?
- What is the average number of urinary incontinence products (briefs/pads) changed in a typical shift by a CNA/other staff? (data validation: 0-100)
- What is the average staff time (in minutes) for a CNA to change a brief for a resident?
- How many times per day does the average urinary incontinent resident's bed linens have to be changed due to resident wetting accidents? (data validation: 0-100)
- What are the estimated monthly laundering costs for your facility?
- What is the average number of toileting assists by CNA/other staff in a shift?
- What is the average staff time (in minutes) required for a toileting assist?
- How much does managing urinary incontinent residents contribute to CNA turnover at the facility
 - Yes, definitely a major cause
 - Probably a significant cause
 - Some cause
 - Unlikely a cause
 - No, definitely not a cause

Urinary Incontinence Impact on Quality Measures

For this section, you will need to estimate the following. Feel free to collect ahead and/or can go in and out of the survey as needed to obtain this information.

- Number of resident falls in a month
 - Percentage of falls that results in injury
 - Percentage of falls that require hospitalization
 - Percentage of falls that occurred while resident trying to get to the bathroom
 - Total time (in hours) spent on care planning after a fall incident in hours (staff meetings, resident care, chart updates, etc.)
 - Percentage of residents that get skin rashes and/or infections in a month due to urine wetness
 - Percentage of skin rashes and infections that lead to medical treatment
 - Percentage of skin rashes and infections that lead to antibiotic usage
-

- In a one-month period, how many falls by a resident with urinary incontinence occur in the facility?
- What percentage of falls result in a fracture? (data validation: 0-100)
- What percentage of falls result in hospitalization? (data validation: 0-100)
- What percentage of falls occur while the resident is trying to get to the bathroom? (data validation: 0-100)
- How often does a resident fall trigger a care plan review?
 - Always
 - Most times
 - Sometimes
 - Rarely
 - Never

- For a fall incident, how many staff members are involved with meeting, managing the care plan, special or specific care for the resident, writing and updating reports, etc.? (data validation: 0-100)
- How much total time is spent on care planning after a fall incident in hours (total from staff meetings, resident care, chart updates, etc.)? (data validation: 0-100)
- In a one-month period, what percentage of residents get skin rashes due to urine wetness? (data validation: 0-100)
- In a one-month period, what percentage of residents get skin infections due to urine wetness? (data validation: 0-100)
- What percentage of skin rashes lead to medical treatment? (data validation: 0-100)
- What percentage of skin infections lead to medical treatment? (data validation: 0-100)
- What percentage of skin rashes or infections lead to antibiotic usage? (data validation: 0-100)
- Is urinary incontinence seen as a major cause of urinary tract infections?
 - Yes, definitely a major cause
 - Probably a significant cause
 - Some cause
 - Unlikely a cause
 - No, definitely not a cause
- Is urinary incontinence seen as a major cause for placing a catheter to be left in the bladder?
 - Yes, definitely a major cause
 - Probably a significant cause
 - Some cause
 - Unlikely a cause
 - No, definitely not a cause
- Which of the following star quality measures are most challenging to manage? Check all that apply
 - Percentage of residents whose need for help with activities of daily living has increased
 - Percentage of residents whose ability to move independently worsened
 - Percentage of high-risk residents with pressure ulcers and/or compromised skin
 - Percentage of residents who have/had a catheter inserted and left in their bladder
 - Percentage of residents with a urinary tract infection
 - Percentage of residents experiencing one or more falls with major injury
 - Percentage of residents who received an antipsychotic medication
 - Resident QOL
- Which of the following star quality measures are most challenging to improve? Check all that apply
 - Percentage of residents whose need for help with activities of daily living has increased
 - Percentage of residents whose ability to move independently worsened
 - Percentage of high-risk residents with pressure ulcers and/or compromised skin
 - Percentage of residents who have/had a catheter inserted and left in their bladder
 - Percentage of residents with a urinary tract infection
 - Percentage of residents experiencing one or more falls with major injury
 - Percentage of residents who received an antipsychotic medication
 - Resident QOL

- Which of the following star quality measures do you feel are significantly impacted by urinary incontinence issues? Check all that apply
 - Percentage of residents whose need for help with activities of daily living has increased
 - Percentage of residents whose ability to move independently worsened
 - Percentage of high-risk residents with pressure ulcers and/or compromised skin
 - Percentage of residents who have/had a catheter inserted and left in their bladder
 - Percentage of residents with a urinary tract infection
 - Percentage of residents experiencing one or more falls with major injury
 - Percentage of residents who received an antipsychotic medication
 - Resident QOL

Urinary Incontinence Treatment

For this section, you will need to estimate the following. Feel free to collect ahead and/or can go in and out of the survey as needed to obtain this information.

- Percentage of residents who come into the home on urinary incontinence medication
 - Percentage of residents who come into the home on Oxybutynin for urinary incontinence
 - Percentage of residents discontinued from urinary incontinence medication in the home
 - Percentage of residents who come into the home on Myrbetriq for urinary incontinence
 - Percentage of urinary incontinent residents treated with oxybutynin after admission
 - Percentage of urinary incontinent residents treated with Myrbetriq after admission
-
- Overall, what percentage of urinary incontinent residents are treated for urinary incontinence with medication? (data validation: 0-100)
 - Of those residents on medication for urinary incontinence, what percentage came into the facility already on the medication versus started medication for urinary incontinence in the facility. Must add up to 100%
 - Percentage came in on a medication for urinary incontinence (data validation: 0-100)
 - Percentage prescribed a medication for urinary incontinence in the facility (data validation: 0-100)
 - What percentage of residents on medication for urinary incontinence are prescribed oxybutynin? (data validation: 0-100)
 - What percentage of residents on medication for urinary incontinence are prescribed Myrbetriq? (data validation: 0-100)
 - Of those residents that came into the facility on medication for urinary incontinence, what percentage were admitted into the home with an existing Myrbetriq prescription?
 - Of those residents that came into the facility on medication for urinary incontinence, what percentage were admitted into the home with an existing Oxybutynin or other urinary anticholinergic prescription?
 - What percentage of residents who were on medication for urinary incontinence before admittance are discontinued in the facility? (data validation: 0-100)
 - Are there specific triggers for initiation of drug therapy for incontinence? (check all that apply)
 - Falls/fractures
 - Resident or family request
 - Change/decrease in Minimum Data Set (MDS) status
 - High frequency of resident bathroom requests become burdensome/time consuming to staff
 - Diagnosis of an incontinence-related condition (i.e. OAB)

- Other (please specify)
- What are the main reasons residents are discontinued from drug therapy for urinary incontinence?
Check all that apply
 - Consulting pharmacist recommended due to safety/tolerability issues
 - Consulting pharmacist recommended due to drug interaction risk/issue
 - Doctor discontinued due to safety/tolerability issues
 - Doctor discontinued due to lack of efficacy
 - Staff requested discontinuation
 - Family requested discontinuation
 - Other (please specify)
- Once a resident is on drug therapy for urinary incontinence, how do you know their condition is improving? (Check all that apply)
 - Subjective assessment of resident improvement (perception of fewer diapers being used, fewer bathroom visits, etc.)
 - Quantified/documented resident improvement (tracked amount of fewer diapers, bathroom visits, etc.)
 - Resident articulation/verbalization of symptom improvement
 - There is no process to formally assess for improvement of condition - as long as the drug is clinically known to be safe, tolerable and effective, the resident will be kept on therapy with the assumption it is benefitting them (unless contrasting information arises)
 - Other (please specify)
- What percentage of residents take their oral medications/tablets by crushing? (data validation: 0-100)
- Are you aware of any type of incontinence medications being linked to cognitive issues/dementia?
 - Yes (which ones?)
 - No
- How often do you meet with pharmaceutical representatives in the facility?
 - Daily
 - Weekly
 - Monthly
 - Not often
 - Never
- Overall, how difficult was it to gather and provide the information asked in this survey?
 - Very difficult
 - Somewhat difficult
 - Moderate
 - Somewhat easy
 - Very easy
- Which other staff members, if any, did you need to consult with in order to get information to complete this survey? Check all that apply
 - CNA
 - Nurse
 - Medical Director
 - Consulting Pharmacists
 - MDS coordinator
 - Facility Administrator
 - None of the above
 - Other (please specify)

Please acknowledge your agreement to the statement below.

I have answered all questions in this survey to the best of my ability based upon the information available to me.

First and Last Name: _____

Mailing Address: _____