

THE COST OF MANAGING URINARY AND FECAL INCONTINENCE IN THE CHRONIC CARE SETTING - A DETAILED PROSPECTIVE STUDY.

Aims of Study

Urinary and fecal incontinence are increasing as the population ages and account for a substantial part of the cost of aged care. Previous studies have assessed such cost over short periods, not necessarily over a full 24hour cycle of care. This study formed part of a pilot project funded by our Federal Government to assess the cost of urinary and fecal incontinence.

We aimed to

- 1) Assess the daily cost of incontinence in an inpatient chronic care setting.
- 2) Differentiate costs of urinary / fecal incontinence.
- 3) Define the proportions relating to staff / consumables / linen
- 4) Proportion activity occurring in each nursing shift.
- 5) Differentiate costs between frail elderly / neurological impairment & dementia

Methods

A data collection sheet was designed allowing hourly entries relating to tasks performed, staff involved and consumables / 24 hours. It was piloted and revised 3 times before implementation. Entries were made for toilet assistance, changing pads / catheters / linen, bladder scans, rectal examinations & urinalysis **per hour**. Most importantly, it captured the number of staff, their seniority / wage scale and duration of each activity carried out by these personnel **per hour**.

Each nursing shift received 'In service' training regarding data collection. A Nurse Continence Consultant supervised training / on-site collection. Patients admitted to two rehabilitation / neurological wards from 5 / 11 - 23 / 12 / 01 were assessed for incontinence, defined as two episodes of any leakage within any 48 hours. Consecutive patients were monitored for their entire stay. Data was entered into spreadsheets matching the data collection form and containing embedded functions allowing error identification / data manipulation. Costs for staff / consumables were obtained from unit managers / suppliers. Staff 'on costs' varied from 13% - 23% depending on the type of employee.

Total daily costs were calculated and split between pure urinary, pure fecal and combined incontinence costs. Where type of employee was missing from an entry an enrolled nurse was the default. All staff indicated for that hour, were assumed to have participated in each task. Patients were grouped into five categories – elderly, frail elderly, demented, incontinence of neurological origin & other, in accordance with project requirements.

Results

29 consecutive patients were recruited. Groups were combined into frail elderly(n=14) & neurologically impaired (n=15) to facilitate analysis. Data were not normally distributed so results are reported as median values with interquartile ranges. All costs are in Australian dollars (1Au\$=0.6Euro)

Table 1. Patient Information

Au\$	All Patients N=29	Frail Elderly N=14	Neuro. Impaired N=15	Mann Whitney U Test
Age(Years)	85 (74 – 91)	81 (73 – 89)	85 (79 – 92)	P=0.26
In Patient Stay (Days)	11 (6 – 18.5)	12 (9 – 18.5)	10 (3 – 19)	P=0.35
Total Staff Time / 24 Hours spent caring for incontinence (Min)	109 (88 – 140)	100 (35 – 56)	112 (83 – 147)	P=0.86

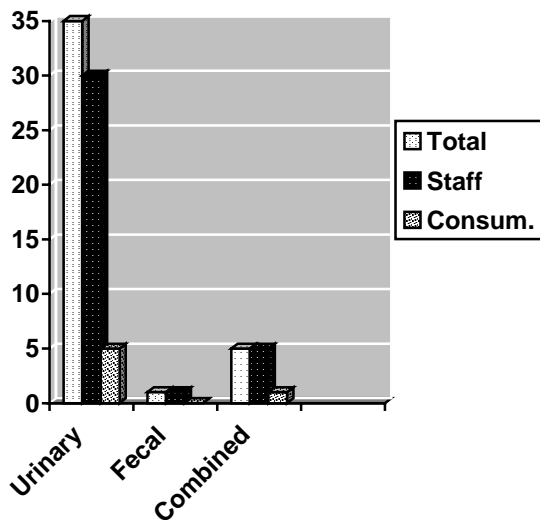
The median time spent in providing dedicated care for urinary / fecal incontinence was almost two hours per day regardless of patient type.

Table 2. Overall costs of managing urinary & fecal incontinence / 24 hours

Cost Au\$	All Patients N=29	Frail Elderly N=14	Neuro. Impaired N=15	Mann Whitney U Test
Total	49 (40.5 – 70)	47 (38 – 66)	52 (42 – 76)	P=0.53
Staff	41 (34.5 – 56.5)	40 (35 – 56)	42 (33 – 58)	P=0.13
Consumable / Linen	7 (4.5 – 13.5)	7 (4 – 11)	11 (7 – 16)	P=0.90

Frail elderly & neurologic incontinence costs did not differ. For patients with combined incontinence the individual costs for the two types of leakage could not be separated as the same linen was used for each.

Chart 1. Costs of Incontinence (Median Values in Au\$)



Isolated fecal incontinence was rare.

The proportion of activity that occurred during each nursing shift is shown:

Table 3. Total Time Spent For Each Task, Per Shift During Study (minutes. N=29)

	AM	PM	Night	TOTAL
Toilet Assistance	8083	5117	5742	18942
Pad Changes	1484	1093	1070	3647
Linen Changes	7692	3607	6251	17550
Catheter Care	736	680	479	1895
TOTAL	17795	10497	13542	42034

43% of overall activity occurred in the morning, 25% the afternoon and 32% at night. The percent distributions were uniform for toileting / pad & linen changes / catheter care across the shifts.

Conclusions

To our knowledge, this is the largest detailed bedside costing study of urinary and fecal incontinence. We were surprised to find that the cost (median Au\$49 per day) was so evenly distributed across the three nursing shifts, indicating a heavy burden of care at night. Isolated fecal incontinence was less common than expected: combined urinary and fecal incontinence proved rather difficult to study.

The level of expenditure for incontinent patients is not a factor in their funding, which warrants concern.