



Holistic Continence Care

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**Promote Sleep Hygiene,
Improve Outcomes, and Reduce
Risk in Your Community**



EXECUTIVE SUMMARY

Our understanding of the importance of restful, quality sleep has greatly improved over the past few years, due to research, media attention and industry efforts to increase public awareness. The rise of sleeping aid products has brought the topic to the forefront of consumers' minds, and the positive effects of obtaining at least seven (7) hours of sleep each night has been well-documented and discussed in medical literature. The goal of "getting enough sleep" is now commonly associated with health and wellness goals, as much as the goals of maintaining a good diet and getting regular exercise.

Conversely, the negative effects of not getting enough sleep are widely discussed and documented. What is often misunderstood is that poor sleep patterns often become common with aging. Due to personal and physical reasons, sleep disturbances are a common complaint among older adults, because as we age, sleep often becomes lighter, fragmented, and characterized by frequent awakenings.

In a National Institute on Aging study including over 9000 individuals aged 65 and older, showed that chronic issues with obtaining quality sleep are more widespread than originally thought. More than 50% of the respondents reported having at least one chronic sleep complaint. While these complaints vary based on the individual, the most frequent difficulties with sleeping included having trouble falling asleep — and then when the respondent did fall asleep, the ability to maintain uninterrupted sleep. Overall, the older population generally reports poor sleep initiation, difficulty maintaining sleep, and waking earlier than desired.

For long-term care Residents, the consequences of poor sleep quality may include: cognitive decline, fatigue and daytime sleepiness, moodiness, depression, falls and reduced quality of life. Frequently these elders may have irregular sleep patterns due to: pain, nighttime incontinence, caregiver interference (awakening Resident to check or change an absorbent product), nighttime confusion and/or disorientation.

Superior Care Home Nursing and Rehabilitation Center in Paducah, Kentucky, was facing many of these challenges. They chose to collaborate with industry experts in a clinical study, with the goal of improving overall Continence Care. A key study component involved implementation of **Attends® high-quality, multi-void products with advanced state-of-the-art absorbent technologies** for containment of urine leakage.

Other study components included a comprehensive review of operational processes, identification of clinical and financial improvement areas, and establishment of a holistic system for continence management that supported individualized Resident care.

This white paper outlines the initiatives resulting from this study, specifically on the positive Culture Change that occurred within the Superior Care community as a result of improved Resident care, which led to a better quality of life. Most importantly, this culture change initiative improved Sleep Hygiene through the implementation of new clinical and product protocols and the conversion to **Attends® multi-void products with advanced absorbent technologies**.

For more information on this study and the positive impact and results documented by Holistic Continence Care, ask your Domtar Personal Care Representative for copies of our other two white papers.



INTRODUCTION

As part of quality improvement efforts, clinicians and regulators have long advocated the need for Resident interviews and observations to better understand the personal habits of Residents. This information could then help guide Resident-centered care practices that support Culture Change while yielding better outcomes. Urinary incontinence is an ideal focus for such efforts, as it has long been one of the top reasons why individuals enter a long term care facility, and incidence rates of 85% are common in most nursing homes.

Urinary incontinence has been shown to require a vast resources to manage, and influences productivity of every facet of a long term care facility, impacting staff effectiveness and Resident quality of life. In addition, incontinence equates to increased physical and emotional issues throughout the facility, which translates to financial and operational challenges for providers. Past research has demonstrated that incontinence has also been linked to higher rates of social isolation, depression, and psychological problems.

One predominant factor associated with these risks is nighttime incontinence and the related effects of managing this condition. Specifically, a nighttime continence care program that factors in Sleep Hygiene is seen by experts as an area to focus quality improvement efforts, reduce associated risk factors, and document improved outcomes.

Traditional practices for incontinence at night have been largely based on the facility's management of staff time and were not individualized to the needs of Residents. Nighttime continence care was the same for all Residents: toileted at bedtime, put to bed, and awakened periodically for checking and changing of support products.

The result of these practices was poor Resident satisfaction and a feeling of being "institutionalized" — with little personal choice in the guidance of care. This care inevitably disrupts the duration and quality of Residents' sleep, which is shown to impact cognition and balance, and increase risk for falls. Constant awakening and fragmented sleep has also been shown to trigger moodiness, depressive symptoms and overall fatigue.

MDS regulations and guidelines stipulated in CMS's RAI Version 3.0 Manual promote Sleep Hygiene, defined as care practices, staff habits, and environmental factors that promote and/or improve Resident sleep patterns. To successfully follow this guidance, nighttime continence care plans should be based on individualized care data, including personal preferences for sleeping and waking, skin health, and the Resident's ability to spontaneously move in bed. While these guidelines exist, they are rarely fully implemented by staff with any consistency.

The management team at Superior Care Nursing Home and Rehabilitation Center recognized an opportunity for their nighttime incontinence management practices to be a part of a quality improvement endeavor in pursuit of better outcomes. They sought out appropriate partners to guide them in this effort.

This project eventually evolved into the development of a clinical study with continence care as its focus, and the development of specific interventions and protocols for nighttime continence care that provided compelling documentation of multiple benefits for Residents and staff members — and overall positive Culture Change within the community.



BACKGROUND

Superior Care Home Nursing and Rehabilitation Center is a free-standing SNF operating independently, under private ownership for over 40 years in Paducah, KY. The goal of their management team was to implement a community-wide culture change initiative that would yield multiple benefits for their facility, Residents and staff. By improving care delivery practices and improving their community atmosphere, it was strongly believed that satisfaction levels would increase for Residents and staff. A proactive approach was adopted by reviewing facility-wide operations to identify gaps and improvements that could be implemented. Sleep quality was assessed and found to be lacking. These efforts led the facility to seek new partnerships and to participate in a clinical study, with the ultimate goal of improving continence management practices and, by extension, Resident quality of life.

The Clinical Study of Holistic Continence Care was conducted with the aim of identifying improvement areas and testing new products and protocols developed to support Culture Change within their growing community. The study took a holistic view of care and utilized existing, industry-established data points, as well as site observations and interviews to develop a comprehensive picture of care practices and metrics.

Prior to the study, Superior Care Home Nursing and Rehabilitation's nighttime continence management consisted of traditional practices such as, checking and changing Residents with incontinence every two hours and providing toileting support as appropriate. In addition, incontinence containment practices included complex and inefficient practices which involved use of a variety of absorbent products supplied by family members, as well as the use of reusable cloth underpads. Staff were dissatisfied with having to keep manual counts to maintain inventory. This system's inefficiency also resulted in the Residents utilizing incorrect products, sizes and/or absorbencies, leading to regular incidences of leakage, soiled clothing and bedding.

As nighttime continence care did not include a quality absorbent product, Resident discomfort due to wetness against the skin was widespread. Staff constantly performed disruptive bed changes keeping Residents awake, compromising sleep; leading to staff frustration as other care duties were neglected. It was also clear that the Residents' poor sleep patterns was increasing their fall risk.

Management saw an opportunity to initiate positive Resident-centered changes, while creating a restful nighttime environment promoting adequate sleep. The Clinical Study Team firmly believed that implementing best practices for sleep hygiene would also result in reduction of risk factors related to incontinence, while reducing overall cost of care. The following efforts support Sleep Hygiene and were implemented promoting restful periods of quality sleep:

- Regulation of room temperature to comfortable level: recommended range between 60 and 75 degrees Fahrenheit, and adjusted depending on Resident's personal preference.
- During sleep period, noise and light were minimized: staff avoided turning on overhead lights and gently opened and closed doors. Phones were set to silent mode.
- For those caffeine-sensitive, staff eliminated fluids and foods containing this stimulant after lunch.
- For those often waking to go to the bathroom, staff minimized fluid intake after 8 p.m. to reduce their being awakened due to urinary urgency.
- For those with nighttime incontinence, staff utilized **Attends® high-quality, multi-void products with advanced state-of-the-art absorbent technologies available** to contain episodes of incontinence without uncomfortable leakage and minimize disruptions stemming from the need to change products.



Source for all data: Newman, D., DeMarinis, M., and Klusch, L., Clinical Study of Holistic Continence Care, Data Collected in the RedCap Database, Univ. of Pennsylvania, Oct. 2015

SOLUTIONS and RESULTS

The Clinical Study of Holistic Continence Care was conducted over a 12-week period. Residents admitted during the period received the newly-implemented continence care and sleep hygiene assessment protocols and practices. An internal subset of Residents switched from the original nighttime practices to a new program of targeted nighttime care using **Attends® high-quality, multi-void products with advanced state-of-the-art absorbent technologies**. Data was collected by both nursing and therapy staff utilizing the new tools, MDS assessments and therapy evaluations. As the clinical interventions and Attends® products were implemented, sleep hygiene and operational benefits became clear — in Resident outcomes, reported staff data, and a reduction of the risk factors that could impact payment and reimbursement through adverse events.

The Study design was initiated to develop and test protocols and products for effectiveness in supporting:

- Resident-centered care
- Improved Sleep Hygiene
- Switch to higher absorbency nighttime incontinence product
- Reduction of negative outcomes related to incontinence: falls, skin breakdown, negative odors

Issues identified:

- **Nighttime Care:** Residents were not experiencing quality sleep, since high-quality absorbent products were not being utilized. Residents felt soiled and undignified, as well as cold and wet lying in bed trying to sleep. As staff followed a 2-hour checking/change protocol, Residents were awakened several times nightly. These care practices led to significant Resident discomfort and odor. The fragmented sleep patterns contributed to increased daytime sleepiness, increased fall risk, irritable moods and combativeness, and brain fog and forgetfulness.
- **Absorbent Incontinence Products:** Products were not selected for high-quality performance, were not effective at rapid moisture absorption and maintaining skin dryness. As family members were providing products, sizing was often incorrect. Residents were uncomfortable in poorly fitted, limited-absorbency products. There was a lack of dignity due to increased odors, stained clothing and soiled beds.
- **Staff Training:** Staff education was needed. How-to-apply training that would support a restful environment for nighttime continence care was necessary. Staff was introduced to **Attends® multi-void, high-quality absorbent products**, taught how to individualize product selection including properly sizing Residents. They quickly realized that the **Attends®** product could keep wetness away from skin and effectively absorb multiple voids.
- **Fall Rates:** Current nighttime incontinence practices placed Residents at increased risk for falling. Residents attempted to ambulate to the bathroom because of wetness/cold/leakage. This occurred when Resident was tired, half-asleep, and possibly disoriented, so falls were a concern. Poor sleep negatively impacted balance and gait, increasing risk for falls.

As a result of these issues, the following changes were implemented:

- Establishment of an interdisciplinary team with current staff and implemented a quality assurance approach between departments to improve care coordination, especially between nursing and therapy departments
- Changed nighttime protocols and trained staff on nighttime incontinence management with quality assurance approach to improve overall Resident Sleep Hygiene to let Residents sleep as long as possible
- Switched facility to new continence care assessment practices and protocols with **Attends® high-quality, multi-void absorbent products from Domtar Personal Care**, supporting individualized care, dignity, and skin health
- Simplified the absorbent products formulary to help streamline and improve ordering, management, and distribution, to achieve overall improved operational efficiency with less waste. Products implemented included: **Attends® Advanced Briefs, Underwear, and Attends® Professional Care Washcloths** for skin care/perineal care
- Introduced new skin care protocol for staff to improve perineal care practices and staff compliance



CLINICAL OUTCOMES DATA

- Hours of sleep increased for virtually all Residents using the **Attends® high-quality, multi-void Advanced Briefs with Advanced DermaDry™ Technology and Supersorb® Dryness Layer**. The implementation of the Sleep Hygiene quality assurance approach with new protocol and Attends® product led to Residents sleeping more comfortably and experiencing longer periods of uninterrupted quality sleep: up to an average of 5-6 hours per night.
- Staff noticed changes in Resident cognition, mood and strength once the new **Attends®** product was utilized.
- The nighttime care environment noticeably changed for the better, as the need to change beds, Residents, etc., decreased as a result of the **multi-void Attends® product**. Noise was reduced, and staff had additional time for interaction with the residents who were awake.
- Residents appeared to have more strength and were more interactive with staff on all shifts.
- The amount of laundry diminished drastically, as well as the related operational costs.

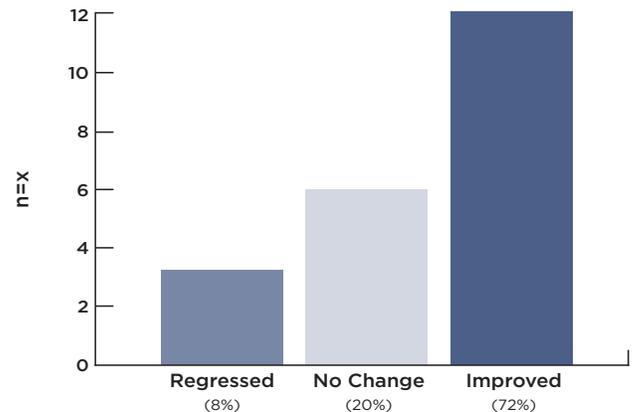
The outcomes of this Clinical Study of Holistic Continence Care are ASTOUNDING as improvement was seen in the primary endpoints relating to nighttime continence care: BIMS, Mood Severity and the Tinetti Scale, specifically Gait.

Activities of Daily Living (ADL) Scores

ADLs are reported through the MDS Assessment process (sect. G0110) and were tracked over the 12-week study period comparing the score at time of admission and at the study end-point.

Results indicated:

- 57.1% were improved and more independent
- Only 14.3% showed a deterioration (regressed), and 28.6% remained stable (no change)
- **71.4% maintained or improved in ADL function**



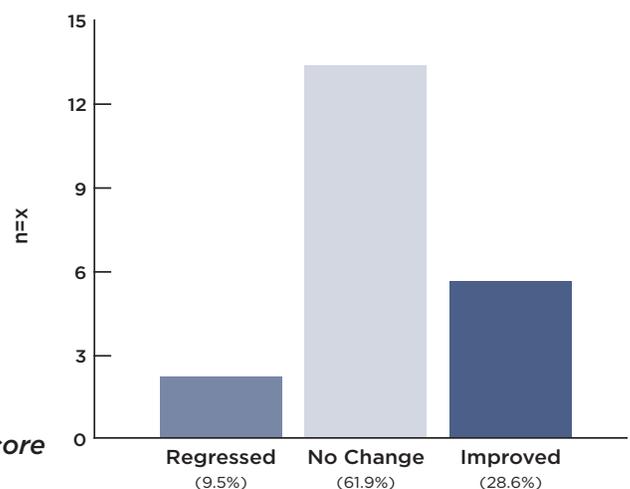
Brief Interview of Mental Status Scores (BIMS)

BIMS are reported through the MDS Assessment process (Section C) and were tracked over the 12-week study period on all Residents comparing the score at time of admission and at the study's end. BIMS identifies levels of cognitive function as it determines Resident's attention, orientation, and ability to register and recall information.

These results improved following changes to nighttime continence care that targeted improved Sleep Hygiene.

Results showed:

- 28.6% improvement in cognitive function
- 61.9% remained the same
- **This translates to 90.5% stable or improved cognitive score**



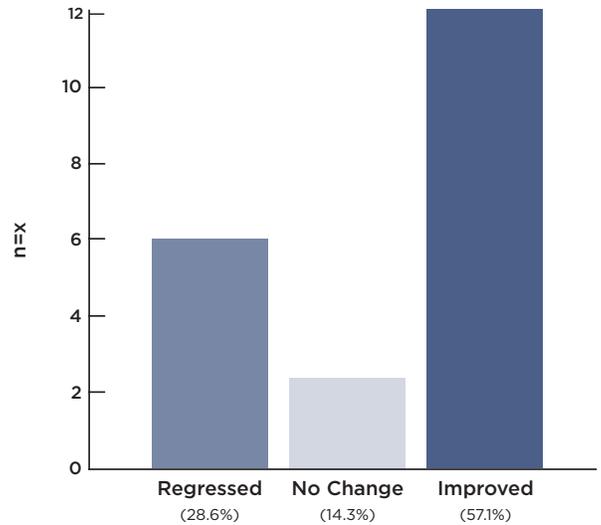


MOOD Severity Scores

Depression and sad mood are primary concerns for Residents with UI. Poor Sleep Hygiene can contribute to mood changes and depression. Mood Scores were measured through the MDS Assessment process (Section D) and were tracked over the 12-week study period on all Residents comparing the score at time of admission and at the study end-point PHQ-9 test.

Results showed:

- Mood improved in **57.1%** of the study group
- Stable mood was seen in **14.3%**



Tinetti Gait and Balance Instrument

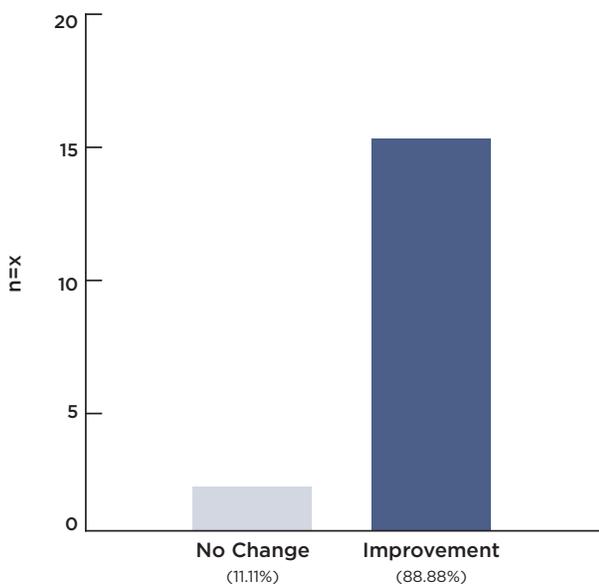
The Tinetti Gait and Balance Instrument is designed to determine an elder’s risk for falls within the next year. The higher the score, the less risk for falls. Individual scores are combined to form three scales: a Gait Scale, a Balance Scale and an overall Gait and Balance score. The maximum score for gait is 12 points, while maximum for Balance is 16 points, with a total maximum for the overall Tinetti Instrument being 28 points.

The Clinical Study Group felt this was an excellent measure to determine fall risk in the study group. These data points were collected by the therapy department.

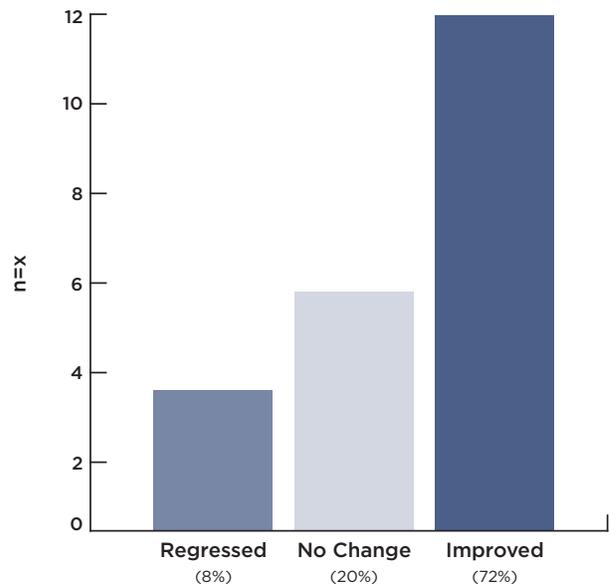
Dramatic improvement was seen in 16 of the 18 study Residents who were able to be tested. Improvements occurred once the sleep hygiene issues were addressed. Average scores increased from 8.26 to 20.05 points, showing **remarkable improvement** in strength and balance.

When analyzing just the Gait scores after Residents had more hours of sleep, **significant improvement** (72%) in gait was seen.

Change in Tinetti Scale Scores



Change in Gait Testing Scores





STAFF REPORTED OUTCOMES:

Staff were surveyed at the beginning of the study and at its completion. Staff reported clear clinical benefits and improvements in many areas throughout the community related to Resident's sleep, environment and the **Attends® high-quality, multi-void products with Advanced DermaDry™ Technology and Supersorb® Dryness Layer.**

Environment in relation to negative odors:

- 54% (n=36) noticed improved odor (less urine smell) in the Resident's room
- 55% (n=36) noticed smell in hallways had improved

Skin Health:

- 64.2% (n=43) felt the **Attends®** product was keeping the Resident's skin drier and was better for the skin
- 76% (n=51) had not noticed any increase in skin breakdown

Product Use, Characteristics and Preferences:

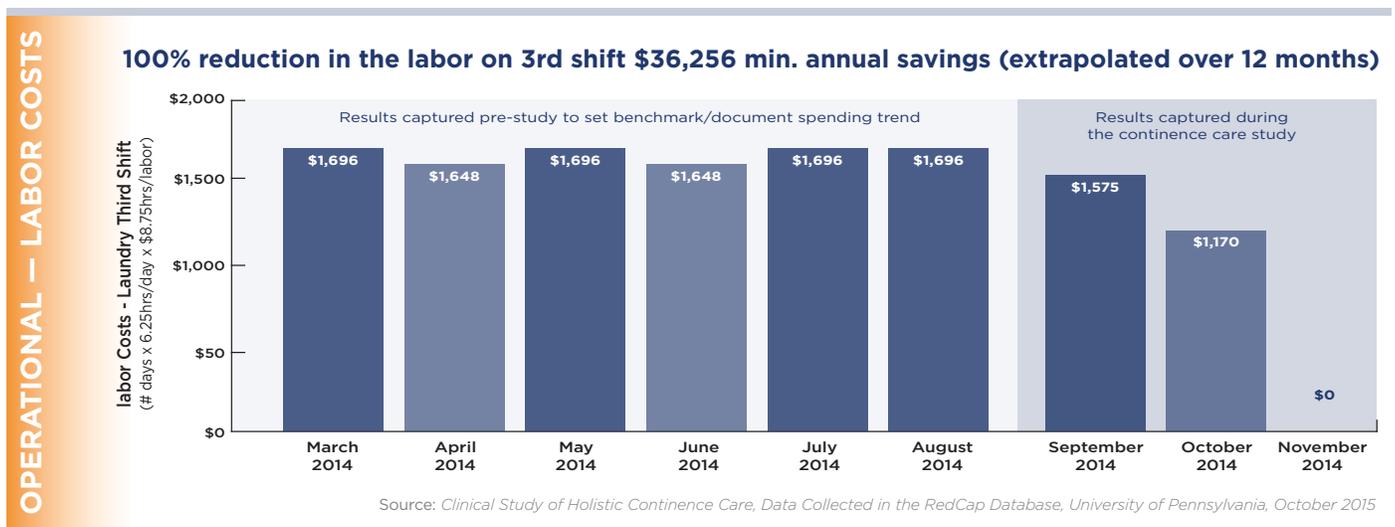
- 82% (n=55) found the new **Attends®** product easier to put on
- 87% (n=56) felt the product was better at "holding in" the urine
- 82% (n=55) preferred the new **Attends®** product over previous ones used
- 58% (n=39) noticed Resident were more comfortable at night since switching to **Attends®** products
- 55% (n=53) noticed less falls
- 49% (n=23) observed Residents' improved sleep; were more awake during day hours

In summary, staff felt that the **Attends® high-quality, multi-void products** were a vast improvement over previous products used. They also reported that the **Attends® Advanced Briefs** were easy to size and apply, and were effective for managing multiple voids without product leakage, which avoided waste and foul odors.

OPERATIONAL AND FINANCIAL OUTCOMES:

The new care protocols implemented with the **Attends® high-quality, multi-void products** led to increased staff efficiencies, less waste, and overall total cost savings. (see chart below)

- Staff reported being "**amazed**" by the new atmosphere in the community, with more peaceful, "**quieter nights**" that provided a more restful environment and increased periods of uninterrupted sleep.
- Staff reported more satisfaction letting Residents sleep as long as possible, instead of disrupting them every 2 hours.
- Staff experienced less frustration as the time spent on performing bed changes was eliminated through the utilization of the **Attends® high-quality, multi-void products.**
- Improved nighttime Resident comfort, dignity and skin health by eliminating use of reusable absorbent underpads that caused leakage and were cold and wet against the skin.
- Decreased labor and materials costs were achieved via laundry operations. Staff that formerly spent time on laundry were able to be re-directed to other care duties, improving efficiency and labor costs overall. (see chart next page)



OPERATIONAL LAUNDRY COSTS

Labor hours were **reduced** on the Third Shift laundry and re-directed to other care duties, with **savings achieved** through the newly implemented operational efficiencies.

Laundry Costs decreased 33.7% as the cost of the required materials decreased.



CONCLUSION

Analysis of the data points from *The Clinical Study of Holistic Continence Care* concluded that Superior Care Home Nursing and Rehabilitation Center and its Residents realized multiple benefits that had immediate, far-reaching positive implications as a result of the continence care and Culture Change initiatives implemented during the study.

The new process for nighttime care led to a more home-like environment; more attractive to current and future Residents, their families, and potential referral sources in the community.

These results proved to the clinical study team that implementing quality care interventions with the support of products such as **Attends® high-quality, multi-void products** leads to improved clinical outcomes, with documented greater staff and Resident satisfaction.

They could also see that because nighttime incontinence is an issue touching the majority of providers, this is an area targeted easily as a quality improvement area, with positive results if executed with management support and by keeping in mind these key findings:

- The implementation of a high-quality absorbent product line for nighttime continence care, i.e. **Attends® high-quality, multi-void products**, is critical to success. The product interventions must be supported by effective staff training on nighttime care protocols to re-align care practices promoting quality, uninterrupted sleep for improved Sleep Hygiene.
- The combined care and product interventions worked in combination to eliminate leakage and odor, improving the overall environment of the community for Residents, families and staff.
- These changes promoted the longest possible periods of quality, uninterrupted sleep for Residents. The benefits were clear, as staff reported that Residents appeared more awake and alert in the morning, and appeared more calm and rested.
- Staff satisfaction and product efficiency data demonstrated the positive impact new protocols and **Attends®** products had on overall staff satisfaction, as the frustrations in changing wet beds were eliminated and staff had more time to spend on other care activities.

These compelling findings support the fact that smart providers are no longer approaching the issue of incontinence in their communities as a task management process — but rather as an opportunity to implement Culture Change initiatives that make a lasting and measurable impact for the individuals under their care. This new outlook has many providers reviewing their current practices to determine how they can implement similar Culture Change efforts to similarly generate measurable, quality outcomes that will help improve their community partnerships and overall image as a preferred referral source.



Get the Attends® Advantage™ and Be Positioned for SUCCESS!

Domtar Personal Care understands long term care economics and the constant pressures to perform with shrinking budgets. We partner with you to address top issues that tie into your financial, clinical and regulatory needs. Partner with us and our comprehensive menu of solutions, which support your staff in delivering effective, efficient care with improved outcomes. With Domtar Personal Care's clinical and business practices, we can customize our approach to suit each customer's situation and is continuously supported as we progress through our partnership.

This white paper outlines improvements and positive outcomes that can be achieved through implementation of a program as was undertaken in the Holistic Continence Care study. This study focused on the Culture Change improvements gained through implementation of new protocols for holistic continence care along with utilization of the **Attends® high-quality, multi-void products** in the course of the study.

For more information on this clinical study and the positive impact and results documented by Holistic Continence Care, ask your Domtar Personal Care Representative for copies of our additional two white papers.

For more information, please email: BetterOutcomes@Attends.com.

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The logo for Attends, featuring the word "Attends" in a bold, blue, sans-serif font. The letter "A" is stylized with a wave-like underline that extends to the left. A registered trademark symbol (®) is located at the top right of the word.

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