Urinary Incontinence in Older Women (≥55 years) During Secondary Care Admissions

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Background

- Approx. 40% of older women (≥55 years) report experiencing difficulty with their urinary continence within the community (Cooper, et.al., 2015)
  - Urge incontinence (needing to frequently void the bladder)
  - Stress incontinence (e.g. when lifting, exercising or coughing)
  - Mixed
- Urinary Incontinence (UI) can lead to a reduction in quality of life, reduced psychological health. (Abrams P, et.al., 2015)
- Women often do not seek help or discuss the matter with others (Fu, Y., Nelson, A., McGowan, L.. 2020)
- Women's knowledge of UI is poor (Day et al., 2014; Keller, 1999; Vasconcelos et al., 2019). Poor knowledge and harmful misconceptions
- Potential opportunities to increase women's knowledge of UI and management options should therefore be capitalised on

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Background

- The majority of empirical research has been conducted in community settings
- Currently prevalence, incidence and mortality associated with UI in older (≥55 years) women during an in-patient admission, is unknown (McMillan et al. 2023).
- A wealth of patient care electronic information is held by NHS trusts, recorded through Electronic Patient Care Records (EPCR) (Sood, 2017).
  - On admission a nursing assessment is undertaken based on the activities of daily living (Roper, Logan & Tierney, 2000). This includes an assessment of the patients continence status.
- There is also a need to gain an understanding of ward based nurses views, knowledge and perceptions of UI, how they care for women who experience UI during an in-patient admission.
- Nurses could provide a perfect opportunity to educate women about their UI and potential management options which are available to them.

Ethical approval was provided by the University of Salford ethics committee and regulatory approval by the NHS Health Research Authority IRAS project ID 303118

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Method

Study design:

Mixed methods study with two main phases

- Phase 1 (Quantitative): A retrospective study using EPCR to determine prevalence and mortality associated with UI for older women (55 years and above) during hospital admission
- Phase 2 (Qualitative): qualitative interviews to gain an understanding of nurses views, knowledge and perceptions of providing care for older women with UI during hospital admission.

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Method: Phase 1 (Quant)

Cohort:

- Data was extracted at a large NHS Trust between 1st November 2019 to 29th February 2020.

Table 1. Inclusion and exclusion criteria

Criteria	Included	Excluded
Admission type	Individuals with an inpatient admission	Day cases with no overnight stay
Gender	Female	Male
Age	55 years and over at the time of admission	Under 55 years
Reason for admission		Individuals admitted for a surgical procedure directly related to UI (for stress and urge incontinence)*
Data access		Individuals who had registered through the National data opt-out (NHS Digital, 2021)

** Stress incontinence surgery includes Traditional sling, colposuspension, midurethral slings (MUS) (retropubic or transobtuator), single incision sling, bladder neck needle suspension, anterior repair (Imamura, et.al., 2019). Urge incontinence surgery includes: Augmentation cystoplasty, Urinary diversion, (NHS, 2019)*

Outcome measures:

- **Continence assessment:**
  - Nursing assessments (on admission) and patients were categorised into one of 4 categories: Continent, Incontinent of Urine, Double incontinent, and Catheterised
  - ICD10 codes for UI
- **Demographic data:** Age, ethnicity, indices of deprivation
- **Clinical and health data:** BMI, Mobility, Frailty Risk (The Hospital Frailty Risk Score (HFRS)), Pressure ulcer risk, Length of stay
- **Mortality:** Deaths during admission, deaths within 30 days of discharge and deaths within 3 months of discharge.

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Method: Phase 2 (Qual)

Participants and data collection

- Semi-structured interviews were conducted with 20 nurses
- Variety of female or mixed in-patient wards at a large NHS trust.
- Interviews were with those from the wider nursing team both registered (UK Nursing and Midwifery Council) and non-registered nurses.
- The interview schedule was informed by both the literature and findings from the first phase of this study.

Data analysis

- The Framework approach (Ritchie et al., 2013), along with thematic analysis (including induction and deduction), was used to analyse the data.

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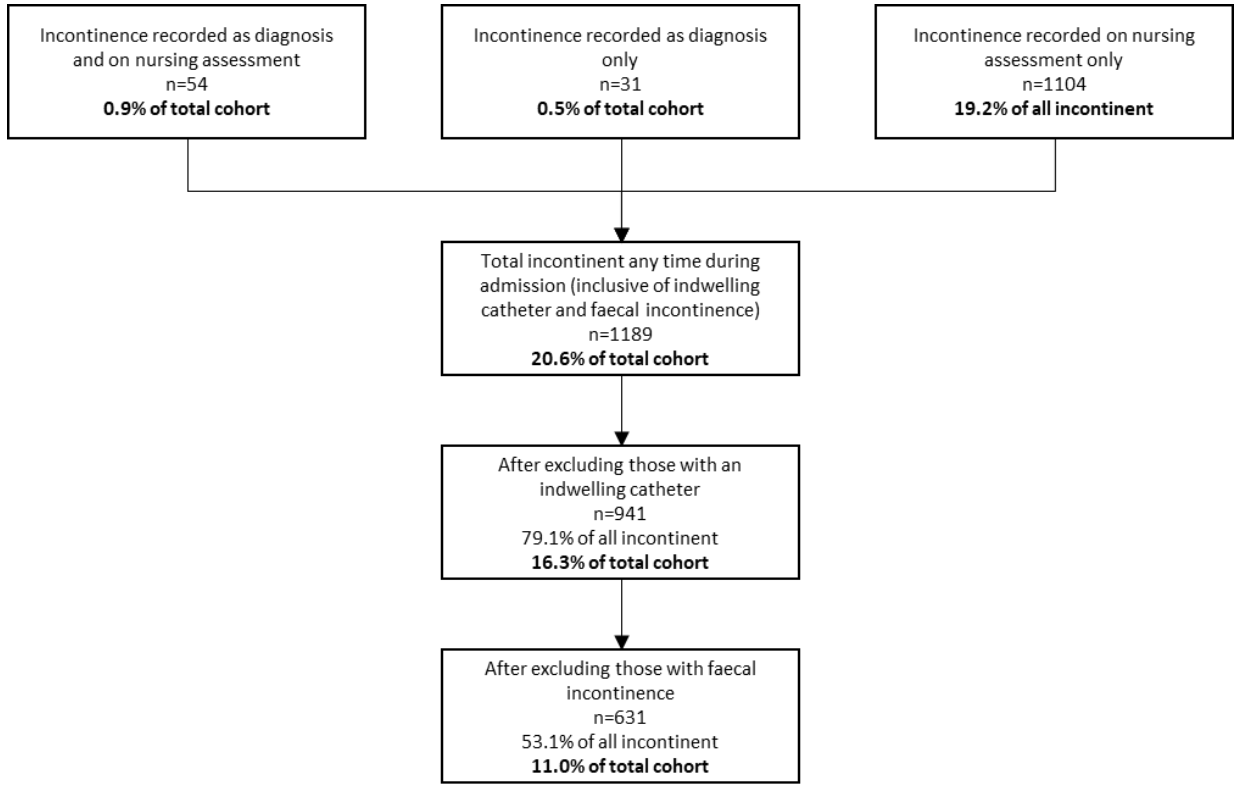
Phase 1 Results: Prevalence and Group Characteristics

Prevalence

- Total cohort n=5757
- 11.0% (631) categorised as experiencing UI (excluding double incontinent and catheterised) across all nursing assessments.
  - 20.6% inclusive of catheter and faecal incontinence
- Only 47 individuals had 'Incontinent' ICD10 codes



Group characteristics

Significant relationships were observed between incontinence and

- **Age** ($\chi2 = 319.5$, df = 8, $p<0.001$)
  - The age group with the most individuals for the Incontinent group is the 86 to 90 year age group (n = 144; 22.8%).
- **BMI** ($\chi2 = 46.57$, df = 4, $p<0.001$)
  - 13.8% (n=87) of UI group classed as underweight compared to 7.0% (n = 264) of the continent group.
- **Frailty risk** ($\chi2 = 275.03$, df = 3, $p<0.001$)
  - 25% (n = 158) of UI group were classed as having a high frailty risk compared to just 6.6% (n = 249) of the continent group.
- **Mobility** ($\chi2 = 440.58$, df = 4, $p<0.001$)
  - Most of the Incontinent group had 'Poor mobility' status (n = 390; 61.8%).
- **Pressure ulcer risk** ($\chi2 = 1693.49$, df = 1, $p<0.001$)
  - 96.4% (n = 608) of the UI group were identified as being at risk of pressure ulcers compared with 63.9% (n = 2,414) of the Continent group.

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Phase 1 Results: Mortality

Mortality was analysed by assessing total deaths, mortality rates, Kaplan Meier curves and Hazard Ratios (HRs).

Total Deaths

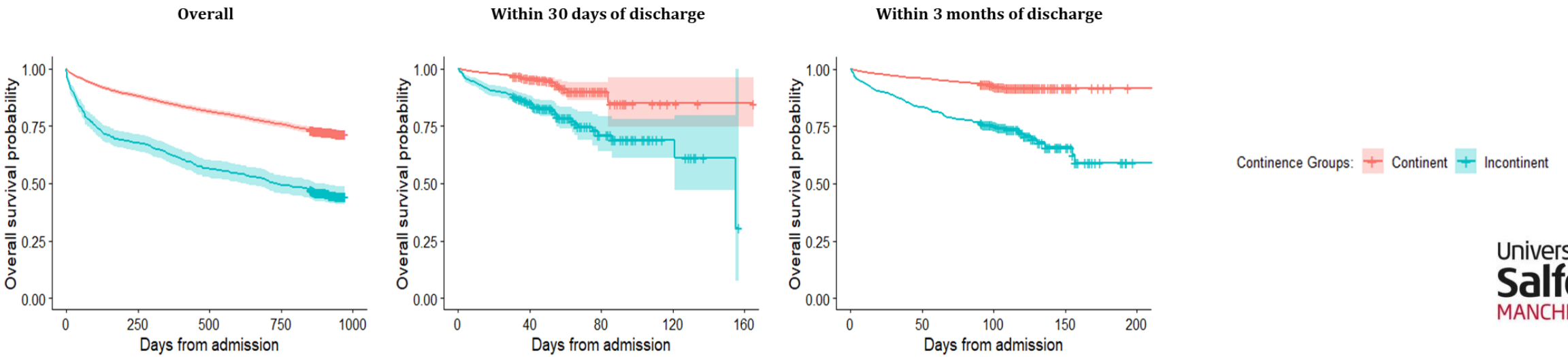
- Percentage of deaths in the UI group (n = 345; 54.7%) was almost double that of the Continent group (n = 1,047; 27.7%).
    - Similar patterns were observed when looking at deaths within 30 days of discharge and 3 months of discharge

Mortality Rates

- Overall the Incontinent group had a mortality rate that was significantly higher than that of the Continent group (35.9 per 100 person-years vs. 13.3 per 100 person-years, respectively).
    - This was also the case when assessing mortality rates within 30 days of discharge and 3 months of discharge

Kaplan Meier curves

- The curves for the UI group show a significantly lower survival probability compared with the Continent group for overall deaths, deaths within 30 days of discharge and deaths within 3 months of discharge



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Phase 1 Results: Mortality

Hazard ratios

- Cox regression models for all deaths, deaths within 30 days and within 3 months of discharge were carried out to explore the relationship between continence status and mortality
- Covariates: Age, BMI and deprivation index
- Results revealed UI as a significant predictor of mortality. This was the case for:
  - All deaths (HR 1.85, 95% CI 1.62 to 2.11, p<.001)
  - Deaths <30 days of discharge (HR= 2.69, 95% CI 2.00 to 3.62, p<.001)
  - Deaths <3 months of discharge (HR = 3.01, 95% CI 2.41 to 3.76, p<.001).
- Each year of age also significantly increased likelihood of death, again all deaths, deaths within 30 days of discharge and deaths within 3 months of discharge
- Being underweight compared to healthy weight, also significantly increased likelihood of death whereas being obese significantly reduced the likelihood

Table 6. Hazard Ratios (HR) for all deaths, deaths within 30 days of discharge, and deaths within 3 months of discharge by Continence group and covariates

Characteristic	Overall			Within 30 days of discharge			Within 3 months of discharge		
	HR[1]	95% CI[1]	p-value	HR[1]	95% CI[1]	p-value	HR[1]	95% CI[1]	p-value
Continence group									
Continent	—	—		—	—		—	—	
Incontinent	1.85	1.62, 2.11	<0.001	2.69	2.00, 3.62	<0.001	3.01	2.41, 3.76	<0.001
Age (years)	1.03	1.03, 1.04	<0.001	1.02	1.01, 1.03	0.006	1.02	1.01, 1.03	<0.001
Body Mass Index (BMI)									
Healthy Weight	—	—		—	—		—	—	
Obese	0.58	0.50, 0.68	<0.001	0.53	0.35, 0.81	0.003	0.56	0.42, 0.76	<0.001
Overweight	0.75	0.65, 0.87	<0.001	0.84	0.58, 1.20	0.3	0.84	0.65, 1.10	0.2
Underweight	1.7	1.45, 1.99	<0.001	1.94	1.37, 2.74	<0.001	1.79	1.36, 2.35	<0.001

[1]HR = Hazard Ratio, CI = Confidence Interval

Phase 2 Results: Nurse Interviews

- A Total of 20 nursing staff were interviewed
- Six overarching themes emerged from the interviews

1. **Normalisation and misconceptions of UI**
2. **Limited knowledge and training**
3. **Pad culture**
4. **Barriers to care**
5. **UI under reporting**
6. **Catheter use in relation to UI**

Table 3. Participant characteristics

Characteristic category		N	%
Gender			
	Female	15	75%
	Male	5	25%
Age			
	18-25	1	5%
	26-35	9	45%
	36-45	4	20%
	46-55	4	20%
	56+	2	10%
Ethnicity			
	White British	16	80%
	Asian/Asian British	3	15%
	Black/African/Caribbean/British Black	1	5%
Job role			
	Staff Nurse	7	35%
	Clinical support worker	9	45%
	Sister	2	10%
	Ward manager	1	5%
	Nurse team lead	1	5%
Ward specialty			
	Elective surgery	4	20%
	General medical	1	5%
	Intermediate care	3	15%
	Gynaecology	1	5%
	Aging and complex medicine	5	25%
	Neurology	4	20%
	Renal	1	5%
	General surgery	1	5%

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Phase 2 Results: Nurse Interviews

Theme 1: Normalisation and misconceptions of UI

- Normalisation of UI in older women- Seen as an inevitable part of aging
- Misconceptions of urge- frustration that women 'didn't ask soon enough' or 'weren't holding it'
- Having an accident- clear distinctions between complete incontinence and what they referred to as an 'accident'.

'so it's best just to react to the incontinence rather than try and prevent it, because incontinence isn't a medical issue really. That's just an accident' (Participant 19)

'Yes, it just seems to be looked as a natural progression and that's that!' (participant 4)

Theme 2: Limited knowledge and training

- Causes- Referenced older age or neurocognitive issues
- Interventions- limited knowledge outside continence pads
- Expressed need for training- all nurses expressed that they would like training

'So the knowledge is not really taught us to be honest. It's not. You just say, 'They're incontinent, give them pad,'' (Participant 8)

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Phase 2 Results: Nurse Interviews

Theme 3: Pad Culture

- Over reliance on pads- seen as the only option. Overused as they were seen as easier than toileting
- Unsuitable products- sizes available not always appropriate
- Terminology – often referred to as nappies

'Yes, just stick a pad on them, rather than offering other alternatives, such as walking them to the bathroom. I feel like some staff just think it's going to save me a bit of time' (Participant 7)

'...so if you've got five of them that needs to go on a bedpan, for example, we can't assist five people at the same time. So, you see they're sat down for a long time or they're lying in bed and they're lying in the wet, and it's not something good for them.' (participant 17)

Theme 4: Barriers to care

- Staffing issues- limited their ability to help patients
- Taboo subject -a subject that female patients do not feel comfortable discussing

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Phase 2 Results: Nurse Interviews

Theme 5: UI under reporting

- Mismatch between perceived prevalence and reporting- common occurrence, in older female patients
- UI classification- not classify a person as incontinent of urine if they just had what they deemed as 'accidents'
- Use of nursing assessments- might not reassess or update based on UI alone

Yes, everyday, a big, quite a large number of patients are incontinent and obviously when I was at the care home most people were incontinent.' (Participant 8)

'you know what I mean, because she might get incontinent, but she's not really incontinent' (Participant 14)

'I would probably just obviously tell them about, just say, 'Let us know when you want the toilet,' and we would monitor it. They've got a call bell, so they know they can press the call bell.' (Participant 1)

Theme 6: Catheter use in relation to UI

- Last resort for skin integrity- relief from pressure ulcers
- Removal on discharge – main reason given for catheter removal
- Lack of patient advice on removal-little direct advice or post catheter care. Other than urine monitoring

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Conclusions

- Given that community UI prevalence is around 40%, this result of 11.0% suggest that UI is being drastically underreported by nursing staff who undertake the nursing assessment on admission.
  - Only 47 (Total cohort n=5757) patients were coded for UI on ICD10 codes also suggesting underreporting by doctors
- Qual results suggest this may largely be due to how nurses classify UI vs ‘accidents’
- Our results also demonstrate significant associations between those who had been classified as UI and mortality
  - This result further demonstrates the importance of further research in this area
- Qualitative results also demonstrated the need for training/nurse education around urinary incontinence and continence care

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Thank you for listening.

Any questions?

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