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5 **Abstract**
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Dementia friendly wards are recent developments to improve care for patients with dementia in acute hospitals. This qualitative study used focus groups to understand the impact of dementia friendly ward environments on nurses experiences of caring for acutely unwell patients with dementia. Qualified nurses and healthcare assistants working in an acute NHS Trust in England discussed their perceptions and experiences of working in a dementia friendly ward environment. Four themes developed from the Thematic Analysis: 1) “It doesn’t look like a hospital”: A changed environment, 2) “More options to provide person-centred care”: No one size fits all, 3) “Before you could not see the patients”: A constant nurse presence and 4) “The ward remains the same”: Resistance to change. Recommendations and implementations for practice are discussed.

Keywords

Dementia, hospital environment, nursing, qualitative, focus groups

Introduction

An acute hospital stay can be confusing and frightening for a person with dementia, as well as impacting negatively on their physical, mental and cognitive abilities (Sampson et al. 2014; Boaden 2016; Dewing and Dijk 2014). People with dementia have reported their experience of hospital care as distressing because they were ignored by staff who failed to adequately explain what was happening (Codwell 2011). This is a very significant issue as a quarter of all hospital beds in the UK are occupied by a person with dementia (Thompson et al. 2011).

In the UK, the Department of Health published the National Dementia Strategy (Department of Health 2009a) alongside recommendations to improve dementia care in acute hospitals (Department of Health 2009b), both of which have now been superseded by the Prime Ministers Challenge on Dementia 2020 (Department of Health (2015). The Scottish Government (2010), Welsh

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2
3 Assembly Government (2011) and the Department of Health (2011) developed regional strategies to
4 support people with dementia, including recommendations for improvement of care in acute
5 hospitals. The policy focus on improving dementia services across health and social care has
6 continued through the Prime Minister's Challenge on Dementia 2012 and 2020 (Department of
7 Health, 2012, 2015), which emphasises an integrated approach but also the need to continue to
8 improve acute care.
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12 Initiatives to improve care for patients with dementia in hospital have targeted the workforce and
13 the patient. Strategies to develop the workforce include dementia awareness
14 training and education, provision of support through the development of both dementia champions
15 and clinical roles with a specific focus on dementia (Banks et al. 2014; Mayrhofer et al. 2015). Patient
16 initiatives identified patients with cognitive impairment through screening on admission, employed
17 application of symbols on patient notes and above bed spaces involving butterflies or forget-me
18 nots, provision of meaningful activities and person-centred care (Pendlebury et al. 2015; Brooke and
19 Herring 2016). These and other initiatives to improve care for patients with dementia have occurred
20 alongside changes to the environment in the NHS hospital where this study was based (refer to Box
21 1).
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32 Traditional hospital ward environments were not designed to promote independence or
33 support patients with perceptual and visuospatial difficulties and yet these are prominent symptoms
34 in the most common types of dementia (Karantzoulis and Galvin 2011). Therefore, negotiating
35 environments with poor lighting, signage, clutter and white walls, ceilings and floors may
36 be difficult for patients with dementia. For example, in a synthesis of the evidence Houghton
37 et al. (2016) reported that patients with dementia found it difficult to find their way around a
38 hospital ward due to the repetitive décor. The busy and noisy environment with a large number
39 of healthcare professionals caring for each patient is also problematic for, patients
40 with dementia, as they report difficulties in keeping-up with this fast-paced
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3 environment (Moyle et al. 2008). The impact of this negative environment for patients with
4
5 dementia is the likelihood of increased agitation, confusion and distress, a reduction in mobility and
6
7 social interactions and leading to a risk of further health complications (Waller and Masterson 2015).
8

9
10 Recently, the design of ward environments has begun to receive attention and a number of
11
12 guidelines have been produced (Fleming and Bowles 2004; Topo et al. 2012). The King's Fund project
13
14 'Enhancing the Healing Environments' (EHE) was a programme developed to support environment
15
16 changes to hospitals across 26 NHS Trusts. From this project five overarching design principles were
17
18 identified (The King's Fund 2013). Each of the design principles addressed outcomes that were
19
20 important for patients with dementia, with overall aims to support decision-making, reduce
21
22 agitation and distress, improve independence of activities of daily living, and increase socialisation
23
24 and safety (Waller and Masterson 2015). The design principles include space for meaning activities,
25
26 such as books, games and reminiscence activities but also provide outdoor spaces, handrails and
27
28 areas to walk with resting points. They ensure improved legibility of signage, and
29
30 supportive lighting, flooring, uncluttered areas and discreet security measures; improved
31
32 orientation and way-finding through clocks and calendars, inclusion of natural light, removal of
33
34 nurse stations to increase visibility of staff and also the use of colours and artwork to identify
35
36 bays and individual bed areas. Lastly, they ensure familiarity can be enabled through dining areas
37
38 utilizing traditional cutlery and crockery and containing personal items and photographs (Waller and
39
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42
43 Masterson 2015).
44

45 An evaluation of the King's Fund EHE Programme found a significant reduction in patient's agitation
46
47 and distress and a reduction of patient falls in corridors and lounges (The King's Fund 2013). Sprinks
48
49 reported similar results from the Taunton Somerset Foundation Trust, including a
50
51 reduction in falls and incidences of violence involving people with dementia following dementia
52
53 friendly environment changes in their hospitals.
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3 The focus of improving hospital environments for patients with dementia has been sustained
4
5 through a joint initiative between the NHS Institute for Innovation and Improvement and the
6
7 Dementia Action Alliance with the launch of the Dementia Friendly Hospital Charter (2014). The goal
8
9 of the Charter is for every hospital in England to be committed to becoming a dementia-friendly
10
11 hospital environment, with a pledge and plan of action such as: signage that includes pictures and
12
13 text, toilet doors being painted a single distinctive colour and toilet seats and hand rails in a colour
14
15 that contrasts with the walls and floor, pictures/objects or colours to help people find their way
16
17 around, and seating areas provided in wards and corridors. Further elements of environmental
18
19 changes recommended by the Royal College of Nursing (2013) include: appropriate lighting and floor
20
21 coverings, personalizing bed areas, adequate space and resources to support activity and
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23 stimulation.
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29 Policies from government bodies and third sectors all recognise
30
31 the importance of a dementia friendly environment to care for people with
32
33 dementia (Innes et al. 2016). The dementia friendly environment changes observed in some acute
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35 NHS Trusts have been driven forward by nurses but how these changes impact on the care nurses
36
37 provide for patients with dementia has not been reported (Sprinks 2012). The development of
38
39 specialist roles for healthcare assistants to support patients with dementia have been implemented
40
41 and evaluated, but not with specific reference to the impact of environment changes in the acute
42
43 setting (Brooke and Herring 2016). The aim of this study was to explore how dementia friendly ward
44
45 environments in an acute hospital impacted on the care nurses and health care assistants provided
46
47 for their patients with dementia.
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51 52 **Methods**

53 54 55 *Design* 56

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3 A qualitative methodological approach was used to gain an understanding of qualified nurses' and
4 healthcare assistants' perceptions of the impact of the dementia friendly ward environments on the
5 care they provide for patients.
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10 Qualitative data were collected via focus groups with nursing and healthcare staff. There were a
11 series of carefully planned group-based discussions, designed to elicit perceptions of the staff
12 providing direct care for patients (Krueger and Casey, 2009). Participants were recruited from a
13 purposive sample, where existing relationships and social context of
14 participants would support a deeper understanding of the topic (Githaiga 2014; Brown 2015). Focus
15 groups provide a natural environment for participants with a shared culture (Kitzinger 1994),
16 therefore staff were influencing and being influenced by each other (Hollander, 2004) much like they
17 would in the clinical setting. The focus groups were structured to allow a small number of staff to
18 share their perceptions and experiences of working in a dementia friendly environment, but were
19 also large enough to obtain a range of experiences (Krueger and Casey, 2009).
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30 Ethical approval was gained from the NHS Trust where data were collected. All participants were
31 provided with a participant information sheet and given time to ask questions. Written, informed
32 consent was provided by all participants prior to the commencement of a focus group. Anonymity
33 within the focus groups was not possible due to the nature of the focus group design but
34 confidentiality about the discussions outside of the group was assured, unless an aspect relating to
35 patient or staff safety was raised. During transcription, focus group members' names were not
36 recorded.
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47 *Setting*

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49 The study was completed across three wards within a District General Hospital (DGH) in England.
50 The core catchment population for this DGH is 500,000. An estimated 12 people with dementia out
51 of 100,000 of the DGH's catchment population are admitted to hospital at any one time. Extensive
52 dementia friendly environment changes had been undertaken on each ward. The environment
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3 changes were based on the recommendations of Dementia Friendly Hospital Charter (2014) and the
4
5 Royal College of Nursing (2013), refer to Box 2 for an overview.
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8 *Participants*

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11 Qualified nurses and healthcare assistants were recruited from one of three dementia friendly wards
12
13 through study flyers posted in staff rooms and the
14
15 introduction of the study and provision of participant information sheets during monthly staff
16
17 meetings.
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20 Participants were junior qualified nurses (n=17) and healthcare assistants (n=21).
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27 28 29 *Procedure*

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32 Focus groups were held in seminar rooms within the chosen hospital site
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34 during routinely allocated weekly teaching sessions. The first author (JB) facilitated all focus groups,
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36 which

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39 were held from September
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41 through October 2015. Ten focus groups were carried out in total, three with just healthcare
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43 assistants, two with just qualified nurses and five comprised healthcare assistants along with
44
45 qualified nurses (refer to Table 1). These variations occurred naturally and no attempt was made to
46
47 control for group membership.
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49 50 *Analysis*

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52
53 Focus group discussions were audio recorded, transcribed verbatim and analysed using an inductive
54
55 Thematic Analysis (Boyatzis 1998); Braun and Clarke 2006). Transcripts were read several times in
56
57 order to become familiar with the text, relevant extracts to the study aim were highlighted, and

1
2
3 coded (Rice and Ezzy 1999). These codes were developed into a number of themes. This initial
4
5 analysis was then reviewed with the second author, before being refined and organized into
6
7 overarching themes. Throughout, the analysis followed a reflexive and iterative process.
8

9 10 **Results**

11
12 Four themes developed from the narratives exploring the impact of the dementia friendly ward
13 environments on qualified nurses and healthcare assistants. These were: 1) "It doesn't look like a
14 hospital": A changed environment, 2) "More options to provide person-centred care": No one size
15 fits all, 3) "Before you could not see the patients": A constant nurse presence and 4) "The ward
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17 remains the same": Resistance to change.
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22 23 **"It doesn't look like a hospital": A changed environment**

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25 The impact of the dementia friendly environment changes was the development of wards that no
26 longer looked or felt like traditional hospital wards. A number of nurses viewed their dementia
27 friendly ward as no longer being cold and clinical; instead the bright colours depicted warmth and
28 happiness, providing the impression of a non-clinical environment and a 'homely atmosphere',
29 where patients could familiarise themselves with their bed space, which reminded them of home:
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32 I've never worked on another ward but I've obviously been on other wards and for me
33 personally and for patients its easier because there are lots of colours, a lot of pictures and stuff
34 they can familiarise themselves with because with other wards it's just quite white and clinical
35 and boring. (Focus group one, healthcare assistant)
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39 One participant felt that the outcome of the change resulted in an environment that was no longer
40 indicative of a clinical setting:
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44 Here it is quite warm and a nice atmosphere, even when I came in for the first time, I thought
45 'wow this is nice, it doesn't look like a hospital'. (Focus group six, healthcare assistant)
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3 Staff discussed the pictures displayed within the bays and along the ward corridors, which facilitated
4 and supported interactions with patients and relatives. Staff felt the pictures acted as a focal point
5 and the relaxed atmosphere created from the environment changes were seen as enabling new
6 ways of communicating. These conversations supported staff, patients and their families to get to
7 know and understand each other outside the provision of clinical information and a hospital
8 orientated environment:
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17 The pictures are very good. We had a patient before, when there was a picture with two young
18 girls in a field with a wooden gate, I think they were just sat there... and one of the patients was
19 looking and he looked and it jogged his brain and he remembered all of his grandchildren. I
20 thought that was fantastic and then he talked about them, it was really nice. (Focus group ten,
21 healthcareassistant)
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28 Importantly these interactions supported the commencement of collaborative working between
29 nurses and patients and their families:
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31
32 The pictures in the corridor they all (patients and relatives) stop to look, because we have one
33 old photograph and no one knows which street it is, so that one we all stop and try and figure
34 out where it is... (Focus group three, qualified nurse)
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40 The dementia friendly wards were viewed positively by staff, as a non-clinical environment
41 supported them to provide care and support to patients and their families in a relaxed and homely
42 ward that enhanced collaborative working.
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46 47 **“More options to provide person-centred care”: No one size fits all**

48
49 Staff described the impact of the environment changes as enabling them to provide care dependent
50 on a patient’s individual needs and being supportive of the delivery of person-centred
51 care. They reported a positive impact on patients’ behavioural and psychological symptoms of
52 dementia:
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3 It does help actually (the changes to the ward environment), I would say the patients are less
4 agitated than they were before... (Focus group three, qualified nurse)
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8 This member of staff also felt that the environment as it was now provided more choices to care for
9
10 people with dementia, which in turn allowed them to move away from traditional based care and
11
12 assess patients individually and support their psychosocial needs, as well as their health needs
13
14 during an acute admission:

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16 At least you have more options to use to calm them (patients) if they are agitated, because we
17
18 have the sensory machine, now at least we have options of things to use. (Focus group three,
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21
22 qualified nurse)

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24 Although the principles of person-centred care were the focus of care, some patients with dementia
25
26 experienced distress at the environment changes implemented on the wards and

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33 staff felt this needed to be recognised and acknowledged by managers:
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36 The environment changes impact on patients differently.. we had a patient with dementia and
37
38 an acute delirium, who was really scared of the picture opposite her...she kept asking 'who is
39
40 standing there, is that my dog?' She must have a pet at home.

41
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43 But generally, those patients with mild dementia who are waiting to go home, it distracts them
44
45 from doing other things, which can make them at risk of a fall. (Focus group two, healthcare
46
47 assistant)

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50 Therefore, the changes did not impact positively on all patients. One nurse reported a patient who
51
52 found the inclusion of pictures disturbing and increased their agitation:

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55 I had one patient a long time ago who was in the seaside bay and she was next to a boat in the
56
57 window and she started getting more confused and she said she thought she was on the boat

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3 and when is the next stop as she wanted to get off the boat. So, with that patient.. I don't think
4
5 the pictures were helpful. (Focus group seven, qualified nurse)
6
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8 An element that appeared to impact negatively on patients were the transfers applied to the
9
10 windows and staff discussed the need for patients to see the outside world and not to feel enclosed:
11

12 I have to say, they have some kind of pictures on the windows, like stained glass but not
13
14 (opaque transfers). I really hate them because the patients sometimes they want to look out
15
16 of the window but they can't and I actually despise those pictures. I think they should go.
17
18 (Focus group six, healthcare assistant)
19
20

21 I don't know why they put those transfers on the windows, personally I don't like them,
22
23 because patients don't know if it is day time or night time. (Focus group eight, qualified
24
25 nurse)
26
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28 The windows have transfers, massive mistake, patients look out of the windows and can't
29
30 make head nor tail of what is going on because the transfer covers the window. I don't think
31
32 that was a good idea at all and relatives say the same thing and they (transfers) make the
33
34 bays more enclosed and the patients get really confused. (Focus group nine, healthcare
35
36 assistant)
37
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41 Staff discussed the dementia friendly environment changes from a person-centred approach, and
42
43 the need to understand the personhood of each individual in their care. Therefore, pictures and
44
45 warm colours may support some patients, whilst causing distress to others. Although the transfers
46
47 on windows that obstructed the view of the outside world impacted negatively on all staff and
48
49 patients.
50

51
52 **"Before you could not see the patients": A constant nurse presence**

53 One element of the environment changes that emerged in all ten focus groups was the impact and
54
55 experience of the removal of the nursing station from each ward. All staff were surprised by this
56

1
2
3 change and how it challenged their routine of completing their documentation away from their
4
5 patients, positioned behind the nursing station. The environment changes along with ward
6
7 managers' support meant staff used small tables within each bay to complete their documentation.
8
9 The majority of staff expressed positive comments but only after they had become accustomed to
10
11 this new way of working. Early on they found the imposed changes difficult:

12
13 In the beginning we were not very happy, we have to be honest, we weren't. We were not
14
15 very happy, before the changes our nurse station was small and now it is even smaller!
16
17
18 (Focus group eight, qualified nurse)
19
20
21

22 Staff did adapt though and reported the benefits of completing documentation in the bays as it
23
24 brought them into closer contact with the patients and helped them to be more specific about the
25
26 care and intervention they have provided:

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28
29 I think it is quite nice to sit in a bay and do notes as it also prompts you who you are writing
30
31 about and what you need to write. Yes, it was difficult in the beginning but we have now got
32
33 used to it. (Focus group eight, qualified nurse)
34
35

36 The tables in the bays, I like them as well. So, when you are doing your assessments you are
37
38 right there and you can see the patient you are writing about. (Focus group five, qualified
39
40 nurse)
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43 Staff openly admitted that at certain times of the day, the nursing team would be found out of the
44
45 way, behind the nurses' station completing their documentation and acknowledged this wasn't good
46
47 for patient care. One member of staff acknowledged that the advantages of writing by the patients
48
49 meant they could observe them and even potentially prevent falls:

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51
52 If you came before the environment changes, all of us were writing our notes in the day
53
54 room, which I think is worse because you cannot see the patients and with these patients
55
56 some of them are really confused and it is easier if you are writing and you can watch them
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3 to prevent falls and to prevent injuries and so I think it is easier and much better if you are
4
5 writing near the patients and not altogether in a big room. (Focus group seven, qualified
6
7 nurse)

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9
10 However, not all the nurses were positive and found the removal of the nursing station detrimental
11
12 to their documentation.

13
14 It is not safe for us (completion of nursing documentation in the bay next to the patient). If
15
16 something happened and you do not document it, it is us who will get into trouble not them
17
18 (managers) but it is us who always get told off for not writing in the bay. They (managers)
19
20 must know, they are also nurses, they must know that the documentation is vital for us but...
21
22 (Focus group four, qualified nurse)

23
24
25 The majority of staff were supportive of the removal of the nursing station and the active
26
27 encouragement to complete their documentation in the bay with their patients. This approach
28
29 supported detailed documentation as well as remaining with their patients to ensure continuation of
30
31 care. Only a minority of staff felt this approach was unsafe as felt the patients distracted them from
32
33 completing their documentation accurately and fully.
34
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38 **“The ward remains the same”: Resistance to change.**

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40
41 There were, however, a number of ways that staff struggled with the changes. A minority of staff
42
43 had misconceptions that ward changes would actually ‘improve’ patient’s dementia, rather than be
44
45 a supportive approach for them to care for these patients. Other staff didn’t understand why some
46
47 of the environment changes had been implemented (such as the new ward colour) and therefore
48
49 could not understand how the changes would address some of the issues they thought were
50
51 challenging when caring for patients with dementia.
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2
3 I have worked here for eight years, before when the ward was one colour; honestly for
4 myself I don't think this is the process to improve dementia that is my opinion. (Focus group
5 one, healthcare assistant)
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8
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10 Even though they have spent all this money and changed the environments the problems of
11 caring for patients with dementia remain the same, the changes to the environment have
12 not changed that. (Focus group four, qualified nurse)
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17 These views led some staff to be resistant to embracing and interacting with the environment
18 changes, and they did not use the new techniques and resources available to them when caring for
19 patients with dementia, and therefore did not observe any benefit from these changes. A minority of
20 staff openly expressed that they lacked the understanding of what was the purpose of the dementia
21 friendly environment:
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24
25
26 Unless they explain to us what the purpose of these changes (environment) are, why they
27 are putting this green colour, blue... maybe we would try to understand but at the moment
28 speaking for myself I do not see the point. (Focus group four, healthcare assistant)
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36 More importantly, staff expressed that staff shortages meant that the environmental changes and
37 the provision of new techniques and resources were difficult to adopt:
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40
41 You just need to give time to them (patients with dementia) and unless we have enough
42 staff... let's be practical how can we? Sometimes you just end up frustrated. (Focus group
43 four, healthcare assistant)
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47
48 The dementia friendly ward environment changes were completed two years prior to this study, and
49 yet a small number of staff remained resistant in accepting this approach to dementia care.
50

51 Therefore, these staff could not or would not envisage the benefits the changed environments
52 provided in supporting patients care or the positive impact for patients and their relatives generally.
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3 **Discussion**
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5

6 The ward environment changes were received with mixed reactions by both qualified nurses and
7 healthcare assistants. Staff expressed the view that the environment was experienced as less clinical,
8 appeared warm and friendly, and supported interactions with both patients and their families. The
9 environment changes impacted on the care staff provided in two ways, first through providing them
10 with more options to care for people with dementia and secondly providing an environment where
11 they were closer to their patients throughout their working shift. However, a few staff were resistant
12 to change and thought the environment changes did not make a difference on the care they
13 provided. These staff felt the removal of the nursing station and the encouragement to complete
14 their documentation in the bay with their patients was unsafe practice. This resistance was shown
15 by a minority of staff as most felt completing their documentation with their patients was a positive
16 approach to both caring for their patients and for more accurate documentation.
17
18

19 Staff discussed being close to their patients throughout the shift and generally felt this was a positive
20 change and a benefit for patients. However, the presence of staff by may not be a factor for
21 improving dementia care, as the presence of nurses who engage with their patients has been
22 highlighted by patients with dementia as creating a feeling of safety and a safe environment
23 (Eduardsson et al. 2011). This element was not specifically discussed by nurses in the present study,
24 although staff reported being continuously present and responding quickly should a patient need
25 support or assistance, which they believed reduced the number of falls.
26
27

28 The dementia friendly changes to the environment supported the introduction of bay nursing, this is
29 where nurses remain in a bay to care only for those patients. This approach to nursing ensures each
30 bay of patients has a dedicated nurse and health care assistant, who remain in the bay throughout
31 their shift to support patients and to complete their documentation. Bay nursing has been
32 implemented at Addenbrooke's Hospital, England on a specialist ward for dementia and delirium
33 care, which included an element of staff engaging in activities outside of normal care with patients
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3 and their families (Bray et al. 2015). The impact of both bay nursing and encouragement in activities
4
5 were: reduction in falls from nine in one month to one in six months, no hospital-acquired pressure
6
7 ulcers and patients reported feeling safer and more involved in their care (Bray et al. 2015).

8
9 Although bay nursing had been incorporated in the present study, staff had not been encouraged to
10
11 engage in activities outside of normal care with patients and their families, therefore the reduction
12
13 in falls demonstrated by Bray et al. (2015) might not be generalizable. The importance of
14
15 environment changes and new ways of working for nurses, such as engaging in activities with
16
17 patients and their families appears to be essential to change dementia care in acute hospitals
18
19 (Haesler, Bauer and Nay 2006).
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23 Documentation of care was discussed by staff, in particular the change in completing nursing notes
24
25 whilst remaining with their patients. Detailed and comprehensive healthcare records have been
26
27 acknowledged as essential and assumed nurses require dedicated time to be able to complete their
28
29 documentation in real time (Wood 2003). Nursing documentation is a legal requirement and
30
31 outlined by the Nursing Midwifery Council as an essential element of communication for nurses
32
33 (NMC 2015). Poor record keeping by nurses has been reported as the fourth most common
34
35 allegation against nurses (NMC 2012), so it is understandably an important and emotive topic. The
36
37 majority of nurses in the current study felt that completing their nursing notes in the bay with their
38
39 patients supported the accuracy and detail of their documentation.
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43 Clissett et al. (2013) explored the application of person-centred care through a personhood
44
45 approach (Kitwood 1997) in acute hospitals and found only two of the five principles were identified:
46
47 attachment and inclusion. Nurses had not incorporated the personhood principles of: identity,
48
49 occupation and comfort. Good examples have been reported but healthcare professionals were not
50
51 grasping all opportunities to support people with dementia to sustain their personhood (Clissett et
52
53 al. 2013). The nurses in the current study discussed person-centred care and elements of
54
55 attachment and comfort. Attachment within person-centred care has been described as developing
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2
3 a connection in a trusting relationship with the person with dementia, and comfort has been
4
5 described as closeness through touch and being physically present (Brooker 2007).
6
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8 The current study explored the impact of environment changes on the care nurses and healthcare
9
10 assistants provided, whereas Clissett et al. (2013) explored patients with cognitive impairment and
11
12 their relatives' experience of an acute hospital stay. Despite these different approaches both studies
13
14 identified the development of attachment between staff and patients, demonstrating an
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16
17 understanding and the commencement of person-centred care. In contrast with the findings of
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19 Clissett et al. (2013) nurses and healthcare assistants in the current study did use opportunities
20
21 provided by the environment changes to engage with patients with dementia and their relatives. The
22
23 wall pictures within each ward provided a focus and topic for discussion for patients, relatives and
24
25 staff to get to know each other informally, supporting the development of a connection and a
26
27 trusting relationship.
28

29
30 Staff in the current study identified the negative impact of the opaque window transfers on patients,
31
32 as they were able to see out of the windows. Natural daylight has been identified as important for
33
34
35 the health and well-being of patients in a number of hospital settings, including oncology and
36
37 intensive care units (Browall et al. 2013; Trochelman et al. 2012). The design of dementia friendly
38
39 wards needs to encompass evidence from other care environments, and involve people with
40
41 dementia and their families to develop recommendations, especially with regard to opaque window
42
43 transfers.
44

45
46 A large amount of research has concentrated on the impact of care environments, which have been
47
48 defined to include a number of variables including: nurse recruitment/retention, job satisfaction,
49
50 nurse safety and patient satisfaction (Aiken et al. 2008; Aiken et al. 2013; van Bogaert et al. 2014;
51
52 Djukic et al. 2013). The most widely applied scale used to measure impact is the Nursing Work Index
53
54 (Kramer and Hafner 1989) and the revised version (Aiken and Patrician 2000), which has been
55
56 validated across different countries and cultures (Warshawsky and Havens 2012). The Nursing Work
57

1
2
3 Index does recognise the importance of the quality of nurse practice environment, but is not
4
5 specifically related to physical environment or changes to the physical environment that support the
6
7 care and independence of patients with dementia, which may in turn support nurses to provide
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9 person-centred care and impact on care environments. Currently, there are no scales which
10
11 specifically evaluate the impact of the physical environment and support and care of patients in
12
13 acute hospital settings.
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17
18 Lastly, the minority of staff who were reluctant to engage with the environment changes and adapt
19
20 to new ways of supporting people with dementia demonstrates that any environment that is well
21
22 designed to be dementia friendly can be undermined by bad organization and poor staff knowledge
23
24 (Andrews 2013). The hospital in the current study was addressing staff training needs through tier 1
25
26 (two hour session on dementia awareness) and tier 2 dementia training through simulation (four
27
28 hour session observing and interacting with actors in different scenarios), with the commitment of
29
30 matrons, managers and board members. The staff who were resistant to engage with the
31
32 environment changes felt that these changes had been imposed on them, rather than working
33
34 collaboratively to discuss changes planned (Davis et al 2009). The hierarchical structures and
35
36 management of the acute hospital includes a focus on measurement of outcomes and a reduction in
37
38 spend, which were seen negatively by these staff and felt to be the reasons for changes to the
39
40 environments. This is supported in previous research, as Gifford et al. (2002) found that the culture
41
42 and commitment of an organisation could influence both positively and negatively job satisfaction,
43
44 empowerment and involvement of nurses. An important element in management of change within
45
46 this setting is the incorporation of a nurse leader who would have been able to communicate and
47
48 form relationships with staff and impact on their expectations of change. The active involvement of
49
50 nurses might have impacted on their commitment to change and a reduction in resistance
51
52
53 (Portoghese et al. 2012).
54
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56

Implications and recommendations for practice

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3 Acute hospital environments need to be adapted to support people with dementia, their families
4 and nurses. Some aspects of the environment can be adapted relatively easily and are inexpensive,
5 such as signage, de-cluttering of medical equipment and pictures to support personalised bed
6 spaces. An important aspect is the provision of facilities to support appropriate care, such as
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12 creating a space for social dining and activities. Bay nursing to support nurses to remain as a
13
14 continued presence with patients is recommended, with or without the removal of the main nursing
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16 station, but with the encouragement, training and education to support and engage with their
17
18 patients beyond the implementation of care.
19

20 *Limitations*

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22
23
24 One limitation of this study is that it was not possible to have a cohort of staff who had worked on
25
26 the Older Person Wards before and after the environment changes, due to a high turnover of staff
27
28 and the movement of specialities around different wards. However, the participants of this research
29
30 were aware of the environment changes and the majority had worked on other traditionally
31
32 designed wards. This study focused on gaining an understanding of the impact of environment
33
34 changes on the care and support nurses provide to patients, and as such did not include the voices
35
36 of patients.
37
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39

40 **Conclusion**

41
42 Dementia friendly wards are an important and impactful way to improve care and the lived
43
44 experience of people with dementia in the acute hospital setting, reducing confusion and creating a
45
46 supportive space. Implementation of dementia friendly ward environments leads to increased
47
48 contact with patients, and increased person centred care and possibly a reduction in harm. Provision
49
50 of change management strategies in future implementations' may improve staff uptake.
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3 Box 1: Dementia initiatives implemented alongside dementia friendly ward environments
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- Alzheimer's Society representatives based in in the hospital once a month to provide support and advice to patients and their families regarding dementia
 - 'Information about me' booklet, which is similar to the Alzheimer's Society 'This is me' booklet but contains questions regarding information relevant to being an inpatient
 - Forget-me not signage to identify patients with dementia
 - Use of twiddlemuffs
 - Reminiscence sessions, including museum object handling and singing
 - Development and implementation of the Activities Care Crew
 - Tier 2 dementia simulation training
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Box 2: Dementia friendly ward environments

- themed bays with names and colours, for example Seaside bay is yellow, with the name over the entrance to the bay and pictures relevant to the seaside above each patients bed area
- flooring throughout each ward has been replaced with a matt wooden effect
- an activity room per ward, each with a different design, from a cinema to a newspaper room with local and national newspapers covering one wall and examples to browse
- designated area for social dining
- clocks and dates clearly visible in all areas
- clear signage
- distinct coloured doors for toilets and toilet seats, clinical room doors the same colour as the corridor
- large pictures along the corridors from the local area in the 1950s
- removal of each nursing station and the space converted to a social area with comfortable chairs and tables
- a sensory machine was purchased for each ward.

Table 1: Structure of focus groups

Focus Group	Participants	Roles
1	4	Healthcare assistant (x3) Apprentice healthcare assistant (x1)
2	4	Staff nurse (x2) Healthcare assistant (x2)
3	3	Staff nurse (x2) Healthcare assistant (x1)
4	3	Staff nurse (x2) Healthcare assistant (x1)
5	4	Staff nurse (x3) Healthcare assistant (x1)
6	5	Healthcare assistants (x5)
7	2	Staff nurse (x2)
8	3	Staff nurse (x3)
9	5	Healthcare assistant (x5)
10	5	Staff nurse (x3) Health assistant (x2)

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