ATI Advisory

tenderheart health outcomes

CASE STUDY:

Improving Incontinence Care and Outcomes: The Prevalence of Incontinence and the TenderHeart Value-Based Incontinence Management Model

April 2024

About This Work

TenderHeart Health Outcomes ("TenderHeart") engaged ATI Advisory (ATI) to develop a case study on the prevalence of incontinence, the challenges faced by individuals experiencing incontinence, and ways that incontinence providers can improve the quality of life and health outcomes for individuals as they manage their incontinence.

Many individuals with incontinence also experience feelings of shame, embarrassment, and diminished confidence, and may restrict or avoid doing activities outside of the home for fear of leakage.

Top Line Summary

- Based on ATI's data analysis, one in five dual eligible individuals reports having incontinence. Incontinence becomes more prevalent as individuals age and we observed demographic differences in reported prevalence, e.g., women were twice as likely as men to report incontinence. Incontinence correlates with an increased likelihood of adverse events, including falls, all-cause acute events, and condition-attributable acute events, such as urinary tract infections (UTIs) and pressure ulcers. Individuals with incontinence also have more functional needs and Hierarchical Condition Categories (HCC) risk scores and incur higher Medicare spending when compared with individuals without incontinence.
- There are services and products that can help individuals with incontinence manage their needs and improve health outcomes and quality of life.
- ATI presents a case study on TenderHeart Health Outcomes, a Durable Medical Equipment & Medical Supplier company, that focuses its value-based care model on supportive incontinence coaching and incontinence products. The case study highlights results from an ongoing program evaluation with a national Medicaid managed care organization (MCO), in which the MCO reports improved health outcomes, including a reduction in inpatient admissions for pressure ulcers, UTIs and fall-related injuries, along with corresponding savings as a result of using TenderHeart coaching and products.

Introduction to the Issue

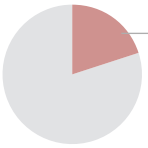
Urinary incontinence (referred to as "incontinence" in this case study) is generally defined as difficulty with bladder control, leading to the unintended release of urine.[i] Over 25 million adults in the U.S. experience urinary incontinence each year, which may lead to a poorer quality of life for individuals and their caregivers.[ii, iii, iv] Incontinence is correlated with social isolation, anxiety and depression, and reduced sleep quality.[v, vi] Many individuals with incontinence also experience feelings of shame, embarrassment, and diminished confidence, and may restrict or avoid doing activities outside of the home for fear of leakage.[vii] In addition to reduced quality of life, ATI's analysis supports existing literature showing that incontinence is associated with higher risk for falls, urinary tract infections, and pressure ulcers, which can lead to increased hospital utilization and costs.[viii, ix]

Individuals with incontinence frequently experience functional limitations in activities of daily living (ADLs), such as dressing, bathing, and toileting.[x] Individuals experiencing these functional limitations often benefit from long-term services and supports (LTSS) that can help them manage their medical and non-medical needs. Individuals typically access LTSS through Medicaid coverage, but can also receive LTSS by paying out-of-pocket for professional care or by receiving unpaid care from a family or friend. Most state Medicaid programs cover incontinence supplies such as adult diapers, briefs, and underpads, unlike Medicare, which does not provide coverage for incontinence products.[xi, xii]

ATI analyzed 2018–2020 data from the Medicare Current Beneficiary Survey (MCBS) with linked claims to understand the prevalence of incontinence, who is impacted most, and related outcomes among dual eligible individuals who have both Medicare and full Medicaid coverage.

ATI focused its analysis on individuals dually eligible for Medicare and Medicaid because Medicaid is the payer that covers incontinence services and supplies, and incontinence is much more common among individuals ages 65 and older who are eligible for Medicare when compared to younger individuals.[xiii,xiv] Dual eligible individuals also incur an outsized amount of Medicaid and Medicare spending; they represent 11% of total Medicaid enrollment but 31% of total spending nationwide, and 17% of Medicare enrollment but 33% of Traditional Medicare spending.[xv,xvi,xvii] The risk factors, outcomes and complex needs profile of dual eligible individuals living with incontinence shows an opportunity to explore how incontinence care and products can reduce spending and improve care among all individuals living with incontinence.

Nationally, ATI estimates that 22% of full-benefit dual eligible individuals (or an estimated 1.9 million individuals in 2023) report living with incontinence, though the true prevalence of incontinence is likely higher because of the tendency to underreport incontinence.[1] For the Traditional Medicare population, incontinence detection can be supplemented by claims. We leverage individual self-report data for the following demographic analyses, and we use a combination of self-report data and Medicare claims for utilization and outcomes analyses.



ATI estimates that 22% of full-benefit dual eligible individuals (or an estimated **1.9 million** individuals in 2023) report living with incontinence.

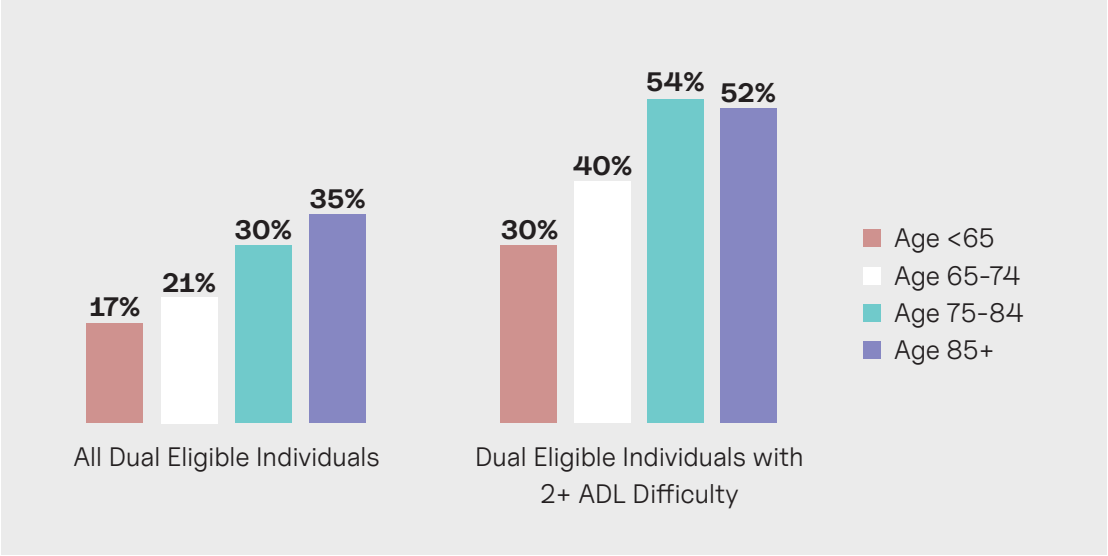
DEMOGRAPHIC RISK FACTORS FOR INCONTINENCE AMONG THE DUAL ELIGIBLE POPULATION

Analysis population: Dual eligible individuals.
Definitions: Incontinence is defined by self-reported urinary incontinence.

The populations impacted by incontinence vary significantly by age, sex, and race and ethnicity. As shown in Figure 1, reported incontinence prevalence increases with age. The reported prevalence of incontinence was higher among individuals experiencing difficulty with two or more ADLs when compared to the overall reported prevalence across age groups. Among those experiencing difficulty with two or more ADLs, reported incontinence prevalence plateaus after age 75 at just over 50%.

1 For example, among dual eligible individuals with 12 months of complete Traditional Medicare claims, 23% self-reported incontinence while 31% had incontinence based on either self-report or claims diagnosis. Adding claims increased detection by 38%.

Figure 1: Reported Prevalence of Incontinence by Age Group and Functional Difficulties



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of individuals with incontinence have at least one emergency room (ER) visit per year

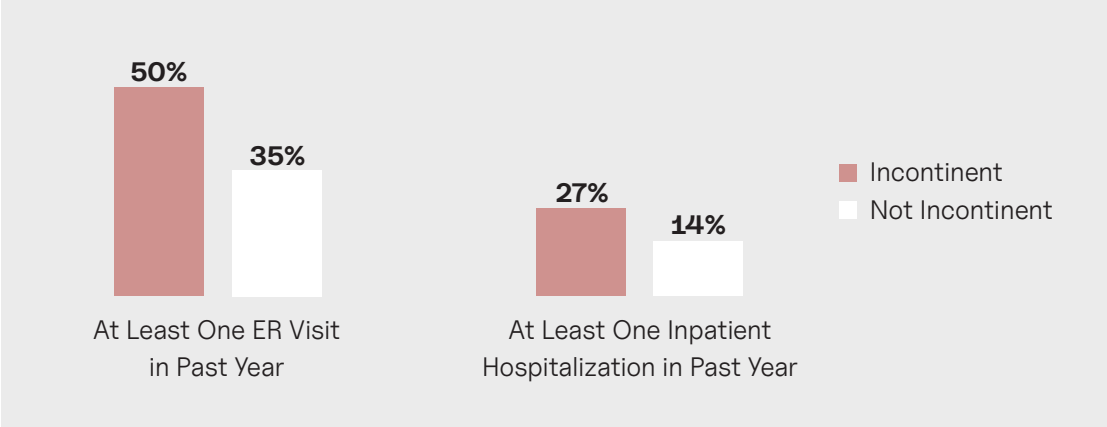
Reported incontinence also varied by sex and by race and ethnicity. Women report incontinence nearly twice as often as men. By race and ethnicity, Black individuals are 31% less likely than white individuals to report incontinence.

OUTCOMES AMONG THE DUAL ELIGIBLE POPULATION EXPERIENCING INCONTINENCE

Analysis population: Dual eligible individuals with 12 months of Traditional Medicare claims.
Definitions: Incontinence is defined as having 1+ Medicare claim with a diagnosis of urinary incontinence or having self-reported urinary incontinence, or both.

Individuals living with incontinence experience higher rates of all-cause acute care events compared to those without incontinence (Figure 2). Half of individuals with incontinence have at least one emergency room (ER) visit per year; having an ER visit per year is 43% more common among individuals with incontinence compared to those without. Additionally, having at least one inpatient admission per year is nearly twice as common among individuals with incontinence compared to those without.

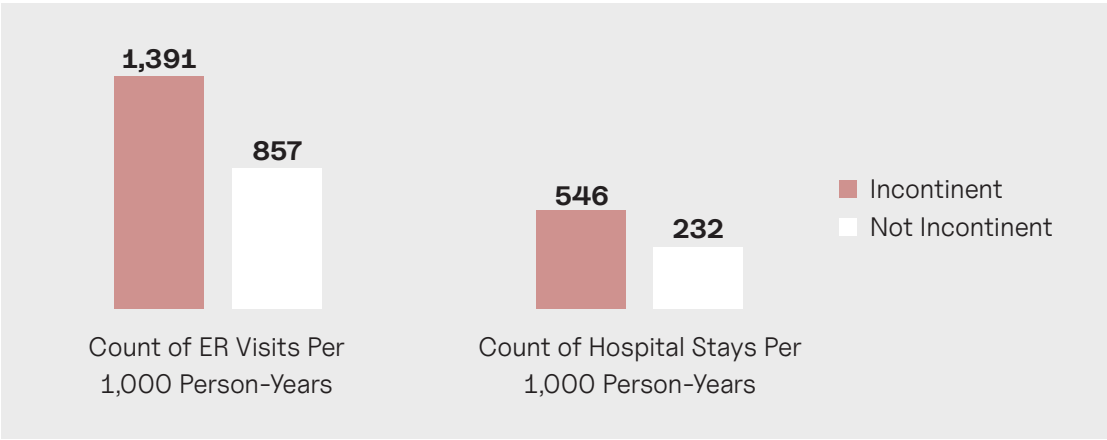
Figure 2: Percent of Dual Eligible Individuals with at Least One ER Visit or Inpatient Admission During the Year, By Incontinence Status



*Data represent Dual Eligible Individuals with Traditional Medicare only

The count of both ER visits and inpatient admissions is higher, on average, among those with incontinence than those without (Figure 3). Additionally, inpatient hospital stays vary in length, and individuals with incontinence spend more days in the hospital each year, at 11.7 days per year, compared to those without incontinence, at 8.6 days.

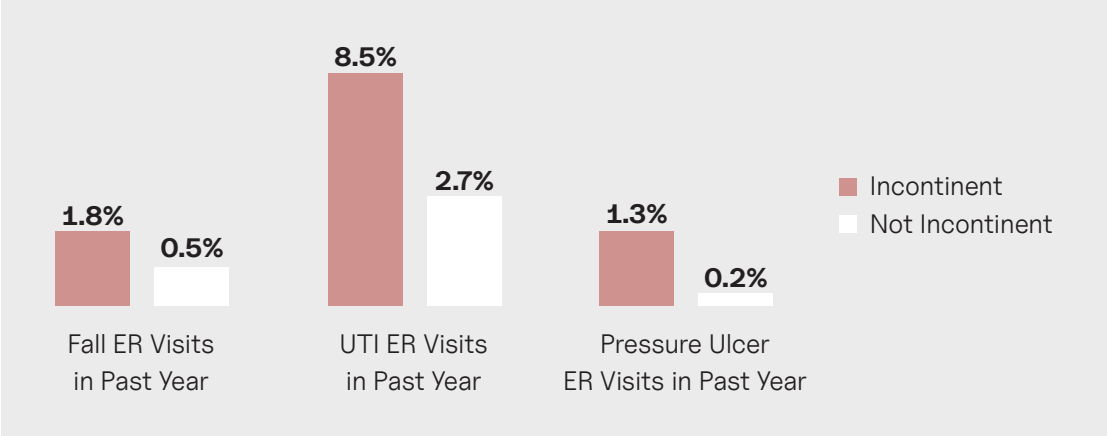
Figure 3: Count of Annual ER Visits and Inpatient Admissions per 1,000 Dual Eligible Individuals, By Incontinence Status



*Data represents Dual Eligible Individuals with Traditional Medicare only

In addition to generally experiencing more acute care events, individuals with incontinence were 3.6 times more likely to have an ER visit due to a fall during the year compared to individuals without incontinence. They were also more than three times as likely to have an ER visit due to a UTI and more than six times as likely to have an ER visit due to a pressure ulcer compared to individuals without incontinence (Figure 4). These findings are supported by prior research,[xviii,xix] and the US Preventive Services Task Force recommends urinary incontinence management as part of multifactorial interventions for fall prevention.[xx]

Figure 4: Percent of Dual Eligible Individuals with Condition-Attributable ER Visits in the Past Year, by Incontinence Status



*Data represents Dual Eligible Individuals with Traditional Medicare only

COMPLEX NEEDS AMONG THE DUAL ELIGIBLE POPULATION EXPERIENCING INCONTINENCE

Analysis population: For ADL and IADL difficulty, dual eligible individuals. For HCC scores and Medicare spending, dual eligible individuals with 12 months of Traditional Medicare claims.

Definitions: For ADL and IADL difficulty, incontinence is defined by self-reported urinary incontinence. For HCC scores and Medicare spending, incontinence is defined as having 1+ Medicare claims with a diagnosis of urinary incontinence, having self-reported urinary incontinence, or both.

Incontinence is correlated with higher functional needs and higher costs, reflecting more complex care needs and potential out-of-pocket costs for individuals living with incontinence.[xxi] Individuals experiencing incontinence typically report difficulty with four ADLs or IADLs, compared to individuals without incontinence who typically report difficulty with one ADL or IADL.[2,3] Individuals with incontinence also have an average Medicare risk score (hierarchical condition category [HCC] score)[4] of 2.07, compared to individuals without incontinence, who have an average HCC score of 1.24, representing 67% higher predicted utilization and spending among individuals experiencing incontinence. This is borne out when analyzing actual Traditional Medicare spending among the analyzed population experiencing incontinence, who incur more than twice the Medicare spending compared to individuals who do not have incontinence ($19,400 compared to $8,800). These higher expenditures may also indicate higher out-of-pocket medical expenses for individuals living with incontinence.

2 ADLs: bathing, dressing, eating, getting in and out of a chair, walking, and using the toilet.
3 IADLs: using a phone, doing light housework, heavy housework, preparing meals, shopping, and managing money
4 HCC scores are designed by CMS to predict Medicare costs, with a higher score representing higher predicted healthcare costs and likely higher, more complex care needs and utilization.

This suggests that individuals experiencing incontinence are living with complex care needs. They experience more challenges around personal care and independent living, have higher risk scores, and incur higher Medicare spending when compared to individuals living without incontinence.

Overview of Incontinence Management

As demonstrated in this case study, incontinence is correlated with higher hospital utilization, and more functional difficulties and complex needs among dual eligible individuals. There is a need for quality programs to help individuals manage their incontinence and improve their overall wellness. There are five clinical types of urinary incontinence, and each has different methods and products to ensure proper condition management.[xxii] Individuals typically manage incontinence through behavioral therapy, medication, and incontinence products.[xxiii] Clinicians, Home Medical Equipment (HME), and Durable Medical Equipment (DME) providers evaluate individuals experiencing incontinence to recommend the best management method based on the type of incontinence the individual is experiencing. HME and DME providers then offer the products that will best meet the needs of the individual.

There are a variety of products that can be used to manage incontinence that fall under the categories of absorbent pads, urinary catheters, toileting aids, and mechanical.[xxiv] The quality of the products and fit for the individual are important in ensuring quality of life and in managing adverse events associated with prolonged exposure to urine and moisture, including falls, UTIs, and pressure ulcers.[xxv, xxvi] When determining the right high-quality products for individuals, the National Association for Continence (NAFC) recommends that providers consider four performance measures: [xxvii, xxviii]

- *Rate of acquisition* – how quickly the product draws urine from the skin
- *Rewet rate* – how much the product can absorb urine from multiple incontinence episodes
- *Retention capacity* – how much the product can hold fluid without rewetting the skin
- *Breathability* – how much air the individual feels while wearing the product

In addition to the needs of the individual experiencing incontinence, providers also take into account the needs and abilities of caregivers. This often involves regular communications with individuals and their caregivers to ensure that incontinence management products continue to meet their needs. [xxix, xxx]

The approach taken by individuals, caregivers, and clinicians in managing incontinence also depends on product and healthcare costs, which can rise as an individual's incontinence becomes more severe.[xxxi] Individuals typically pay for their incontinence treatment through Medicaid coverage (depending on state policy), private insurance, or out of pocket.[xxxii] As discussed previously, incontinence supplies are not covered by Medicare.[xxxiii]

The five types of urinary incontinence:

1. **Stress:** urine leakage due to physical activity
2. **Urge:** urine leakage due to a sudden need to urinate and a contracted bladder
3. **Mixed:** urine leakage due to both stress and urges
4. **Overflow:** urine leakage due to an inability to completely empty the bladder
5. **Functional:** urine leakage due to the inability to get to a toilet[xxxix]

CASE STUDY: BACKGROUND ON TENDERHEART MODEL

There are many ways to address incontinence, ranging from providing individuals with high-quality products to ensuring their caregivers are well-equipped to provide support. TenderHeart Health Outcomes is one example of a Durable Medical Equipment & Medical Supplier company that provides products and services to help individuals manage their incontinence. TenderHeart's ultimate goals are to provide individuals living with incontinence the tools to live happier, confident, and more independent lives and keep patients at home with loved ones and in their communities for longer. As a "trusted partner" of the NAFC[xxxiv], TenderHeart's incontinence care management program leverages products they identify as high quality along with coaching services in an effort to deliver meaningful change in individuals' lives. TenderHeart provides:

- **Supportive incontinence coaching focused on education and ensuring the appropriate product use**. TenderHeart coaching staff have expertise in incontinence products and provide product recommendations tailored to individuals' needs. Coaches contact patients frequently and focus on educating individuals and their caregivers on properly using incontinence products.[xxxv] This patient-centered approach allows individuals to receive personalized support. TenderHeart has found that this approach can allow individuals living with incontinence to live independently at home for longer, improve health outcomes, and empower individuals with the resources they need to make knowledgeable decisions about their care.
- **High-quality incontinence products tailored to meet individuals' needs**. TenderHeart's model ensures that individuals use products to manage their incontinence that meet NAFC quality performance standards, including bladder control pads, male guards, adult underwear, adult briefs, and booster pads. Tenderheart chooses quality products to help individuals avoid leakage issues, which can prevent embarrassment, shame, and depression among individuals experiencing incontinence.

TenderHeart reports improving patient health outcomes including reduced hospital utilization, better patient experiences, and reduced product costs. The TenderHeart program provides frequent and consistent patient communication and coaching, ensuring there are opportunities to assess the patient's product experience and needs.

CASE STUDY: TENDERHEART & MANAGED CARE PILOTS

TenderHeart administers its program under a value-based model of care, which aims to deliver care driven toward patient wellness, better outcomes, and patient satisfaction. TenderHeart provides incontinence management services to over 1.2 million individuals nationally through value-based arrangements with five Medicaid MCOs. TenderHeart also partners directly with several state Medicaid agencies to expand their coverage of individuals with incontinence.[xxxvi] The TenderHeart model leverages a bidirectional,

collaborative approach to patient care with their MCO partners, communicating at the initiation of services and quarterly on any changes in patient status. The goal of these partnerships is to improve the quality and value of care that patients receive while reducing associated incontinence healthcare costs experienced by MCOs and states.

In its value-based partnerships with Medicaid MCOs, TenderHeart collected data to study the effect of their incontinence management approach on patient outcomes. In a value-based partnership with an MCO in Texas, a reduction in inpatient admissions among individuals in its incontinence management program was observed by the MCO. The MCO analyzed claims in the six months prior to initiating TenderHeart engagement and then during a six-month period after engaging with TenderHeart, and saw a reduction in admissions for pressure ulcers, UTIs, and fall-related injuries:

63%
reduction in pressure ulcer admissions

44%
reduction in UTI admissions

11%
reduction in falls admissions

The MCO has estimated that the reduction in inpatient admissions has led to approximately $4.5 million in plan savings. Overall, TenderHeart reports that they have reduced incontinence costs among their MCO partners in Texas by approximately 20% due to improvements in incontinence management among their patients and a resulting decreased need to use incontinence management products. TenderHeart reports that they continue to sustain reductions in admissions, and they are working with additional MCOs to further understand the effect of their program on patient outcomes. These results will be published as they become available.

TenderHeart also seeks to quantify success through patient satisfaction surveys. TenderHeart reports that in a 2022 survey administered to individuals receiving coaching and care through their partnerships with MCOs, TenderHeart received a Net Promoter Score (NPS) of 85 on a scale of -100 to +100, indicating high customer loyalty and satisfaction.[xxxvii] Comparatively, the 2024 average NPS score for the healthcare industry is 46.[xxxviii]

TenderHeart aims to enable individuals living with incontinence to live with dignity. Their model promotes personalized coaching and high-quality products because TenderHeart has found that this can help reduce the need for individuals to use those products and can reduce burden associated with healthcare utilization and costs. In this way, TenderHeart and other incontinence management providers can improve the quality of life of individuals living with incontinence.

Conclusions

This case study explores the impact of incontinence on individuals' lives and the opportunity to improve health outcomes. Incontinence becomes more common as individuals age, and individuals experiencing incontinence have higher hospital utilization, ADL and IADL difficulties, Medicare risk scores, and costs compared to those without incontinence. Programs can provide products and services to assist individuals in managing their incontinence needs. TenderHeart reports a decrease in hospital utilization and healthcare costs among their patients through a value-based approach to incontinence care in partnership with MCOs and state programs. The TenderHeart model of increased and individualized patient interaction with a focus on products that meet NAFC quality performance standards provides one example of a company seeking to reduce healthcare expenditures and improve individuals' incontinence management and quality of life.

OVERVIEW OF METHODS

ATI Advisory performed analysis using the 2018-2020 nationally representative Medicare Current Beneficiary Survey (MCBS) with linked Traditional Medicare claims. We included data for full dual beneficiaries (those with both Medicare and full Medicaid benefits), referred to as dual eligible individuals. As indicated in each section, analyses involving Medicare spending, HCC scores, and utilization (such as ER visits and inpatient admission) only include Traditional Medicare beneficiaries with a full year of Medicare Part A & B claims.

In this study, reported incontinence is defined as reporting urinary incontinence, specifically reporting loss of bladder control once a week or more.[5] For analyses that only include Traditional Medicare beneficiaries, incontinence is defined as having reported or diagnosed incontinence, or both, to improve detection of incontinence beyond self-report. In this context, diagnosed incontinence means having one or more diagnoses of urinary incontinence in Traditional Medicare claims in the past year.

ATI analyzed hospital utilization, measured using Medicare claims for the Traditional Medicare population. ER visits and inpatient admissions attributable to UTIs, pressure ulcers, and falls were identified searching all such claims' diagnosis slots for any of a list of condition-specific ICD-10 codes.

HCC scores were measured using Medicare claims data for the Traditional Medicare population. Scores were calculated using the 2024 (v28) model of HCCs, which is the model that will determine an increasing portion of MA payments in future plan years starting in 2024. Total spending is summed from all Traditional Medicare claims and all settings.

Quantitative comparisons from the MCBS analysis described in the prose of this case study are statistically significant at the 5% level, unless otherwise stated. We use statistical tests to identify significant differences in prevalence, risks, spending, and utilization between those with and without incontinence, accounting for the MCBS' complex survey design. We test

5 The associated questionnaire text for this reads as, "How often, if at all, since [last survey] has [respondent] lost urine because respondent could not control [respondent's] bladder?"

significant differences between incontinence groups using a variety of statistical tests, including chi-square tests, Mood's median tests, and t-tests.

In addition to the quantitative analysis performed by ATI, qualitative methods were used to gather information through interviews with key members of the TenderHeart leadership team as well as desktop research.

Endnotes

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