National audit of pressure ulcer prevalence in England: a cross sectional study

KEY WORDS
- Audit
- aSSKINg
- Deep tissue injury
- Pressure ulcer
- Repositioning

Patients continue to develop skin damage and pressure ulcers (PUs). The aim of this audit was to explore the prevalence of PUs and the adherence to the fundamental elements of the aSSKINg framework across hospitals in England. A cross-sectional survey was conducted on 10,144 patients from 36 hospitals representing 18 NHS trusts. The PU status of all patients was determined by two independent nurses who assessed the skin and ensured data capture was completed. The overall prevalence of PUs recorded, in terms or proportion of patients with 1 or more PUs, was 9.04% (95% confidence interval (CI) 8.48% to 9.60%). There were 689 (64.0%) PU allocated a category (i.e., 1,2,3,4, unstageable (US) or deep tissue injury (DTI)) were superficial, involving only the skin (categories 1 and 2). A further 218 (20.3%) were in an evolving category, i.e. US or DTI. There were 7086 patients (69.8%) that had a risk assessment completed within six hours, 6576 (81.4%) patients considered to be at risk had a care plan in place, but only 5216 patients (51.3%) had a planned repositioning regimen in place. This audit has identified areas of care that require improvement to prevent PU occurrence, including patient education and keeping patients moving and repositioning. There continues to be over-prescription of equipment, with patients being allocated higher specification equipment than their risk score identifies and no clinical reason apparent.

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Pressure ulcers (PU) continue to be of great concern for both patient and health professional. Patients with PUs typically experience pain and increased risk of infection, morbidity and mortality rates (Borojeny et al., 2020). It has been reported that PU development extends hospital stays by an average of 5 to 10 days per PU (Graves et al, 2005; Theisen et al, 2012). Treatment of PUs is costly, averaging between £1214 to £14,108 dependent on severity and associated complications (Dealey, Posnett, & Walker, 2012). Phillips et al (2016) indicate that the provision of care from a health professional is accountable for the associated high costs, rather than wound care products. Risk factors identified within the research as predictors of the development of a PU are immobility and/or inactivity, skin status and perfusion (Coleman et al, 2014).

The most often reported outcome in PU prevention research is the level of occurrence (Lechner et al, 2020) yet existing data capture mechanisms have been inaccurate (Fletcher 2012; Coleman 2016). This has led to the introduction of new guidance for definition and measurement to strengthen approaches to data capture (NHSI, 2018), supported by an England-wide education curriculum designed to promote focussed approaches to the training of staff (NHSI, 2018). Following the introduction and implementation of this framework, it is important to ascertain whether the level of accuracy of reporting has improved, and if the number of PUs is reducing.

Strenuous efforts have been made to reduce occurrence of PUs through bespoke local and national programmes of work. Much of the large-scale activity and national activity has focussed on accurately enumerating the problem, rather than understanding how and why they occur. While the prevalence of PUs has been measured in many settings over the last 50 years or so (Moore et al,

2019a; Li et al, 2020; Fletcher et al, 2021), with a small number of exceptions, these have usually been in individual organisations or specific sub-groups of patients, such as critical care (Barakat-Johnson et al 2019) or paediatrics (Delmore et al, 2020).

A few studies have sought to review the number of PUs present or to link this to the level and type of care patients have received. A recent national cross-sectional survey conducted in Wales (Clark et al, 2017) assessed 8365 patients across 66 hospitals, with 748 (8.9%) found to have a PU. Other findings from the survey were that those with PUs (n=593, 79%) had their skin inspected by an independent nurse, with 158 new PUs being identified that were not known to the hospital staff. There were 152 PUs that had been incorrectly categorised by the hospital staff. Importantly the survey emphasised that a larger-scale study was feasible to obtain accurate data on PU prevalence and outcomes.

It is important to gain a greater understanding of the current prevalence of PUs across hospitals in England and explore adherence to elements of the aSSKINg (assess risk; skin assessment and skin care; surface, keep moving; incontinence and moisture; nutrition and hydration; and giving information or getting help) framework *(Box 1)*. This will highlight any key areas of clinical practice that require improvement to continue to advance patient care in the management of PUs. The 'aSSKINg' framework that health professionals should follow to ensure key elements of care are carefully considered for PU prevention (Young, 2021). Its introduction has helped reduce disparity in care through standardising the approach of assessment, thereby reducing the prevalence of PUs. The tool helps clinicians to highlight the fundamental aspects of care that were not included in a patient's care plan preceding PU development, raising awareness of where improvements in care are required.

Box1.

- **a** assessment of risk
- **S** Skin assessment and care
- **S** Surface selection and use
- **K** Keeping moving
- **I** Incontinence and increased moisture
- **N** Nutrition and hydration
- **g** Giving of information

Aim

The aim of this audit was to assess the prevalence of patients found to have a PU across England and measure adherence to elements of the aSSKINg framework and NICE Pressure Ulcer standards.

METHODS

A cross-sectional survey of patients within hospitals in England compliant with the STROBE checklist for cross-sectional studies (von Elm et al, 2008) was conducted. The data capture form was designed by a small working group of key opinion leaders based around the aSSKINg format (NHS Improvement, 2018). The audit followed the methods established by the European Pressure Ulcer Advisory Panel (EPUAP), with the addition of data entry staff and clinical assessment staff (including healthcare students on placement during the survey period; Vanderwee et al, 2007). The skin, of all patients who gave consent, was inspected from head to toe by two independent experienced nurses, with all PUs identified and classified as either category 1, 2, 3, 4, unstageable or deep tissue injury (DTI) ulcers (EPUAP, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance, 2019).

The data capture form was available as both a paper and electronic format. A 'train the trainer' approach and supporting conference calls were held with participating organisations to ensure the process was fully understood before data capture. Support from commercial companies was fundamental to the process, through providing tablets for data collection. No raw data was available to the companies. Data analysis was conducted by the statistical team at the University of Huddersfield, Institute for Skin Integrity and Infection prevention (ISIaIP).

METHODS

- Recruitment of organisations: Trusts were nominated by their regional teams or self-nominated
- Sample selection: this was performed by the Stop the Pressure Programme Team (StPPT) and ISIaIP to ensure a representative sample was obtained. In the event, all organisations wishing to participate were included
- Notification of acceptance
- Communication between the NHS England and NHS Improvement team and the local lead to develop their local operational plan, which included:
  a. Confirmation of the date(s) of participation for their organisation
  b. Agreement of methodology (i.e. paper or electronic)
  c. Confirmation of governance structures in place for staff to work across organisations
  d. Staff training

Table 1: demographic and treatment data of patients included in audit

Variable	Frequency (valid %)
Age group (years)	
0-9	183 (1.80%)
10-19	166 (1.64%)
20-29	422 (4.16%)
30-39	557 (5.49%)
40-49	632 (6.23%)
50-59	1104 (10.9%)
60-69	1461 (14.4%)
70-79	2217 (21.9%)
80-89	2518 (24.8%)
90-99	863 (8.51%)
100+	21 (0.20%)
Sex	
Male	4914 (48.5%)
Female	5226 (51.5%)
Risk assessment completed within 6 hours	
Yes	7086 (69.9%)
No	2300 (22.7%)
Not known	758 (7.47%)
Skin assessment completed by audit team	
Yes	7856 (77.4%)
No	2288 (22.6%)
Patient positioned on dynamic/hybrid mattress	
Yes	4701 (46.3%)
No	5443 (53.7%)
Patient positioned on pressure re-distributing cushion	
Yes	2400 (23.7%)
No	7744 (76.3%)
Patient given heel protection equipment	
Yes	1874 (18.5%)
No	8270 (81.5%)
At-risk patients only: Care plan in place	
Yes	6576 (81.4%)
No	1500 (19.6%)
Patient has planned re-positioning regimen	
Yes	5216 (51.4%)
No	4928 (49.6%)
Patient has moving/handling equipment at bedside	
Yes	3927 (61.9% of applicable cases)
No	2414 (38.1% of applicable cases)
Not applicable	3803
Patient is incontinent	
Yes	2732 (26.9%)
No	7412 (73.1%)

e. Ward notification
- Reminder events/activities
- Data capture.

The preferred mechanism of data capture was for the ward staff to complete a paper form overnight before the audit. On the day of the audit, each ward was visited by one or more audit teams (the exact number varied between organisations). The form completed by the ward staff formed the basis for electronic data entry. The team followed the ward form and checked the details of each patient. If details were correct, they were entered into the electronic form by the clinical member/s of the team. After seeking and obtaining consent, a skin check was then completed, including removal of any dressings to ensure any PU was correctly categorised. This was then cross-checked with entries made by ward staff, with discrepancies recorded on the electronic data capture form. At the end of each ward capture, the individual responsible for data entry ensured that all records were complete, and uploaded the data.

Recruitment of sites included consideration of the size, type and geographical spread of organisation to ensure that a representative sample was included. The final sample included small specialist organisations, medium size district general hospital and large university teaching hospitals. It is accepted that allowing organisations to self-nominate may skew the information provided, but it must be acknowledged that participation in the work was onerous and there had to be good organisational buy in. Discussion with the teams around rationale for participation identified that in the main they wished to identify both areas of good and bad practice and wished to set benchmarks against which to carry out quality improvement projects.

This clinical audit was approved by the Director of Nursing for each participating organisation. No formal research ethics approvals were required.

RESULTS

The audit was completed over two periods in April/May and September 2019. Organisations were spread geographically across England. A range of organisations including Acute Trauma Centres, University Teaching Hospitals, Specialist Hospitals and District General Hospitals were included. The sample consisted of 10,144 patients from 36 hospitals representing 18 NHS Trusts. Demographic and treatment data is summarised in *Table 1*.

The number of patients in included Trusts ranged from 65 to 1411. The proportion of patients with

Table 2. Numbers of patients audited and numbers and proportions of patients with 1 or more pressure ulcers (with 95% confidence intervals (CIs)): by Trust

Trust number	Number of patients with 1 or more PUs observed	Number of patients in audit	Proportion of patients with PU	95% CI for proportion
1	38	975	3.90%	(2.68%, 5.11%)
2	53	1034	5.11%	(3.78%, 6.47%)
3	47	821	5.72%	(4.14%, 7.31%)
4	26	452	5.75%	(3.61%, 7.90%)
5	10	165	6.06%	(2.42%, 9.70%)
6	9	132	6.82%	(2.52%, 11.2%)
7	101	1411	7.16%	(5.81%, 8.50%)
8	37	494	7.49%	(5.17%, 9.81%)
9	43	509	8.45%	(6.03%, 10.9%)
10	38	377	10.1%	(7.04%, 13.1%)
11	63	577	10.9%	(8.37%, 13.5%)
12	62	549	11.3%	(8.65%, 13.9%)
13	100	802	12.5%	(10.2%, 14.8%)
14	32	234	13.7%	(9.27%, 18.1%)
15	87	583	14.9%	(12.0%, 17.8%)
16	57	374	15.2%	(11.6%, 18.9%)
17	96	590	16.3%	(13.3%, 19.3%)
18	18	65	27.7%	(16.8%, 38.6%)
All Trusts	**917**	**10,144**	**9.04%**	**(8.48%, 9.60%)**

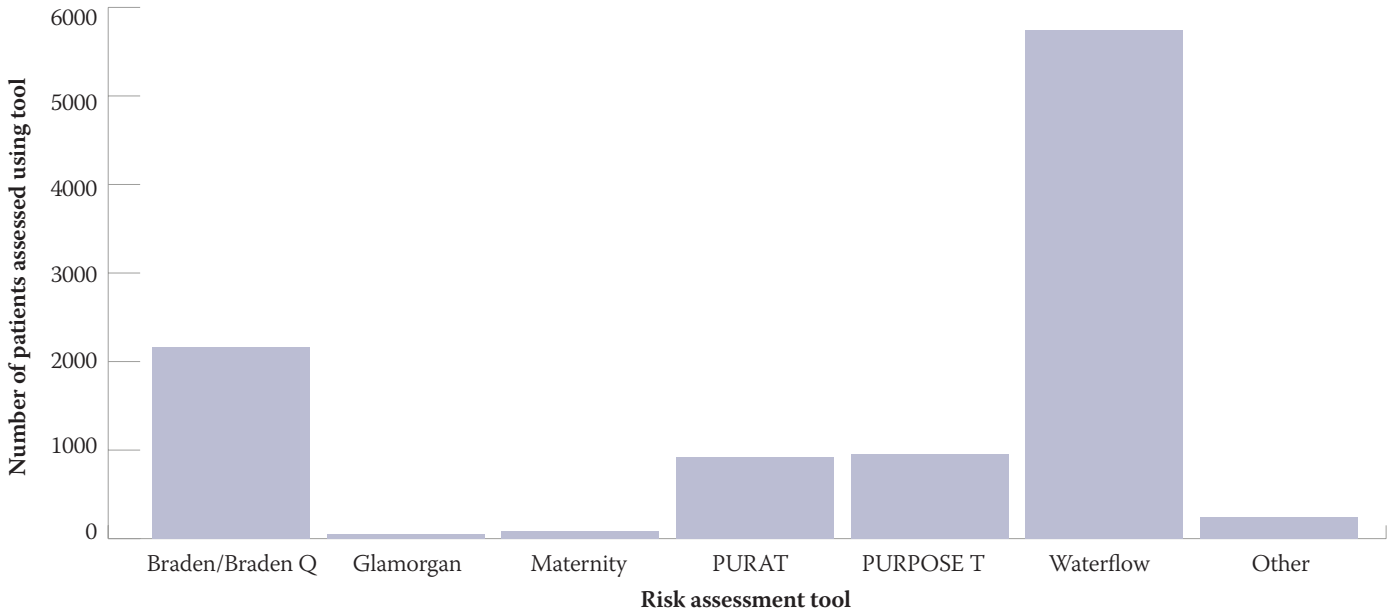
Table 3. Key elements of care by Trust

Trust	Number of patients in audit	Risk assessment completed within 6 hours	Skin assessment completed by audit team within 24 hours (valid records only)	Care plan in place (e.g. SSKIN bundle) for patients at risk	Patient has planned re-positioning regimen
1	975	665 (68.2%)	723/935 (77.3%)	444/594 (74.8%)	176 (18.1%)
2	1034	779 (75.3%)	941/989 (95.1%)	800/891 (89.8%)	742 (71.8%)
3	821	557 (67.8%)	648725 (89.4%)	523/664 (78.8%)	283 (34.5%)
4	452	383 (84.7%)	425/442 (96.2%)	389/406 (95.8%)	301 (66.6%)
5	165	125 (75.8%)	142/161 (88.2%)	76/120 (63.3%)	46 (27.7%)
6	132	118 (89.4%)	98/127 (77.2%)	105/111 (94.6%)	29 (22.0%)
7	1411	724 (51.3%)	1057/1380 (76.6%)	840/1112 (75.5%)	784 (55.6%)
8	494	426 (86.2%)	466/490 (95.1%)	416/436 (95.4%)	407 (82.4%)
9	509	292 (57.4%)	417/495 (84.2%)	391/443 (88.3%)	228 (44.8%)
10	377	319 (84.6%)	357/375 (95.2%)	235/343 (68.5%)	203 (53.8%)
11	577	442 (76.6%)	444/524 (84.7%)	293/328 (89.3%)	234 (40.6%)
12	549	341 (62.1%)	433/484 (89.5%)	292/427 (68.4%)	279 (50.8%)
13	802	545 (68.0%)	694/731 (94.9%)	382/587 (65.1%)	298 (37.2%)
14	234	176 (75.2%)	198/218 (90.8%)	170/191 (89.0%)	191 (81.6%)
15	583	356 (61.1%)	465/550 (84.6%)	343/476 (72.1%)	404 (69.3%)
16	374	342 (91.4%)	359/368 (97.6%)	352/359 (98.1%)	321 (85.8%)
17	590	447 (75.8%)	564/580 (97.2%)	460/524 87.8%)	234 (39.7%)
18	65	50 (76.9%)	60/65 (92.3%)	65/65 (100.0%)	65 (100.0%)
All Trusts	**10,144**	**7086 (69.9%)**	**8490/9638 (88.1%)**	**6576/8076 (81.4%)**	**5216 (51.4%)**

Table 4. distribution of categories of observed pressure ulcer

PU Category	Frequency (valid %)
1	196 (18.2%)
2	493 (45.8%)
3	119 (11.1%)
4	50 (4.6%)
Suspected Deep Tissue Injury	117 (10.9%)
Unstageable	101 (9.4%)
Other	64 (n/a)

Figure 1. Risk assessment tool frequency of use



one or more observed PUs ranged from 3.9% to 27.7% *(Table 2)*.

The audit sought to explore prevalence of PUs and adherence to elements of the aSSKINg framework and, NICE Pressure Ulcer standards (Quality Standard QS89/Preventing Pressure Ulcers in Adults). *Table 3* presents outcome of adherence to the aSSKINg framework and NICE Pressure Ulcer standards.

In total, 1140 PUs were observed, of which 1076 were assigned a category. Some patients had more than one observed PU. 689 PU (64.0%) of those allocated a category (i.e., 1,2,3,4, Unstageable (US) or Deep Tissue Injury (DTI)) were superficial, involving only the skin (categories 1 and 2). A further 218 (20.3%) were in an evolving category, i.e., US or DTI. Category frequencies are summarised in *Table 4*. Percentages are based on PUs allocated to a category.

The use of several risk assessment tools was documented, with the Waterlow tool being the most commonly used (5746 patients; 56.6%) with the Braden/Braden Q tools also in widespread use (2159 patients; 21.3%). Smaller levels of use of the PURPOSE T tool (958 patients; 9.4%) and PURAT tool (915 patients; 9.0%). Other tools were used in negligible frequencies. Risk tool use is summarised in *Figure 1*.

The NICE Quality Standard 89 (NICE 2015) states that risk assessment should be completed within six hours. In several previous audits, this has been recorded as a yes/no question; however, it was considered useful to determine the actual timeframe within which most risk assessment occurred. Most (74.8%) were completed within the NICE standard, with a further 18.7% being completed within 24 hours (i.e. 93.5% of all recorded risk assessments

Table 5. Times of completion of risk assessment (by risk assessment tool)							
Tool	**Time of completion of risk assessment (hours)**						
	Less than 2	**2–4**	**4–6**	**6–12**	**12–24**	**24-48**	**Over 48**
Braden	624	391	323	250	134	44	75
Braden Q	26	26	6	12	18	6	8
Glamorgan	2	1	22	1	1	22	0
Maternity	14	1	6	0	0	0	0
PURAT	143	30	188	46	26	1	3
PURPOSE T	322	70	241	44	15	8	13
Waterlow	1532	882	1210	474	501	199	272

completed within 24 hours). *Table 5* presents times of completion for risk assessment of PU development (Green assessment completed within six hours; amber between 6–24 hours and red over 24 hours).

An estimate of the mean time of completion associated with each tool was derived by considering the completion time for each patient to be the mid-point of each interval; with the time of completion in the "over 48 hours" group set to 48 hours. Under the estimates, the following mean times to completion (and associated standard deviations) were derived:

- Braden 7.20 hours (SD 10.7 hours)
- Braden Q 11.4 hours (SD 14.1 hours)
- Glamorgan 5.26 hours (SD 2.90 hours)
- Maternity 2.24 hours (SD 1.84 hours)
- PURAT 5.11 hours (SD 5.67 hours)
- PURPOSE T 4.65 hours (SD 7.52 hours)
- Waterlow 7.84 hours (SD 10.9 hours)

Of the three main risk assessment tools PURPOSE T had the "best" average completion time of 4.65 hours; comparing favourably with Waterlow (7.84 hours) and Braden (7.20 hours).

There were 7856 patients who received a skin assessment (77.4%) by the audit team. Of the 2288 patients (22.6%) who did not receive a skin assessment, numerous reasons were offered:

- Consent not obtained: 1119 cases (48.9% of those not receiving skin assessment)
- Patient off the ward: 643 cases (28.1% of those not receiving skin assessment)
- Patient too sick: 368 cases (16.1% of those not receiving skin assessment)
- Post-audit data entry: 158 cases (6.90% of those not receiving skin assessment).

There were 1136 PUs identified, with an additional 610 episodes of skin damage caused by moisture associated skin damage (MASD). All types of MASD were included in the audit but the codes only specified for incontinence-associated dermatitis (IAD) or non-IAD as previous work has identified that the most common type of MASD is IAD and also IAD has the closest link to PU occurrence the primary interest of the work. PU location, whether or not device-related and category (for cases of MASD) are summarised in *Table 6*.

The distribution of PU locations formed a similar pattern to that revealed by other published data (Clark et al, 2017), with the greatest proportions of PUs associated with the buttocks or sacrum (30.4% and 29.5% respectively; i.e. 59.9% in total); and followed by heel PUs (13.2%). About half of the recorded incidences of MASD were due to IAD while the occurrence of MASD is lower than that previously identified by Black in the US, it is similar to that identified by Clark et al (2017) in Wales. The proportion of device-related PUs, at 5.99%, was smaller than that observed in previous surveys (Black et al, 2010)

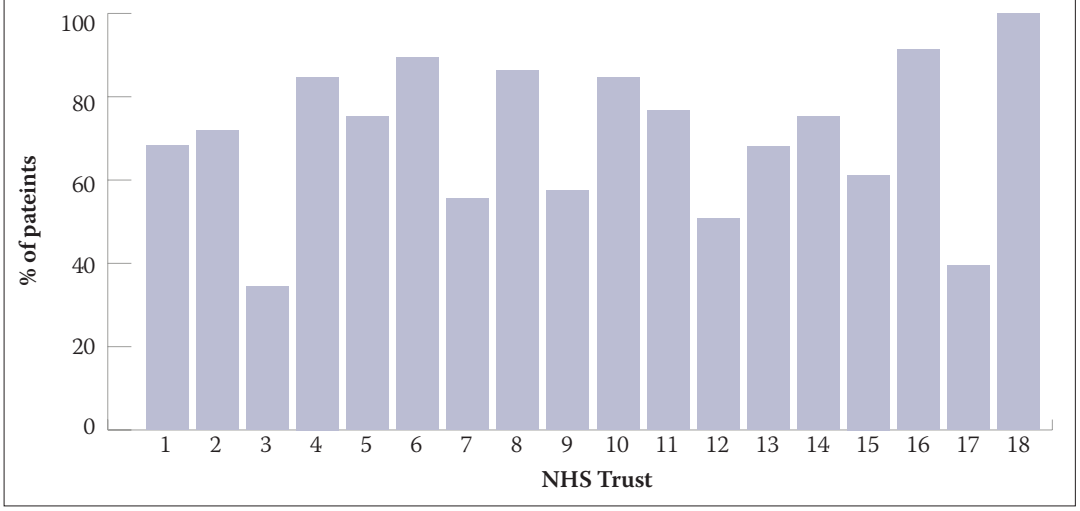
Repositioning information was available on all patients, 5216 patients (51.4%) had a planned repositioning regimen and 4928 patients (48.6%) did not have a planned repositioning regimen. Of the 5216 patients with a planned repositioning regimen, the risk status of 5127 could be determined by reference to a categorisation by a risk assessment tool, 4505 of these patients (87.9%) were deemed to be "at risk" and 622 (12.1%) were deemed to be "not at risk".

Of the 4928 patients without a planned repositioning regimen, the risk status of 4357 could be determined by reference to a categorisation by a risk assessment tool. Of these patients 2072 (47.6%)

Table 6. Summary of reported pressure ulcer characteristics

Variable	Frequency (valid %)
Location	
Ankle	39 (2.23%)
Buttocks	530 (30.4%)
Ear	27 (1.55%)
Elbow	31 (1.78%)
Genitals	28 (1.60%)
Heel	230 (13.2%)
Hip	29 (1.66%)
Sacrum	515 (29.5%)
Spine	36 (2.06%)
Toe	27 (1.55%)
Other	254 (14.5%)
Device-related (non-MASD only)	
Yes	68 (5.99%)
No	1068 (94.0%)
MASD category (MASD only)	
Incontinence-associated dermatitis	289 (47.4%)
Intertrigo	115 (18.9%)
Other/not recorded	206 (33.8%)

Figure 2. Number and proportion of patients with planned repositioning regimen (by Trust)



were deemed to be "at risk" and 2285 (52.4%) were deemed to be "not at risk".

Of the 5216 patients with a planned repositioning regimen, 47 (0.90%) had an hourly repositioning regimen, 2122 (40.7%) had a 2-hourly regimen, and 2301 (44.1%) had a 4-hourly regimen. The repositioning frequency of 591 patients (19.7%) was given as "other", with values ranging from 30 minutes to 24 hours; as well as large numbers of unknown, inconsistent or uncertain values.

Of the 5216 patients with a planned repositioning regimen, evidence of implementation of this regimen was available for 5004 patients (95.9%) and evidence for moving and handling equipment at the patient's bedside was available for 3278 patients (62.8%). Differences between Trusts in proportions of patients with a planned repositioning regimen were observed *(Figure 2)*.

There were 2732 patients (26.9%) who were reported to be incontinent, categorised as follows: urinary only 602, urinary but catheterised 675, faecal only 160, catheterised and faecally

incontinent 340, faecal catheter *in situ* 56, doubly incontinent 899 *(Figure 3)*.

Nutritional information was available for 9780 patients. Among valid patient data, Malnutrition Universal Screening Tool MUST (MUST a five step screening tool to identify adults, who are malnourished, at risk of malnutrition (undernutrition), or obese. It can be used by all health care professionals in a range of care settings scores were reported for 8694 patients (88.9%).

There were 4425 patients (43.6%) reported to have received information about PU prevention, including 3754 (37.0%) who received verbal information and 671 (6.61%) who were given a leaflet. No evidence for information receipt was reported in 4473 cases (44.1%); with the remainder (1246; 12.3%) judged to be not appropriate or left blank *(Figure 4)*.

DISCUSSION

This audit of 10,144 patients from 36 hospitals representing 18 NHS Trusts has revealed PU prevalence (in terms of the proportion of patients with 1 or more PUs, excluding MASD) to be 9.04% (95% CI 8.48% to 9.60%). This figure is similar to previous estimates from national UK-based audits of 8.9% (Clark et al., 2017) and 7.1% (Smith et al., 2016); the median prevalence (10.8%) obtained in a review of literature from across Europe (Moore et al. 2019) and a global review of pooled data (12.8%) in hospitalised adult patients (Li et al. 2020). The range of prevalences across institutions in the current study 3.90% to 27.7% was similar to ranges reported by the larger reviews of Li et al. (2020) and Moore et al. (2019b), who identified a range of 4.6% to 27.2%.

Over half of the current sample was elderly, with 55.2% of patients being over 70 years of age, and 33.5%

Figure 3. Categories of incontinence

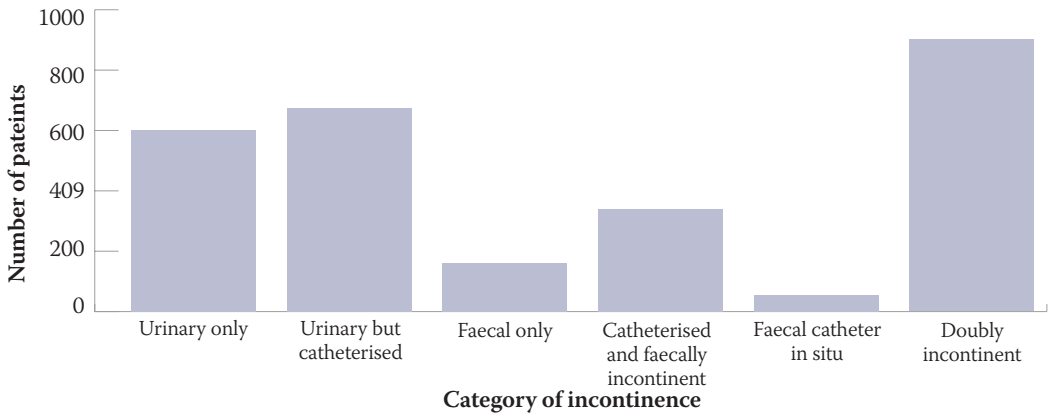


Figure 4. Types of information given to patients

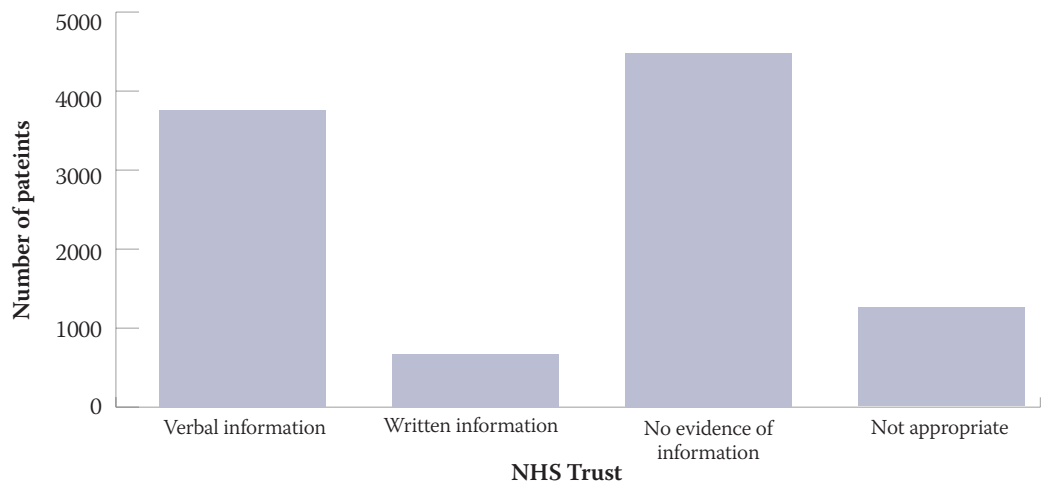


Table 7. Pressure ulcer (PU) incidence with and without equipment use		
Equipment use	**Frequency (Valid %)**	
	No PU observed	**1+ PU observed**
Mattress		
Dynamic/hybrid mattress	3612 (77.3%)	1061 (22.7%)
No dynamic/hybrid mattress	5045 (93.9%)	328 (6.1%)
Cushion		
Pressure-redistributing cushion	2064 (76.2%)	643 (23.8%)
No pressure-redistributing cushion	6593 (89.8%)	746 (10.2%)
Heel protection		
Heel protection	1338 (71.7%)	528 (28.3%)
No heel protection	7319 (89.5%)	861 (10.5%)

over 80 years of age, which is in line with previous studies that have identified advancing age as a predictor of PU development (Clark et al, 2017; Li et al, 2020).

The most common sites for PU occurrence were the sacrum and heels. This concurs with data from the systematic review by Li et al. (2020) who found the most affected body sites were the sacrum, heels, and hip. Findings regarding implementation of preventative actions vary considerably between organisations and even between sites within organisations. Identification of these areas is important to the individual organisations as it allows them to focus quality improvement efforts into the areas that may make a difference.

The audit measured the adherence of the key elements of the aSSKINg bundle across the trusts. A total of 7086 patients (69.8%) had a risk assessment completed within 6 hours. Gefen (2008) reported that PUs, particularly located over bony prominences are highly likely to occur between 1 and 6 hours following admission dependent on sustained loading. Further reinforcement is necessary to raise the importance of conducting these assessments early, alongside addressing reasons for delay in assessment within the hospital is necessary to improve patient outcomes.

Of the 8076 patients considered to be at risk, the majority (81%, n = 6576) had a care plan in place. However, only 5216 patients (51.3%) had a planned repositioning regimen in place. According to current guidelines, all patients at risk of developing a PU should be repositioned, unless contraindicated, in order to prevent tissue breakdown (European Pressure Ulcer Advisory Panel et al., 2019; NICE, 2014). Activities should be fully documented, recording all position changes, including sitting up for meals, and going to the toilet. Importantly, repositioning and keeping patients moving should be tailored to meet each individuals needs based on their assessment. The audit has importantly highlighted that further discussions and/or training for health care professionals, including both nurses and therapists, is required to ensure this fundamental aspect of care is improved.

A variety of risk assessment tools were in use, with Waterlow being the most common (used in 56.6% of cases), followed by Braden/Braden Q (21.3%) and PURPOSE T (9.44%). Standardising the approach for assessment of PU risk in clinical practice would be beneficial. Comparisons between these tools cannot be achieved due to heterogeneity between tools: each tool assesses for different risk factors and each assigns different weights to the factors. The most recent Cochrane review found one randomised controlled trial evaluating the efficacy of the risk assessment tool using the Braden scale (Moore and Cowman, 2008), finding no significant effect of the Braden score on PU incidence.

PU incidence is 2–3 times higher in patients using equipment than in patients not using equipment. Over-prescription of equipment is apparent, with patients being allocated higher specification equipment than their risk score identifies, with no clinical reason apparent. This decision around appropriateness of equipment was determined based on each organisation's local policy rather than an arbitrary allocation of equipment into pre-specified risk categories. This poses additional unnecessary costs and could potentially impact patient satisfaction (Jackson et al, 2017). Further

research is required to better understand nurses' decision-making and training to promote change in practice.

MUST Scores were completed for 88.9% of the reported patients. Less than half of the patients (43.6%) received verbal or written information, with individual Trust proportions ranging from 7.29% to 65.1%. Evidence for patients being given or understanding information about PU prevention was poor. The 'giving of information' has most recently been added to the SSKIN bundle of care for the prevention of PUs (NHSI, 2018). This was added to ensure that patients and/or caregivers are educated around PUs. It is important that patients or caregivers fully understand what is involved in preventing the occurrence of PUs to help take some ownership and can make informed decisions about their care plan. The audit has identified that this is an area in practice where healthcare providers need to spend more time delivering this fundamental education to patients and caregivers.

Strengths and limitations

There were key strengths and limitations of this audit that should be noted. The methodology used to conduct the audit was robust and in line with the recommendations developed by the EPUAP for recording PU prevalence (Vanderwee et al, 2007). There were two independent experienced nurses who performed the assessments of the skin to improve the accuracy of the number of patients with PUs and other measured outcomes. There was an inability to assess patients' risk to PU development, as a range of tools were implemented across the hospitals.

Audit and feedback are relatively easy to implement at a local level and can enhance adherence to preventive measures and reduce pressure ulcer prevalence (Righi et al, 2020). At larger scales, such as this audit, feedback and subsequent sustainable quality improvement can be more difficult. However, key themes have been identified and will be used to inform the National Stop the Pressure Programme work. More localised feedback for quality improvement work will be provided to each organisation, based on their individual results with support provided where required.

CONCLUSION

Bundles of care have been proposed as efficient ways of delivering consistent care to patients to reduce occurrence of complications such as PU. This audit clearly identifies that the aSSKINg bundle is being implemented in an inconsistent way in clinical practice resulting in increased levels of PU occurrence. By identifying which elements are least adhered to, organisations can focus quality improvement activities to improve this situation and reduce patient harms. WUK

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