

LOW INCIDENCE OF IAD, UTI, AND SLEEP INTERRUPTIONS WITH USE OF EXTREME ABSORBENCY, EXTENDED WEAR ADULT INCONTINENCE PRODUCTS IN SENIOR LIVING FACILITIES: A CASE-CONTROL STUDY

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Background & Significance

- An estimated 80 million people in the US suffer from bladder incontinence (NIH 2019, American Urological Assn 2019)
- Common nursing practice includes a range of Incontinence Associated Dermatitis (IAD) mitigations that rely primarily on nursing care (actions) and skin care products rather than on absorbent incontinence products to prevent IAD.
- Economic pressures are driving manufacturers and healthcare facilities towards less absorbent incontinence products.
- Severe nursing staff shortage crisis is resulting in degradation to incontinence care. Long-term care residents throughout the U.S. are “lying in their own feces and urine,... not getting turned,... getting bedsores, [and] their limbs are atrophying... we’ve had those kinds of complaints [ostensibly from residents’ family members] for the past year and a half” (Paulin, AARP Journal, 2021).
- Urinary tract infections (UTIs) have been anecdotally associated with adult incontinence, but “accurately measuring the incidence of UTI in the elderly is challenging since criteria used for diagnosis are not consistent across epidemiologic studies” (Rowe & Juthani-Mehta, 2013, para. 5).
- 2-hour check and change care protocols present an unintended adverse outcome of frequent interruptions to elderly residents’ sleep as shown in research (Maben, 2012). Research shows that poor sleep among older people leads to an increase in depression, confusion, agitation, heart disease, obesity, diabetes and has shown increased risk of falls and increased risk of shorter survival (Knapton,2023; Martin and Ancoli-Israel, 2008; Stone, et al, 2006; Dew et al, 2003; Stone, et al, 2004).

Purpose

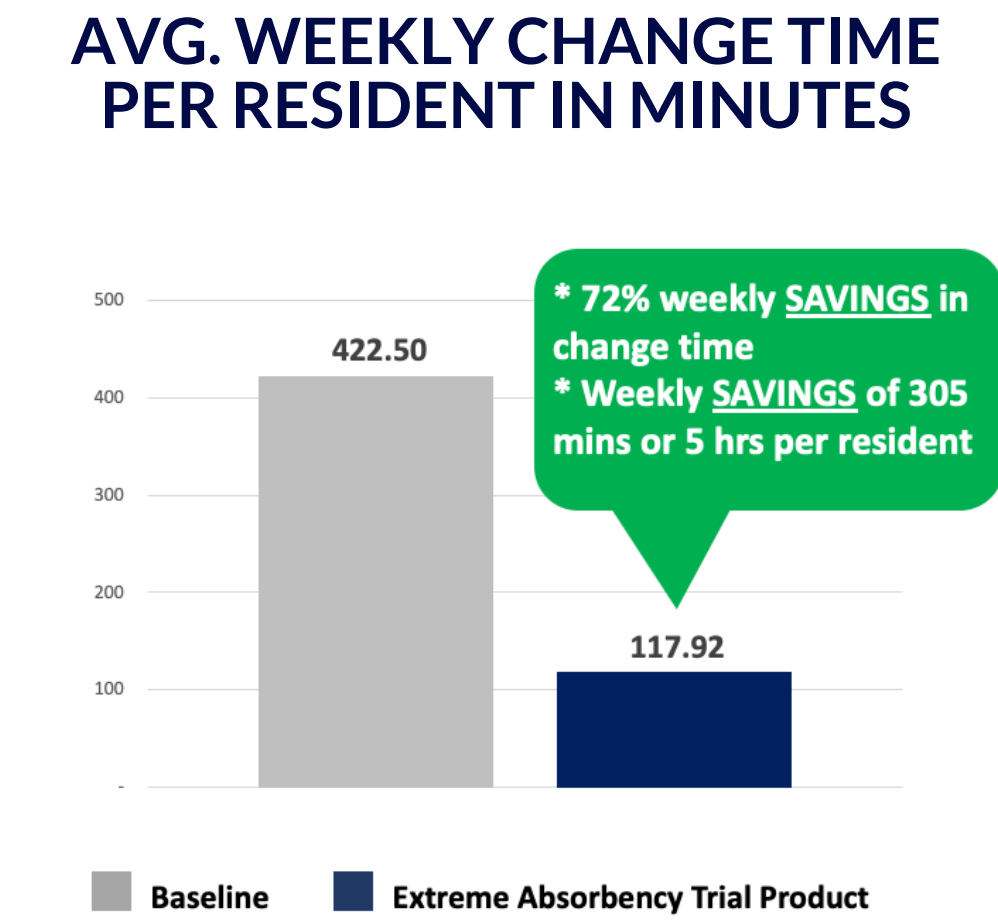
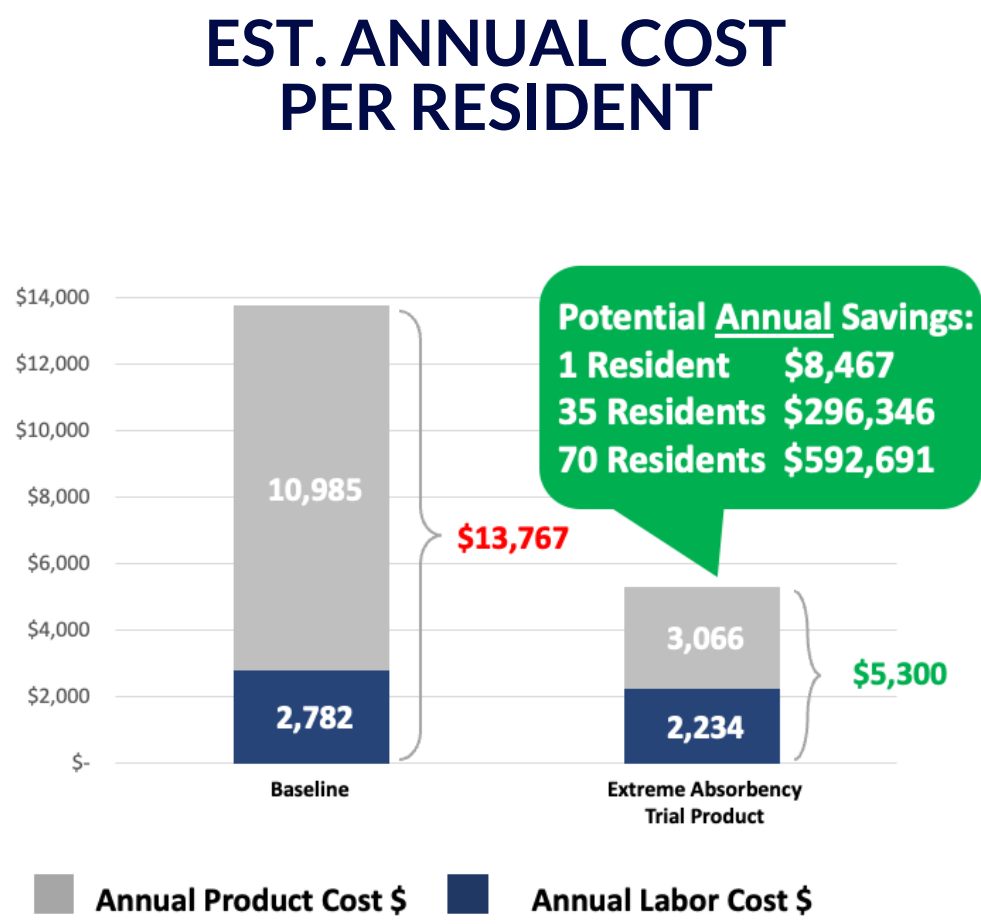
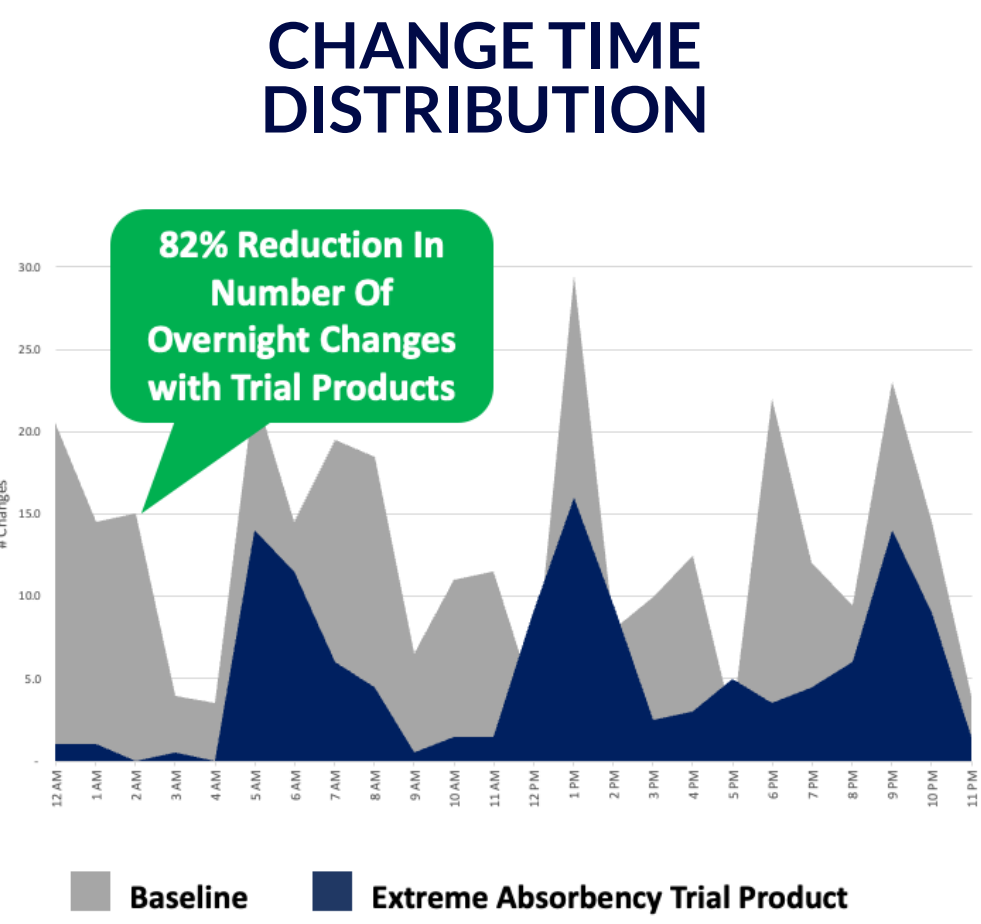
- Assess clinical and economic efficacy of a new class of extreme absorbency wearable incontinence products (200-300% greater absorbency than leading brands) for heavily incontinent senior living facility residents’ continuous 12-hour use (i.e., replacing the soiled article approximately once every twelve hours), and use baseline data to assess (a) corresponding impacts for incidence of (IAD), prevalence of urinary tract infections (UTI), number of uninterrupted hours of sleep (defined as any nighttime hour in which an incontinence product change did not occur), and (b) associated implications for labor/time needed for providing nursing care to these residents (increase, decrease, or no change).

Methodology

- An exploratory, observational study that employed a mixed-methods, controlled case series framework at two sites to assess the clinical and economic efficacy of the new technology and corresponding clinical protocol (baseline as control).
- Pen and paper feedback surveys with 11 variables that were evaluated across an 8-week time period. 12 licensed caregivers and 12 senior living residents participated in the study, baseline and study data were collected by the caregivers each hour on a 24-hour basis, for a total of 17,100 data elements spread across the 11 variables that were analyzed using descriptive statistics.

Findings & Results

Skin Health Overview				Number of Product Changes					
	Skin Description at Change	#	%	Facility 1			Facility 2		
				Baseline	Study	Total	Baseline	Study	Total
	Healthy, No Irritation	1,456	99.3%	283	382	665	343	448	791
	Mild Irritation	10	0.7%	0	0	0	0	10	10
	Moderate Irritation	0	0.0%	0	0	0	0	0	0
	Mild Rash	1	0.1%	0	0	0	0	1	1
	Weeping Wound	0	0.0%	0	0	0	0	0	0
	Total Changes	1,467	100.0%	283	382	665	343	459	802



OVER \$8,000*

Annual Labor Savings Per Resident

OVER 99%*

Showed No Skin Issues After 12 Hours of Wear

OVER 80%*

Reduction In Nighttime Changes

- 99.3% of skin health assessments were recorded as 'healthy, no irritation' (5-level assessment scale).
- 82% reduction in number of overnight changes
- 72% savings in clinical labor (i.e., change time) equating to 5 hours less labor per resident per week.
- Uninterrupted nights of sleep (defined as no occurrence of adult incontinence product changes between 10 pm and 5 am) increased from 0 (zero) in baseline weeks to 4-5 nights per resident per week – a five-fold reduction in interruptions of residents’ sleep.
- While skin care products and therapies were not study variables, clinical staff confirmed at conclusion of the trials that no additional adjunctive skin care treatments were deployed.

Site Selection & Enrollment Criteria

- Case studies were led by directors of nursing – DONs – (with executive directors’/facility administrators’ oversight and involvement). Data were collected by facilities’ clinical staff members. Signed informed consent and IRB approvals were obtained.
- The sites were under the auspices of two nationally known senior living facility chains with all appropriate protocols and staff in place.
- Both facilities were located in the state of Illinois and the trials occurred in each facilities’ Memory Care units and Assisted Living units.
- The study participants were selected by DONs and included licensed caregivers and their residents who: had diagnoses of uncontrolled, heavy incontinence before, during and after the trials; and, required nursing care and assistance on a 24 hour a day basis.
- There were no exclusion criteria for IAD or UTI, but IAD variables were recorded in the baseline weeks and data collection weeks and UTIs were reported by DONs as being 0 (zero) occurrences throughout the studies.

Conclusions & Recommendations

- Residents’ skin health was maintained at healthy levels while using 12-hour and 8-hour extreme absorbency adult incontinence products (i.e., there was virtually no IAD and no UTI at all).
- Although n=12 in this study, the two sites’ DONs provided anecdotal assessment as to extrapolation of the trial data on adult incontinence products utilization, labor utilization, and laundry utilization using the facilities’ actual costs, which yielded an annualized 69.1% calculated cost savings in the noted areas combined.
- The observational study that formed the basis for this case series has shown promising clinical and economic results. One or more large-scale RCTs of the newly emergent product class of extreme absorbency adult briefs and protective underwear (as defined in this presentation) are needed to confirm statistically significant and clinically relevant findings.

References

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