Retrospective process evaluation of the implementation of the Pilgrims Hospices delirium toolkit in three inpatient settings in east Kent, England.

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February 2025

Funded by the MAPI Research Trust

Acknowledgements

With special thanks to all those involved in supporting the implementation of the delirium toolkit within Pilgrims Hospices and the staff who participated in the survey and interviews as part of the evaluation.

We also thank the family of Catherine Pouget and the MAPI Research Trust for funding this evaluation through the Catherine Pouget Award.

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Summary

Delirium is a common condition in palliative care which is often distressing for patients and families and can result in a high care burden for staff. Despite this, delirium is often under-recognised and poorly managed. Pilgrims Hospices developed a delirium toolkit to support the prevention, detection and management of delirium among patients in their three hospice inpatient units in east Kent, which started to be implemented in 2021.

The Delirium Toolkit consisted of a ‘Step-by-Step’ checklist (accessible in electronic patient record; a patient information leaflet; non-pharmacological checklist; the 4AT tool (a validated screening tool for delirium) and a “Getting to know you” form. This toolkit was evaluated through a retrospective evaluation. It specifically want to assess how well the toolkit worked in practice and whether it had had led to improvements in detection and management of delirium, and therefore patient care.

Phase 1: A staff survey was developed using the ‘normalisation process theory’ approach to test how well embedded the toolkit was in practice. 56 respondents completed the survey (a response rate of 27%). The results showed that the embedding of the toolkit is not consistent across the organisation, with some staff feeling very familiar and confident in its use, but not others. This did vary by professional group in some respects as certain parts of the toolkit were more relevant for use mostly by certain members of the multi-disciplinary team e.g. the non-pharmacological checklist by occupational therapists and the 4AT assessment by doctors and advanced clinical practitioners. Staff turn over was also seen as a barrier to implementation and embedding the toolkit into practice.

Despite this, support was high for the toolkit, but further training needs were identified to help to embed it in practice further. Only a third of respondents knew who was responsible for every step of the toolkit and another third felt that there was sufficient training, but those who has completed the training said it did help them to understand delirium. Despite this staff were less confident in identifying hypo-delirium (where patients may be more withdrawn) than they were hyper-delirium (where a patient may be more agitated or confused).

Phase 2: An analysis of patient record data was undertaken to understand how the different elements of the toolkit were being used in practice and whether this had any impact on the rate of delirium before and after the implementation of the toolkit. 134 patient records were reviewed in the period before implementation and 265 records were reviewed after implementation. The data review showed that the presence of delirium among patients in the inpatient unit at the hospice decreased following the introduction of the delirium toolkit which is a positive impact on patient care and on preventing delirium. 87% had delirium before the introduction of the toolkit compared to 74% after. For these patients the mean number of days they had delirium was 4.22 before and 3.92 after (although this was not statistically significant).

Phase 3: Interviews with four members of staff were undertaken to gain a more in depth understanding of how the toolkit had worked, in terms of staff knowledge and practice. The participants were positive about the contribution of all elements of the toolkit and saw that it was a beneficial process that should continue. However, similar to the survey and data review findings, it was acknowledged that it was not utilised consistently among all staff due to staff turnover, lack of knowledge and confidence. Again further training was suggested and has started to help overcome these barriers.

In conclusion the delirium toolkit offers a complete package of tools and a process that is recommended for continued use within the Pilgrims Hospices inpatient units to support with the

prevention, detect and management of delirium. Implementation of a similar approach is recommended in other hospice settings.

Despite this, this evaluation indicates that there is still continued work to be done around ensuring the use and understanding of the toolkit can be supported to be used as intended by as many staff as possible. This is already happening through further training and awareness raising activities, with the aim that new staff receive the required information and other staff are given the opportunity to refresh their knowledge. Having at least one dedicated staff member involved to support this process was seen as beneficial.

Contents:

1. Introduction

Delirium is a common condition in palliative care (13-42% prevalence in hospice inpatients), is often distressing for patients and families and can result in a high care burden for staff. Despite this, delirium is often under-recognised and poorly managed. National guidance and validated tools are available but more tailored approaches in palliative care were needed. Pilgrims Hospices developed a delirium toolkit to support the prevention, detection and management of delirium among patients in their three hospice inpatient units in east Kent. The delirium toolkit was developed by a multidisciplinary Delirium Working Group in 2019 at the hospice, in response to their own local delirium audit, showing areas requiring improvement within delirium care. The Delirium Toolkit consisted of:

1. a 'Step-by-Step' checklist (accessible in electronic patient records)
2. a patient information leaflet
3. non-pharmacological checklist
4. the 4AT tool (a validated screening tool for delirium)
5. A "Getting to know you" form

This project was evaluated through a retrospective evaluation to answer the question: "What are the effects of the delirium toolkit on patient care in a palliative care in-patient unit setting"? It consists of three parts: 1. A staff survey, 2. Analysis of patient record data, 3. Semi-structured interviews with staff, conducted in Pilgrims Hospices in east Kent.

2. Background

Retaining clear cognition at the end of life is very important for patients (Bush 2020). Delirium, when cognition becomes impaired, is a common condition in palliative care, particularly in the last weeks or days of life. It affects between 13-42% of hospice inpatients (Hosie et al 2013, Watt et al 2019) and 80% of patients with cancer in last 2 weeks of life. Despite this commonality:

- Causes are multi-factorial. 1/3-1/2 of all delirium cases are potentially reversible.
- it is often distressing for patients and families, challenging for staff (especially out of hours).
- Delirious hospice inpatients are more likely to report worsening symptoms or no improvement (de la Cruz et al 2017)
- Pharmacological management in this field is contentious (Hosker et al 2016), highlighting the importance of non-pharmacological approaches (NICE 2019). A more recent systematic review suggests that non-pharmacological methods are effective in the prevention of delirium (Chan et al 2024).
- Best practice includes general supportive measures, excluding reversible causes, assessing capacity and only using medication for marked distress/risk (NICE 2019, Scottish Delirium Association [2019], Royal College of Psychiatry [2019])
- Most patients want to retain clear cognition at the end of life (Bush et al 2017, Hosker et al 2016)
- For families and health care professionals, clear communication, education and emotional support are vital in assisting decision-making and direct treatment (Bush et al 2017).
- Staff can be medicolegally vulnerable in using pharmacological treatment without full assessment +- use on non-pharmacological measures.
- Often under-recognised and poorly managed.

- Due to limited understanding of delirium among palliative care nurses and other clinicians the focus has been on symptom management, rather than prevention, early identification and modification of possible causes (Featherstone et al 2021).

A Delirium audit by the Royal Trinity Hospice Delirium Audit highlighted the importance of capacity and a multi-disciplinary team (MDT) approach. The Introduction of an intradepartmental guideline improved: use of screening and baseline cognitive assessment (0 to 11%); risk factor consideration (67 to 81%); MDT involvement (53 to 89%); documentation of capacity assessment (40 to 67%) (Osborne et al 2020). Initiatives introduced by hospice services, such as Douglas Macmillan in Staffordshire, shows evidence of improved practice in monitoring and managing patients with delirium (Matthews et al 2019). They implemented a validated screening tool for delirium (4AT), showing the 4AT tool is also suitable for use with palliative care patients. They used 'lunch and learn sessions' to implement the tool, new pre-printed prescription charts with adjusted delirium doses, delirium leaflet and guidelines; and a delirium assessment tool in admission process. Their delirium guidelines were a useful resource to inform clinicians and the leaflet was a summary of delirium management that patients and families can refer to. More recently the 4AT has been further validated for use as a delirium detection tool in hospice inpatient settings by Arnold et al (2024) and embedding the 4AT with standard clinical assessment is recommended.

In 2019, Pilgrims Hospices set up a multidisciplinary Delirium Working Group in response to their own local audit, showing areas requiring improvement within delirium care. The team met monthly and comprised of an advanced nurse practitioner, two occupational therapists, a social worker and doctor.

The main aims of the group were to improve inpatient delirium care, focussed on supportive and non-pharmacological measures: promoting medication use only for marked distress and risk to self/others; consistently assessing for reversible causes; communicating with patients and carers specifically about the condition; improving assessment and documentation of cognition and capacity; changing culture in order to engage the whole clinical team in recognising and collectively managing delirium.

The group developed a Delirium Toolkit (Box 1), consisting of a 'Step-by-Step' checklist, updated in 2023 (appendix 1); patient information leaflet, non-pharmacological checklist (led by occupational therapy), 'This is Me' document – now the 'Getting to Know You' form (HCA-led), and the 4AT tool. The toolkit was implemented through an Awareness Week and enhanced Education Program for each professional group. A new induction/refresher e-learning module was developed (clinical/non-clinical versions). Delirium Champions were recruited and 'Delirium' became a component of the hospice 'Transfer of Care Form'.

Box 1: Delirium Toolkit

Pilgrims Hospices Delirium Toolkit, first developed by a hospice working group in 2019, included:

1. A ‘Step-by-Step’ checklist
    - This was in flowchart form (Appendix 1) and accessible on the electronic patient record.
    - This highlighted the different information and assessments to be collected through the appropriate forms and reporting mechanisms in relation to the prevention, detection and management of delirium.

2. A patient information leaflet
    - This resource was developed as a way to help communicate with patients and families about delirium in an accessible way.

3. Non-pharmacological checklist
    - This form was developed by the hospice Occupational Therapists and was based on the NICE clinical guidance 103.
    - It lists different non-pharmacological approaches to consider to help orientate the patient and a personalised action plan section to consider activities, interaction, reminiscence.

4. The 4AT tool
    - a validated screening tool for delirium
    - It assesses alertness, the abbreviated Mental Test 4 (AMT-4 - to assess mental impairment), attention and acute change or fluctuation in a patient’s mental function.

5. The “Getting to know you” form
    - This form was developed, based on the ‘This is me’ form developed by the Alzheimer’s Society: https://www.alzheimers.org.uk/get-support/publications-factsheets/this-is-me
    - It is used to help understand who the person is, which can help deliver care that is tailored to patient needs, particularly for a person who can't easily share information about themselves.
    - Initially it was completed just for patients with delirium but it is now completed for every patient on admission to the inpatient unit.

3. Aims and Objectives of the Evaluation

This evaluation assessed how well the implementation of toolkit has enabled improvement in the recognition and management of patients with delirium in hospice inpatient units at Pilgrims Hospices, to improve practice and patient care in relation to delirium.

The objectives were to assess whether:
1.The implementation of a delirium toolkit enabled healthcare staff on hospice inpatient units to be able to (or be more confident to) identify patients with delirium.
2.The implementation of a delirium toolkit enabled healthcare staff on hospice inpatient units to be more confident/able to manage their care.
3. The implementation of the delirium toolkit improved care outcomes for the patients e.g. modification of potential causes, increase in non-pharmacological interventions, decrease in drug use.

The Hospice Research Facilitation and Governance Forum provided project governance, ethical approval and oversight.

4. Staff Survey

4.1 Survey method

The staff survey was developed using the NOMAD survey. This validated tool uses the Normalisation Process Theory approach to see how well a health care intervention that has been implemented is embedded into practice (Finch et al 2018). We also added questions on the familiarity of the individual steps of the toolkit (see delirium toolkit flowchart – Appendix 1), that were based on a similar design to the NOMAD questions for consistency. Specific questions were also asked on the delirium toolkit training delivered, staff understanding of delirium, and to understand what words they would associate with delirium. The delirium words would then help aid with the review of patient data, using these terms to search for patients who may have been delirious but alternative terms were used to describe their symptoms associated with delirium.

It was estimated that 210 staff were currently working on the inpatient units across our three hospice sites when they were invited to complete the survey in early June 2023. They were invited to complete the survey via email and informed about the survey at meetings. It was decided that the survey should be available to complete on paper as it was felt this would help yield a better response from staff. Hardcopies of the survey were available to complete in each ward office and their anonymous responses could be posted into a dedicated 'post box' in the office or sent directly back to the hospice research office. An online version of the survey was also requested by some staff to complete which was set up on Qualtrics and the link sent out to staff by email as an alternative.

The survey remained open for a month (a reminder was also sent out). Data entry was required for the paper copies of the questionnaires, and data analysis of the survey data was carried out using SPSS software. This included descriptive statistics and tests to see if their was any significant difference between sub-groups of participants to the question answers (i.e. whether site of work and job category made any difference). As the NOMAD survey questions were mainly Likert scales the medians of these answers were tested for these sub groups using the Independent Samples Median Test. It is flagged in the results section when there is a significant difference. For additional questions on knowledge, which were categorical answers of yes/somewhat/ no, a chi square was used to test for an statistically significant difference between groups. Results for all of the survey questions (medians or percentages) by site and job category are available in Appendix 2

56 respondents completed the survey, giving an approximate response rate of 27% (approximate as the survey was sent to all staff employed in an clinical/patient facing role at the times the survey was emailed). Two of the respondents were then omitted from the analysis as only their demographic data was recorded. This meant that data were analysed for 54 respondents. The analysis also excludes missing answers (where specific questions were not answered). 76% (n:41) of returned questionnaires were completed on paper and 24% (n:13) were completed online.

4.2 Findings from the staff survey

4.2.1 Staff characteristics:

As expected the vast majority of staff considered their main role in relation to the delirium toolkit was the delivery of it on the ground as opposed to the management of it (90%). Of the three hospice sites, just over half of the respondents were from the Canterbury site (51.9%). This is the site where the clinical lead for the delirium toolkit is based. There is an even split between four professional group categories that responded: medical, nursing, Health care assistants (HCAs) and allied health professionals (AHP)/ other. Two thirds of the respondents had worked in the hospice for less than 6 years, 20% for less than one year and 22% for over 10 years. 78% of respondents had completed the online delirium training devised as part of the delirium toolkit programme (Table 1).

Table 1:Survey respondent characteristics:

Main role in relation to delirium toolkit (n:50)	
Managing or overseeing	5 (10.0%)
Delivering	45 (90.0%)
Site of work (n: 52)	
Canterbury	27 (51.9%)
Ashford	14 (26.9%)
Thanet	11 (21.2%)
Professional job category (n: 51)	
Medical	12 (23.5%)
Nursing	14 (27.5%)
Health Care Assistant	11 (21.6%)
Allied Health Professional & Other	14 (27.5%)
Years worked for the hospice (n:54)	
Less than one year	11 (20.4%)
1-2 years	12 (22.2%)
3-5 years	12 (22.2%)
6-10 years	7 (13.0%)
Over 10 years	12 (22.2%)
Completed the online delirium training (n:51)	
Yes	40 (78.4%)
Somewhat	3 (5.9%)
No	8 (15.7%)

4.2.2 The NOMAD survey questions:

The survey starts with three general questions about the Delirium Toolkit intervention. The responses to these questions suggest that the toolkit still felt quite new to many staff, with 60% of respondents answering in the lower half of the scale of 0 (not at all) to 10 (completely) to the question on how familiar they felt the intervention was. Similarly, it was variable as to whether staff felt that the Delirium Toolkit was part of their normal work, but with most responding on the lower half of the scale.

However, it was positive that two thirds of staff responded on the higher end of the scale, feeling that it will become a normal part of their work in the future. Clearly there were some staff in the organisation who were very familiar with the toolkit but further work is required to embed it into practice for the majority (Table 2).

Table 2: General questions about the Delirium Toolkit:

	Not at all	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Completely**
1. When you use the delirium Toolkit how familiar does it feel? (n:52)	4 8%	7 14%	5 10%	5 10%	4 8%	6 12%	3 6%	7 14%	7 14%	1 2%	3 6%
2. Do you feel the Delirium Toolkit is currently a normal part of your work? (n:51)	3 6%	5 10%	3 6%	9 18%	4 8%	10 20%	2 4%	6 12%	2 4%	2 4%	5 10%
3. Do you feel the Delirium Toolkit will become a normal part of your work? (n: 53)	1 2%	1 2%	1 2%	3 6%	1 2%	6 11%	7 13%	12 23%	10 19%	3 6%	8 15%

The bulk of questions in the NOMAD survey ask in more detail about the intervention and how embedded it is in practice, based on Normalisation Process Theory (NPT). NPT has four main constructs in which the questions align:

1. Coherence (does the intervention make sense to staff in their work/practice?).
2. Cognitive participation (are staff accepting of the intervention as part of their work practice i.e. does it have their buy-in?).
3. Collective action (how well is the intervention integrated in the organisations working practices to enable staff to do the work expected?).
4. Reflexive Monitoring (is appraisal work done to assess and understand the effects of the intervention?).

For each question respondents were asked how much they agree with each statement on a 5 point Likert scale (strongly agree to strongly disagree). Due to the number of responses these were recoded to a 3 point scale (agree/neutral/disagree). Respondent were also given the option to say a question was not relevant to them. i.e. not relevant to role, not relevant at this stage or not relevant to the intervention. Very few selected these options and they were excluded from the analysis as well as those who did not answer a question. Those selecting 'not relevant' options on a number of occasions were a nurse who has worked for the organisation for less than one year and often responded that the toolkit wasn't relevant to her or him at this stage. The other was a HCA with 5+ years working in the organisation who often responded that it wasn't relevant to their role.

Coherence (sense-making) of the toolkit:

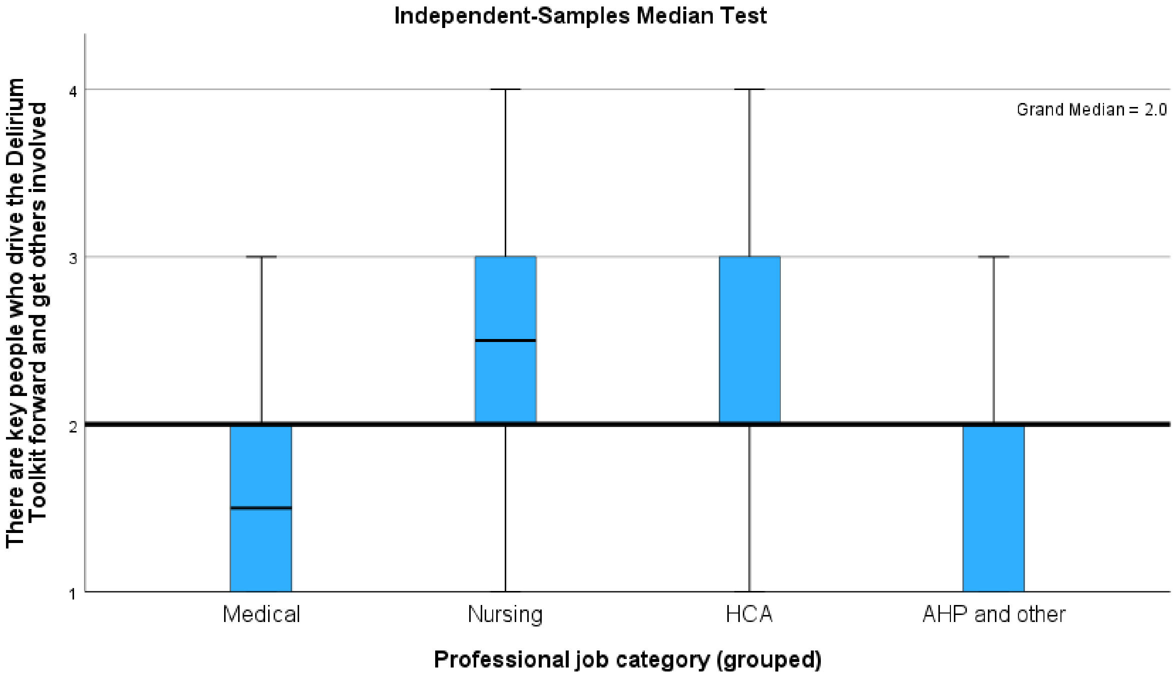
For the coherence (sense-making) construct results were mainly positive, particularly relating to understanding from the respondents at an individual level of what the Delirium Toolkit was looking to achieve and how it impacted on their own work. 83% could see the potential value of the toolkit, 75% understood how the toolkit affects their work and 57.4% could see how the toolkit differed from usual ways of working. Sense-making was less clear at the organisational level, with half of the respondents feeling there is a shared understanding among staff of the purpose of the toolkit (Table 3).

This indicates that embedding of the toolkit is not consistent across the organisation. Further analysis looked at this question by hospice site to see if this accounts for the difference, but there was no statistically significant difference between sites. However, numbers were small in each subgroup which may have affected the result so we cannot rule out site differences (as it was known that the toolkit was implemented differently in some sites than others. e.g. with Thanet not having a delirium champion and the delirium toolkit lead based at Canterbury). Similarly, despite the result, due to the small numbers we cannot rule out the toolkit being embedded in some staff groups more than others. Due to the multi-disciplinary nature of the organisation certain staff groups may carry out some parts of the toolkit and not others. It is also helpful to note in the interpretation of this question that the inpatient units in which the toolkit has been implemented is only part of the work of the organisation. Work in the community forms a larger part of care provided by the hospices and the toolkit hasn't been implemented in these settings yet.

Cognitive participation (buy-in) of the toolkit:

For the cognitive participation (buy-in) construct results were positive. Most notably this was for questions relating to the future role of the toolkit for staff compared to the current situation. 91.8% agreed with the statement 'I am open to working with colleagues in new ways to use the Delirium Toolkit' and 85.7% agreed with the statement 'I will continue to support the Delirium Toolkit'. Further analysis looked at this question by hospice site to see if this accounts for the difference, but there was no statistically significant difference between sites. Two thirds of respondents agreed that there are key people who drive the Delirium Toolkit forward and believed that participating in the delirium toolkit is a legitimate part of their role (73.5% and 77.1% respectively) (Table 3). There was a statistically significant difference between job role to this question, with medical staff and AHPs/other more likely to agree than nurses and HCAs that there were key people who drive the delirium toolkit (X^2 *(3,46)=7.894,p=.048)* but results were still on the positive end of the scale for nurses/HCAs. The numbers within the subgroups for some categories were small and so the results have to be viewed with a degree of caution (Figure 1).

Figure 1: Medians of the question statement: Key people drive the delirium toolkit forward" by staff job category (score 1 = strongly agree – 5 = strongly disagree)



Collective action ('doing the work') of the toolkit:

Responses were mixed in relation to the 'collective action' construct, the 'doing' of the work. The positive aspects were staff feeling they could easily integrate the toolkit into their existing work (73.9%), that the toolkit doesn't disrupt working relationships (68.1%) and management adequately support the use of the toolkit (59.6%). A negative aspect was that only a third (33.1%) felt there was sufficient training available to support the Delirium Toolkit. There were no statistically significant difference between staff groups or by site to help explain these views, and so a need to further training was generally felt to be needed across staffing groups and sites. The section below on 'Delirium training and outcomes' looks further at the difference completing the training made to staff understanding of delirium. Training gaps/unmet needs is explored further in the in depth interviews with staff.

Responses were more neutral with regards to the remaining questions relating to collective action, with half or nearly half of respondents having confidence in other people's ability to use the toolkit (50%), agreeing there are sufficient resources available to support the Toolkit (45.8%), agreeing work is assigned to those with appropriate skills (44.7%) (Table 3). There was however a statistically significant difference between staff groups with regard to the statement that work is assigned to those with appropriate skills. Medical staff were more likely to agree with this statement with a median score of 2, compared to other staff groups, who had a median of 3 (X^2 *(3,44)=8.305,p=.040)*. As with other results this has to be interpreted with caution due to small numbers.

Reflexive monitoring (appraisal) of the toolkit:

For the reflexive monitoring (appraisal) of the toolkit results were mainly positive. The vast majority agreed that feedback about the Delirium Toolkit can be used to improve it in the future (93.8%), which we hope this evaluation will achieve. Other positive aspects of reflexive monitoring were, they valued the effects the toolkit has had on their work (60.9%), they can modify how they work with the toolkit (57.8%), staff agreeing that the toolkit is worthwhile (55.3%). There were very few staff who disagreed with these statements, as for many of the statements a neutral response was more common if they did not give a positive response (Table 3). There were no statistically significant difference between staff groups or sites for the reflexive monitoring questions.

In this set of questions respondents were most neutral about awareness of reports about the effects of the toolkit. Nearly half of respondents were not aware of reports. This response could be due to this evaluation being in progress and will report back to staff in the future. However, perhaps there is more that could be explored in day to day practice or regular reporting to highlight where the toolkit has been used and has made a difference to individual patient care. Reporting back on the toolkit is explored further in the in depth interviews with staff.

Table 3: Detailed questions about the Intervention (NOMAD survey NPT constructs)

	Staff response			Positive or negative result
	Agree	Neutral	Disagree	
Coherence (sense-making)				
1. I can see how the Delirium Toolkit differs from usual ways of working (n: 47)	27 (57.4%)	14 (29.8%)	6 (12.8%)	positive
2. Staff in the organisation have a shared understanding of the purpose of the Delirium Toolkit (n:49)	25 (51.0%)	12 (24.5%)	12 (24.5%)	neutral
3. I understand how the Delirium Toolkit affects the nature of my own work (n:48)	36 (75.0%)	7 (14.6%)	5 (10.4%)	positive
4. I can see the potential value of the Delirium Toolkit for my work (n:47)	39 (83.0%)	8 (17.0%)	0 (0.0%)	positive
Cognitive Participation (Buy-in)				
1. There are key people who drive the Delirium Toolkit forward and get others involved (n:49)	36 (73.5%)	11 (22.4%)	2 (4.1%)	positive
2. I believe that participating in the Delirium Toolkit is a legitimate part of my role (n:48)	37 (77.1%)	9 (18.8%)	2 (4.3%)	positive
3. I am open to working with colleagues in new ways to use the Delirium Toolkit (n:49)	45 (91.8%)	3 (6.1%)	2 (4.2%)	positive
4. I will continue to support the Delirium Toolkit (n:49)	42 (85.7%)	6 (12.2%)	1 (2.0%)	positive

Collective Action (Doing)				
1. I can easily integrate the Delirium Toolkit into my existing work (n: 46)	34 (73.9%)	10 (21.7%)	2 (4.3%)	positive
2. The Delirium Toolkit disrupts working relationships (n:47)	1 (2.1%)	14 (29.8%)	32 (68.1%)	positive
3. I have confidence in other people's ability to use the Delirium Toolkit (n:48)	24 (50.0%)	20 (41.7%)	4 (8.3%)	neutral
4. Work is assigned to those with skills appropriate to the Delirium Toolkit (n:47)	21 (44.7%)	19 (40.4%)	7 (14.9%)	neutral
5. Sufficient training is provided to enable staff to implement the Delirium Toolkit (n: 48)	16 (33.3%)	15 (31.3%)	17 (35.4%)	negative
6. Sufficient resources are available to enable staff to implement the Delirium Toolkit (n: 48)	22 (45.8%)	17 (35.4%)	9 (18.8%)	neutral
7.Management adequately supports the use of the Delirium Toolkit (n:47)	28 (59.6%)	14 (29.8%)	5 (10.6%)	positive
Reflexive Monitoring (Appraisal)				
1. I am aware of reports about the effects of The Delirium Toolkit (n:49)	13 (26.5%)	14 (28.6%)	22 (44.9%)	neutral
2. The staff agree that the Delirium Toolkit is worthwhile (n:47)	26 (55.3%)	18 (38.3%)	3 (6.4%)	positive
3. I value the effects that the Delirium Toolkit has had on my work (n: 46)	28 (60.9%)	16 (34.8%)	2 (4.3%)	positive
4. Feedback about the Delirium Toolkit can be used to improve it in the future (n:48)	45 (93.8%)	3 (6.3%)	0 (0.0%)	positive
5. I can modify how I work with the Delirium Toolkit (n:45)	26 (57.8%)	17 (37.8%)	2 (4.4%)	Positive

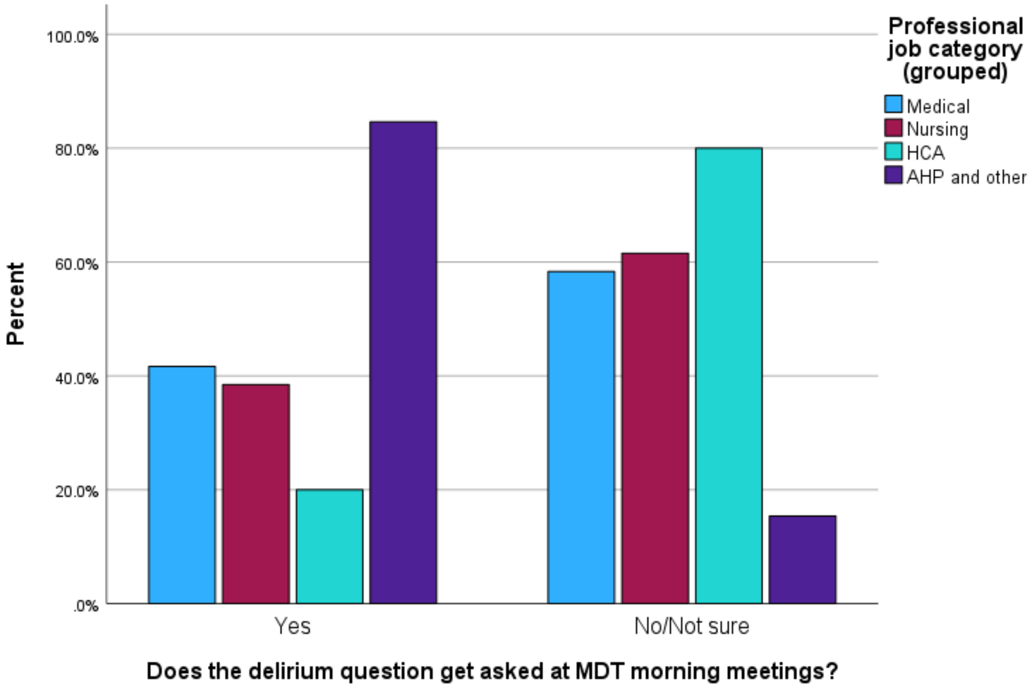
4.2.3 Understanding of the delirium toolkit:

This section of the staff survey asked questions about the different elements and steps of the toolkit to assess their understanding of the intervention itself and how familiar they were with each step. The first question asked whether they knew the individual responsibilities in every step of the flow chart (Appendix 1). Only a third said that they did for every step (35.3%; n: 18) and a similar proportion said 'no' (37.3%; n:19). A further 27.5% (n:14) were unsure. Staff were also asked whether the delirium question (whether a patient has delirium or not) was asked at the multidisciplinary team morning meetings. 45% (n: 23) said 'yes', 21.6% (n: 11) said 'no', and 33.3%

(n: 17) were unsure. Analysis by staff group showed statistically significant differences for understanding that the delirium question gets asked in the morning meetings, with HCAs being the least likely to know (20% n: 2), followed by nurses (39% n: 5), then medical staff at only 42% (n: 5) with AHP/other group being most aware (n: 85% n: 11) (X^2 *(3,48)=10.792,p=.013)* (Figure 2). This result isn't surprising for HCAs as they do not attend the morning meeting. However, it is interesting as they spend more time with the patients than any other staffing group and likely to pick up changes in cognition and signs of delirium. Instead HCAs attend handover meetings and it raises the question as to whether delirium is talked about then, and whether it should be if it is not.

AHPs are the most consistent group at the morning meeting and usually attend every day. The nursing and medical staff can vary daily and is less consistent. If the delirium lead is at this meeting then it would always be discussed. However, there is a frequent turnover of medical staff that may be unfamiliar with this and explains their result. More recently the delirium clinical lead and one delirium champion have been involved in the induction of new doctors at the hospice and now do a presentation on delirium and the toolkit.

Figure 2: Bar chart on knowledge that the delirium question is asked at the morning meeting by staff group (n: 48).



Staff were also asked whether they knew who the delirium champions were in their unit. When the delirium toolkit was developed a working group was established from the multi-disciplinary team with membership from each site to help inform the development of the toolkit and its implementation at each site. Overall, about a third knew who they were (35.3%; n:18); slightly more (39.2%; n:20) did not know, and a quarter (25.5%; n:13) were not sure.

Further analysis by staff group and site was conducted and there is a statistically significant difference between sites with 54% (n: 14) being aware of the delirium champion at Canterbury, 25% (n; 3) at Ashford, and none at Thanet (we have to view this result with caution due to small numbers). This result is expected as the chair of the delirium working group and clinical lead is based at Canterbury which may account for the highest number. One of the HCAs at Canterbury was also instrumental in implementing the toolkit on the ground. An OT at Canterbury was also part of the initial working group. Ashford had an OT and Social Worker on the working group. A Doctor from Thanet did join the working group to oversee the meetings but the site did not have any volunteers to be a delirium champion.

As mentioned, the questions about each step of the toolkit were designed in a similar way to the general questions from the NOMAD survey, asking how familiar each step was on a scale of 0 (still feels very new) to 10 (feels completely familiar) (Table 4). The number of 'no answers' for these question were slightly higher than other questions which could indicate these respondents felt that question was not relevant to them. These no answer responses tended to be from nursing, HCA and AHP/other professionals and some had worked for the organisation for less than a year.

From the results it is clear that individual steps on the flowchart (Appendix 1) were more familiar to some staff than others. For example around a quarter of respondents assessed the 'getting to know you form' on admission and reporting of delirium questions between 8-10 on the scale (very familiar). Whereas a further quarter rated these questions on the lower half of the scale (unfamiliar). There was even more of a divide in the answers to questions on completing the non-pharmacological checklist and discussing delirium at ward MDT meetings, with a quarter rating these steps as 0 (not all familiar) or a 1, but over two thirds of respondents rating these between 7-10 (feels completely familiar).

The most unfamiliar steps overall were: completing a 4AT assessment, completing a delirium assessment on EMIS, and giving a delirium leaflet out to patients, family and carers, with at least half of responses on the lower part of the scale 0-5. 4AT was the most unfamiliar, but perhaps the name of the assessment being the 4AT was not familiar. For these questions there were still a number of staff for whom these steps were very familiar. (Table 4). Further analysis by staff group shows that the assessments were most familiar to medical staff and least familiar to HCAs and AHPs/other which would be to be expected. There was a statistically significant difference between these groups for the 4AT assessment although this has to be interpreted with caution due to small numbers (X^2 *(3,43)=14.367,p=.002)* (Figure 3). Familiarity with discussing plans of care at the multi-disciplinary meeting was highest for medical staff and lowest for HCAs, as expected. There was no statistically significant differences between sites on the familiarity of the different steps of the toolkit.

Figure 3: Medians of question statement: How familiar is the 4AT assessment, by staff group - score 0 (not at all) – 10 (Feels completely familiar).

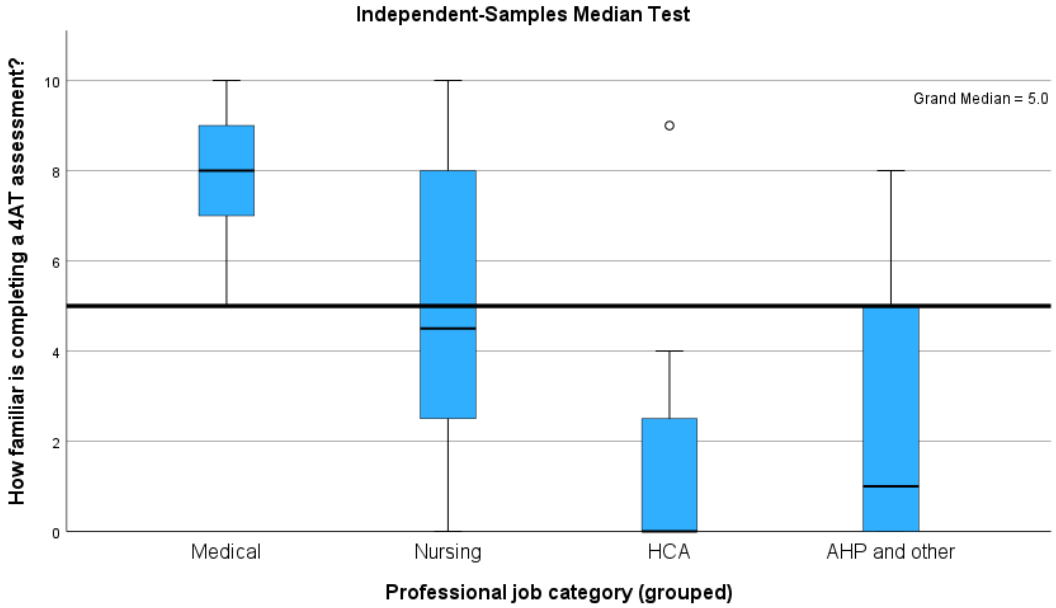


Table 4: How familiar is each step of the delirium assessment flowchart when staff use it:

	Not at all	1	2	3	4	5	6	7	8	9	completely
1. Completing the ‘getting to know you’ form on admission (n:49)	0 0%	6 12%	2 4%	4 8%	2 4%	4 8%	4 8%	2 4%	12 25%	8 16%	5 10%
2.Report that the patient has delirium (n:49)	0 0%	1 2%	1 2%	0 0%	3 6%	8 16%	4 8%	8 16%	9 18%	11 22%	4 8%
3. Completing the non-pharmacological checklist (n:46)	6 13%	5 10.9	2 4%	2 4%	0 0%	4 9%	4 9%	4 9%	7 15%	8 17%	4 9%
4.Completing a 4AT assessment (n:46)	10 22%	5 11%	2 4%	4 9%	2 4%	6 13%	1 2%	4 9%	4 9%	5 11%	3 7%
5.Completing a delirium assessment on EMIS (n:47)	9 19%	3 6%	4 9%	3 6%	1 2%	3 6%	3 6%	9 19%	8 17%	0 0%	4 9%
6.Giving a delirium leaflet to patient/family/ carer (n:47)	4 9%	2 4%	8 17%	6 13%	3 6%	2 4%	5 11%	5 11%	4 9%	2 4%	6 13%
7. Discussing a ward MDT meeting to discuss plan of care (n:45)	9 20%	0 0%	2 4%	3 7%	2 4%	2 4%	6 13%	8 18%	6 13%	1 2%	6 13%

4.2.4: Delirium training and outcomes:

The staff survey asked respondents about experiences of the delirium training that had been implemented alongside the toolkit, and asked about their understanding of delirium. As mentioned two thirds of the respondents had completed the delirium training. Just over half of those who had completed the training said they felt the training module had helped them to understand the importance and relevance of the delirium toolkit (52.5%; n: 21). A further 42.5% (n:17) had said it had somewhat helped them. All those who said they had completed some of the training (n:3) said it had somewhat helped them. 34.2% (n:13) of those who has completed the training said it had helped them use the delirium toolkit in their daily work. Over half (55.3%; n:21) said it had helped somewhat, and 10.5% said it hadn’t helped.

The findings below compare the responses to questions about training and understanding of delirium between who did and didn't complete the training (Table 5).These indicate that the training did help with staff understanding of delirium (89.7%) compared to those who had not completed it. It was the same picture, but to a lesser extent, for confidence in identifying different types of delirium hypo-delirium (30%) and hyper-delirium (52.5%). Overall, staff felt more confident in identifying hyper-delirium compared to hypo-delirium..

There was no statistically significant differences between hospice sites or staff group on the question of whether they completed the delirium training, whether the training helped them understand the relevance and importance of delirium, on whether the training helped with use of the toolkit in their daily work, and their understanding of the term delirium. Staff confidence of the identification different types of delirium (hyper-delirium and hypo-delirium) were also asked. There was no difference by hospice site for either type, nor for hyper-delirium by professional job category. There were a statistically significant difference between professional category and hypo-delirium, with 92% (n: 11) of medical staff, 83% (n: 10) of nurses, 70% (of HCAs) and 42% of AHP/other staff feeling completely or somewhat confident with identifying hypo-delirium. However, we have to view this result with caution due to small numbers.
Overall, these results show that the training did help staff with understanding of delirium but less so about the use of the toolkit itself. This indicates that more focused training could be helpful to staff on the practical use of the toolkit and also on hypo-delirium.

Table 5: Completion of training and understanding delirium

		Completed the training:		
		Yes	Some	No
Felt confident identifying hypo-delirium (n:49)	Yes	12 (30.0%)	0 (0.0%)	1 (16.7%)
	No	1 (16.7%)	2 (33.3%)	3 (50.0%)
Felt confident identifying hyper-delirium (n:49)	Yes	21 (52.5%)	0 (0.0%)	2 (33.3%)
	No	7 (17.5%)	1 (16.7%)	3 (50.0%)
Felt understood the term delirium (n:48)	Yes	35 (89.7%)	1 (33.3%)	3 (50.0%)
	No	1 (2.6%)	0 (0.0%)	1 (16.7%)

4.2.5: Words staff associate with delirium:

Finally, the survey asked staff to write down what words they would associate with delirium. These would be used to help with the review of the patient notes, to help identify when a patient may be delirious and whether they have been identified as such in the notes. The words identified were grouped into four categories: confusion, agitation, withdrawn, reversible/non-reversible causes. Most of the words identified related to confusion (n: 74) followed by words relating to agitation (n: 47). Both of these are symptoms relating to hyper-delirium which staff were more confident in identifying. The 'withdrawn' group of words (n:15) related to symptoms of hypo-delirium, that staff were less confident in identifying. The 'reversible/non-reversible causes' group related to symptoms that might explain the cause of delirium and whether or not interventions can be put in place to stop or reverse delirium. Words relating to 'confusion' were identified by 55.6% of respondents (n:30);

44.4% (n:24) identified words relating to ‘agitation’; 18.5% identified words related to ‘withdrawn’ and 5.6% of staff identified words relating to ‘reversable/non-reversable causes’.

Table 6: Delirium words identified by staff (count)

Confusion	Agitation	Withdrawn	Reversible/ Non-Reversible Causes
Confusion (20)	Agitation (10)	Withdrawn (2)	Reversible causes (2)
Muddled (13)	Hallucinations (4)	Drowsy (2)	Non-reversible causes (1)
Confused (8)	Unsettled (4)	Fluctuating consciousness (2)	Infection (1)
Disorientated (7)	Restlessness (4)	Quiet (1)	Opioid toxicity (1)
	Agitated (3)		
Hallucinations (5)	Aggression (3)	Apathetic (1)	Clinical chemistry (1)
Disorientation (3)	Aggressive (2)	Hard for patients (1)	Hypercalcaemia (1)
Wandering (3)	Restless (2)	Isolated (1)	Constipation (1)
Increased confusion (2)	Terminal agitation (2)	Separate (1)	Urine retention (1)
Cognitive deficit (1)	Awake at night (1)	Fatigued (1)	
Delusions (1)	Challenging for relatives (1)	Non-connection of faces (1)	
Forgetfulness (1)	Distressing (1)	Acting out of character (1)	
New confusion (1)	Manic (1)	Hypoactive (1)	
Disorientation of environment (1)	Irritability (1)		
Issues around capacity and decision making (1)	Fretful (1)		
Delusional behaviour (1)	Trying to get out of bed (1)		
Dementia (1)	Uncooperative (1)		
Unaware (1)	Behaviour issues (1)		
Acute change in mental status (1)	Extreme behaviour (1)		
Change in cognition (1)	Hyperactive (1)		
Loss in motor skills (1)	Hyperactivity (1)		
Unclear thought process (1)	Hysteria (1)		
74	**47**	**15**	**9**

4.2.6: General comments:

The final section of the survey gave staff the opportunity to provide some further comments if they wished to. 14 of the 54 staff completing the survey provided some written comments.

There were some positive comments about the toolkit:

- *Our delirium champion –[name]- is passionate about her role*
- *I feel delirium has been brought to the fore now which is wasn't before. We now have a system to follow to identify and manage delirium. It is discussed every day at the ward meeting.*
- *Overall, I think that the delirium work has been really effective*

There was also some comments demonstrating an awareness of the toolkit even if they were not actively involved or were new to working in the hospice:

- *I am new in post. Every patient has a ''Getting to know you'' completed on admission and a delirium screen on admission.*
- *As an H.C.A on the ward I am aware of the delirium toolkit, however I have not had any dealings with it*

There was also a comment about lack of awareness of the toolkit:

- *I do not know what the delirium toolkit is, I have not heard of it*

Alongside these comments there were issues identified that staff saw as barriers to the successful implementation of the toolkit. High staff turnover and staff not working regularly enough on the wards, were identified as issues:

- *I feel that we have currently lost focus with discussing/using the delirium screening tool. I am not on the IPU consistently enough to comment on how often this may be reused or discussed during MDT handovers/meetings*
- *I work infrequently on the wards so my confidence with the delirium assessment is reduced*
- *Some staff know to complete the non-pharm assessment but seldom is the EMIS assessment on delirium completed by medically trained staff - probably an induction issue, along with constant (yearly) turnover of medical staff…nursing staff either do not have time or it is not emphasised sufficiently on induction, where again there is a high turnover of staff. So the checklist does not always get completed when delirium is first noted, unless AHP staff identify it.*

Another barriers identified was lack of engagement in relation to the non-pharmacological interventions in some situations:

- *Issues that we have encountered practically have been lack of availability of delirium leaflet for giving to loved ones and ward nurses being less engaged than other health care professionals in initiating non-pharmacological measures for managing delirium. Possibly as they are not aware of where equipment is found*
- *Untrained i.e.. HCA staff do not seem to be confident in completing the non-pharm checklist*
- *I'm not sure we make a robust enough care plan when someone does have delirium, for all to follow - do staff have the time to do reminiscence therapy etc? Yes we move people on to high/low beds and rooms opposite nurses stations, and perhaps having 1:1 supervision, but what distraction therapy are we actually using? This doesn't seem to appear in any notes - not shown how staff are using I don't feel. Likely staff need more specific training*

Need for additional training in delirium toolkit was highlighted in the last comment above and in other comments received. One comment illustrates misunderstandings about delirium at end of life (as not every patient who dies have outward signs of delirium) indicating further training needs:

- *Feel like we should have more training with delirium*
- *A more in-depth training course would be beneficial*
- *I would like to learn more about the toolkit to be able to identify signs of delirium early*
- *I struggle with the term delirium at the very end of life. Per delirium, every patient who starts actively dying has either hypoactive or hyperactive delirium (''terminal agitation''). However, we don't use the term 'delirium' in those scenarios or should we??*

Another barrier was lack of agreement about identification of delirium. Unless it is agreed that a patient has delirium and the delirium question is ticked yes, the rest of the toolkit steps do not get triggered:

- *I don’t think we use this as much as we should. It is hit and miss. Often professionals disagree about what it/isn't delirium and this then impacts on whether the toolkit is used. It's difficult to disagree with a Dr who says it isn't delirium, when you may feel that it is!*

5. Analysis of patient record data

5.1 Method

The rationale for this analysis was to understand how the different elements of the toolkit are being utilised in practice. See Appendix 1 for delirium toolkit assessment guidelines which outlines the step-by-step process for using the toolkit. The aim of the notes review was also to see if the toolkit intervention had made any difference to identifying patients with delirium. e.g. were there delirium episodes for those not assessed or who didn't have a positive screen. A review to look at the difference in medication prescription and use for drugs for the management of delirium was also planned but this was not feasible in practice.

The notes of patients who were inpatients in our Canterbury hospice were reviewed over a six month period from the start of the implementation of the toolkit (1st Sept 2022-28th Feb 2023) compared with six months before implementation. Initially we were going to look at 1st September 2021 to 28th February 2022 as the post-implementation period but it was felt that, although some work had started, it wasn't until 1st September 2022 that staff had received the training and it was fully implemented. This was compared with the six months before any of the toolkit had been implemented (1st March 2021-31st Aug 2021). On review of the post-implementation data the number of staff completing the delirium assessment on EMIS was small. It was felt this could be because the toolkit clinical lead had been on long term leave around that time. Therefore an additional six months post-implementation patient records were also reviewed to see if there was any change (1st March 2023-31st August 2023).

Informed consent was not possible or practical to obtain for these patients. We did a check to see if these patients had opted out for their data being used for purposes other than their individual care using the National Data Opt Out Service, and they were removed before analysis.

A data proforma was developed to assist with collecting data from records in Microsoft Excel and then transferred into SPSS software for analysis (using descriptive statistics). Data were either extracted by the hospice data manager or the patient record was searched by the research administrator employed using the project grant where this was not possible. This work was supervised by the Delirium Toolkit clinical lead and a flowchart was devised to help guide the search process in the patient notes. The final dataset for this has been checked and cleaned by the project lead ready for further analysis. Table 7 outlines the data collected from the patient records:

Table 7. Information collected from patient records:

Patient information	Delirium related information
- Age - Sex - Ethnicity - Diagnosis - Inpatient length of stay - Whether patient receiving end of life care on the ward - Whether died after admission - PEACE score on admission (States ceiling of care i.e. appropriate intervention for future care). - Phase of illness on admission (level of care required related to current stage of illness) - Australian Karnofsky Performance Status on admission (level of patient function)	- Presence of delirium (using delirium Keywords identified from the staff survey). - Number of days patient had delirium (answer yes to delirium question or answer no but delirium keywords identified) Post toolkit implementation cohort only: - Answer to delirium question (whether patient has delirium) - Whether delirium assessment completed (4AT) - Whether 'Getting to Know You' form had been completed - Whether non- pharmacological checklist completed

5.2 Patient record data results

5.2.1 Sample characteristics

The total sample of patients in the data review was 399. There were 134 inpatients in the group receiving care up to 6 months before implementation and 265 in the group receiving care within 12 month after implementation. Table 8 below describes the demographic characteristics of the patients. Statistical tests were performed on these characteristics which were not statistically different (at the 95% significance level) showing that the samples before and after were very similar in terms of sex, age category, diagnosis, end of life care and AKPS (chi-square test), mean age (ANOVA test) and length of stay (Mann-Whitney U test). The exceptions were the PEACE score (Chi-square: X^2 *(3,380)=12.542,p=.006))* where a higher proportion had a ceiling of care score of 3 ('home') after the implementation of the toolkit compared to before. Just over half of patients before implementation had a score of 4 ('comfort) which are the sickest patients nearer the end of life and more likely to have delirium. Ethnicity and Phase of Illness had p values of <.001 but were not valid results due to a high number of cells having an expected count less than 5.

Table 8: Patient Characteristics, before and after implementation of the delirium toolkit:

n (%)	**Before**	**After**
Sex		
Male	74 (55%)	128 (48%)
Female	60 (45%)	139 (53%)
Age		
Under 65	18 (13%)	59 (22%)
65-74	48 (36%)	66 (25%)
75-84	43 (32%)	83 (31%)
85 and over	25 (19%)	57 (22%)
Mean (min-max)	75.23 (39-101)	74.50 (32-98)
Ethnicity		
No answer	14 (10%)	18 (7%)
White British	110 (82%)	166 (63%)
White Irish	0 (0)%	15 (6%)
White other	4 (3%)	53 (20%)
Other European	1 (1%)	2 (1%)
Asian	0 (0%)	3 (1%)
Black	0 (0%)	1 (<1%)
Other (English, British, Irish, Scottish, Welsh, Asian & Mixed)	5 (4%)	8 (3%)
Diagnosis		
Cancer	92 (69%)	181 (68%)
Non-cancer	24 (18%)	60 (23%)
Both	18 (13%)	24 (9%)
Length of Stay		
Mean (min-max)	9.91 (1-102)	9.30 (1-63)
Median	6.00	6.00
N	131	244
End of life care		
Received EOLC	66 (49%)	115 (43%)
Died after admission	90 (67%)	184 (69%)
PEACE – ceiling of care		
No answer	14 (10%)	5 (2%)
1. Intensive	3 (2%)	8 (3%)
2.Hospital	17 (13%)	23 (9%)
3.Home	32 (24%)	117 (44%)
4.Comfort	68 (51%)	112 (42%)
AKPS (functional status)		
No answer	8 (6%)	5 (2%)
20 or below	61 (46%)	122 (46%)
30 and above	65 (49%	138 (52%)
Phase of Illness		
No answer	18 (13%)	2 (1%)
Unstable	2 (2%)	19 (7%)
Deteriorating	81 (60%)	180 (68%)
Dying	31 (23%)	60 (21%)

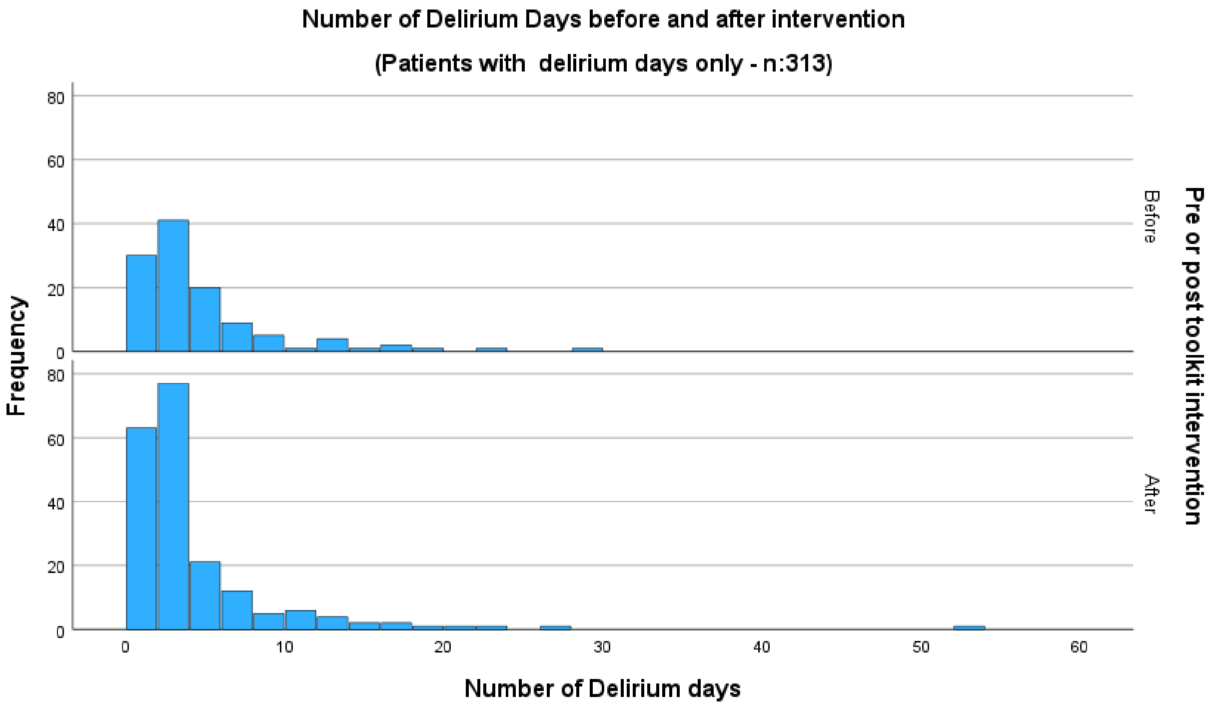
5.2.2 Presence of Delirium

Before the introduction of the delirium toolkit there wasn't a clear process or template for recording presence of delirium in the hospice. We were therefore reliant on keywords within the patient notes for identifying whether delirium was present and for how many days, comparing before and after the intervention.

In addition to using the actual words such as delirium and delirious, staff were asked in the previous survey to provide other words they would associate with delirium. These are listed (and grouped) in Appendix 3. Each of these words were looked up in the notes to see if they were used to describe a patient with delirium, and were recorded as 'delirium days' in the analysis

87% (n: 116) of patients before the delirium toolkit had delirium days recorded compared to 74% (n:197) after, indicating that presence of delirium was less with the introduction of the toolkit, which was statistically significant (Chi-square: X^2 *(1,399)=7.870,p=.005)* (Table 3). Similarly, the means for number of 'delirium days' reduced after the introduction of the toolkit (see Table 9) but the medians remained consistent at 2. Most patients had delirium for one day (fig 4) or for zero days when included all patients in the analysis.

Figure 4: Number of delirium days:



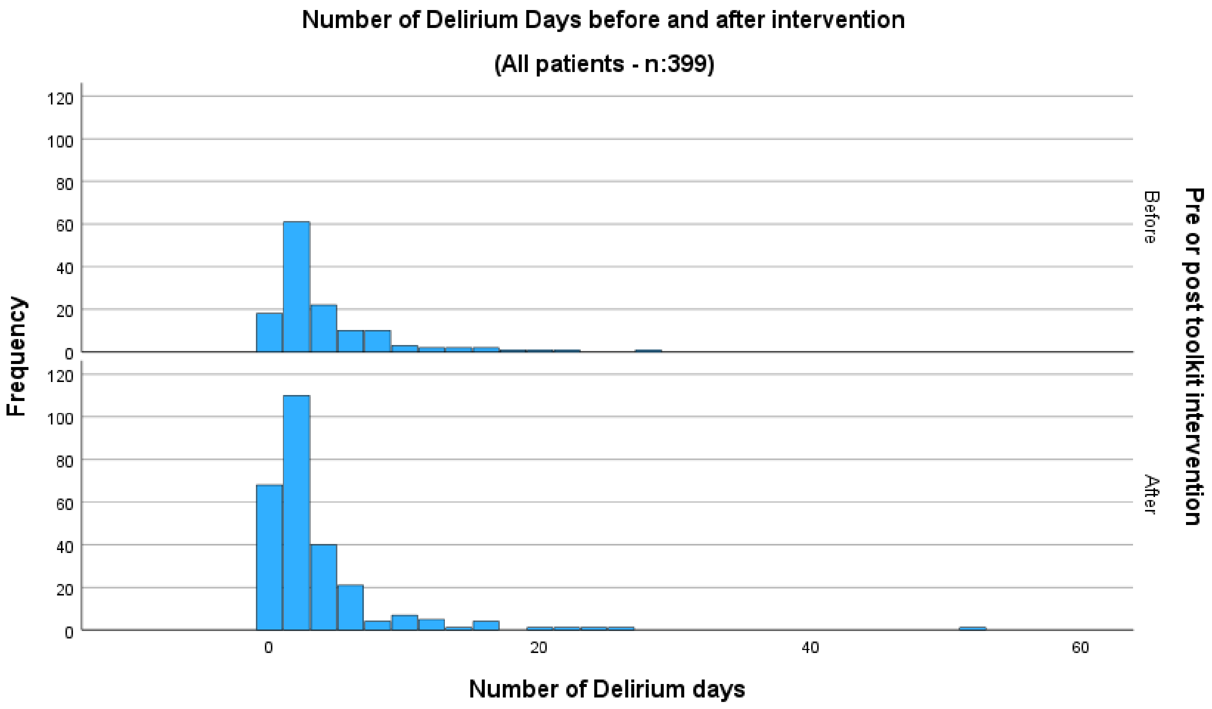


Table 9: Delirium before and after implementation of the delirium toolkit:

	Before (n)	**After (n)**
Proportion of patients with delirium days. (%)	87 (n: 116)	74 (n: 197)
All patients (n: 399)		
Mean	3.66 (n:134)	2.92(n: 265)
Median	2.00	2.00
Min-max	0-28	0-52
Std. Deviation	4.537	5.395
Patients with delirium days only (n: 313)		
Mean	4.22 (n: 116)	3.92 (n: 197)
Median	2.00	2.00
Min-Max	1-28	1-52
Std. Deviation	4.625	5.908

A Mann-Whitney U Test was performed to compare number of ‘delirium days’ before and after the introduction of the delirium toolkit. There was a significant difference between before and after for number of delirium days when all patients (including those with no delirium days) were included in the analysis ((Z=-2.882), p= (.004)). When only selecting patients with delirium days (1 or more) there was no significant difference before or after.

Of the delirium words most frequently found when reviewing the patient notes from the list identified in the survey (Appendix 2) are listed below in Table 10. These words were often used in the context of issues around sleep, communication, and toileting. For example people had delirium words relating to being agitated when asleep, confused when talking (not making sense) and agitation around catheters i.e. the need for a catheter as they were agitated and had full bladder on examination but were unable to pass urine and pulling at their catheters when they were confused.

The words were also often used in the context of hallucinations, not recognising the time, places, surroundings or people.

Interestingly the words most commonly found related to confusion and agitation, which are associated with hyper-delirium rather than hypo-delirium where patients can appear withdrawn, and could be confused with being depressed.

Some of these common words did relate to reversable causes of delirium. For example, clinicians writing notes justifying that a patient is agitated, unsettled or hallucinating due to the drugs that the patient was taking. There were other notes where patients were showing the same behaviours with no mention of drugs.

Table 10: Delirium words most frequently found and context:

Delirium Word	Context related to
Confused/confusion	Conversation, recognition of surroundings, places, or people
Agitated/agitation	Sleep, toileting (catheters) , hallucinations
Distressed	Sleep, hallucinations
Unsettled	sleep, toileting (incontinence)
Disorientated	Recognition of time, places, or people
Muddled	Speech. Recognition of time, places, or people.

There were situations where the delirium question, asking whether the patient had delirium, was answered 'No' but the notes did not correlate with obvious delirium words being used about the patient. This is explored further below in results relating to the delirium question.

There was some learning/insights into the practicalities of this method of using identified 'delirium words' in patient notes. Words were sometimes being used in other contexts not relating to delirium, and so had to be 'filtered out'. These were in the context of discharge or admission or that the word wasn't present e.g.:

- Patient A's wife seemed confused to what day they would be discharged
- Patient B does not seem agitated this morning

In notes, clinicians using the phrases such as: 'unable to settle', 'not orientated', 'less settled' Which didn't exactly match the words in the search, such as 'unsettled' and 'disoriented', which means these notes would likely have been missed. It would be helpful to consider other variations of words to those identified to use in the search to try and avoid missing data in future projects that use a similar method.

5.2.3 Delirium Toolkit Steps/Assessments

The notes of the inpatients receiving care after the toolkit was introduced where reviewed to see how often the different steps of the toolkit were completed. This included:

- The getting to know you form
- The delirium question
- The non-pharmacological checklist
- The delirium 4AT assessment

Completion of the ‘The getting to know you’ form:

A ‘Getting to know you’ form was completed for 45% of patients (n: 109). It was not completed for 55% (n: 134). The completion the ‘Getting to know you’ form increased to 60% (n: 44) when just selecting patients where the delirium questions was answered as ‘yes’.

In the first six months of introducing the toolkit from September 22-February 23, just 16% (n: 23) completed the ‘Getting to know you form’. This increased substantially to 91% (n: 86) in the five months after, from March 23. ((Chi-square: *X^2 (1,243)=131.528,p=<.001)).* The ‘Getting to know you’ form was introduced to complete for every patient admitted so this difference shows how this change had become embedded into practice.

Completion of the delirium question:

Overall completion of the delirium question was high, with the question being completed for 97% of patients (n:257). This was to be expected as the question was added as a compulsory field to answer in the patient notes daily.

28% (n: 73) had a ‘yes’ answer recorded for the question asking whether the patient had delirium. A further 47% (n:125) had a ‘no’ answer but had ‘delirium words/days’ recorded. 25% had no indication of delirium (n: 67).

Completion of the ‘non- pharmacological checklist:

Just over half of patients in the post-intervention cohort (n:131; 54%) had a non-pharmacological checklist completed.

70% had one completed if they had delirium (identified through the delirium question). Conversely 47% (n:49) had one completed if they didn’t have delirium (a ‘no’ answer to the delirium question). This was a statistically significant difference (Chi-square *X^2 (1,235)=10.222, p=.001).*

When looking at the two cohorts (post-intervention), interestingly the first cohort when the toolkit was first introduced had a much higher rate of non-pharmacological checklists being completed compared to the later cohort: 75% (n: 112) and 20% (n:19) respectively (Chi-square *X^2(1, 243)=77.182, p=<.001).* An explanation for this is that OTs were the main staff group driving the completion of the non-pharmacological checklist and they had reduced time due to needing to cover the physio service whilst they were short staffed. At the same time the delirium lead was on extended leave. This indicates the importance of how staff can drive the success of an intervention. Since the initial implementation the checklist became incorporated into the admission pack rather than a separate document, which helped to aide completion i.e. by staff members involved in that admission, and therefore some may have been missed in the review.

Completion of the 4AT delirium assessment:

The 4AT is a simple delirium detection tool now validated for use in hospice inpatient settings (Arnold et al 2024). The 4AT delirium assessment template was only completed for 7% (n:5) of those patients who had a delirium question answer of ‘yes’. Two assessments (1%) were completed for patients where the delirium question hadn’t been completed. The additional cohort showed a small increase in the number of assessments being recorded but this was small. Only 1 (1%) for the September 22-March 23 period and 6 (5%) in the March 23-August 23 period, which were small numbers.

Only 3 patients who had delirium identified through the delirium question had all parts of the toolkit completed ('Getting to know you' form, non-pharmacological checklist, and the delirium assessment). Further changes implemented since have made these mandatory to complete e.g. 'Getting to know' you form and 4AT delirium assessment are now completed on every admission.

Box 2 provides a case study example of how the 4AT has worked in practice to detect delirium, its causes and improve care for that patient:

Box 2: Case Study

Example of how a 4AT assessment on admission picked up hypo-delirium in a patient admitted to the hospice inpatient unit.

- 70 year old man with colon cancer, lung and bone metastases
- Admitted from home due to poor pain control and poor compliance with analgesia
- He presented as coherent with no cognitive deficit
- However, following a 4AT assessment he scored highly on the AMT-4 component (abbreviated mental test for mental impairment)
- On talking to the patient he admitted to feeling "confused and mixed up at times"
- This was the catalyst for investigating reversible causes
- A delirium assessment was completed
- All reversible causes considered and investigated
- He was found to have a lower urinary tract infection and antibiotics were started.

6. In depth interviews with staff

6.1 Method:

In depth qualitative interviews were conducted to gain a more in depth understanding of how the toolkit has worked, in terms of staff knowledge and change in practice. The topic guide for the interviews was informed by the survey findings and analysis of patient record data. Members of staff from different professional groups, sites, including those who were part of the delirium working group, delirium champions and key ward staff were invited for interview. Our aim was to interview approximately six staff. Potential participants were invited by email (or letter for those less likely to access email as regularly), and an information sheet. Written informed consent was be obtained at the time of interview with a signed consent form. All interviews were conducted face to face. The interviews were recorded (with permission of the participants) and transcribed verbatim.

The framework approach will be used to analyse the data, which was first developed by Ritchie and Spencer 1994 and has since been used extensively in health care research (Gale et al 2013). This process entails familiarisation with the transcripts, coding, indexing the data into a matrix table to identify emergent themes. The analytical framework used for coding the data was the normalisation process theory (NPT) (May et al 2009). At the highest level this coding was the four constructs of NPT required to enable the implementation, embedding and integration of the delirium toolkit into practice:

1. Coherence: Work that defines and organises a practice i.e. sense making (What is the work?)
2. Cognitive participation: Work that defines and organises the individuals implicated in practice e.g. enrolment and engagement (Who does the work?)
3. Collective action: Work that defines and organises the operationalising of a practice (How does the work get done?)
4. Reflexive monitoring: Work that defines and organises the everyday understanding of a practice (How the work is understood/what do they think?)

Additional themes where then indexed in a matrix table relating to these four constructs.

6.2 Findings from the staff interviews:

Four interviews were conducted with members of the multi-disciplinary team working in inpatient units from across the three hospice sites. The participants included a member of staff from the Advance Clinical Practitioner team, a nurse, an occupational therapist and a non-registered professional. This section highlights the main findings illustrated with some example quotes grouped by the NPT constructs and then by the different elements of the delirium toolkit itself. Additional quotes and how the quotes were mapped to the NPT constructs and themes are provided in Appendix 4.

6.2.1 Overview of NPT constructs in practice

A number of themes were identified within the four NPT constructs. Under ‘coherence’ (sense making) there were examples of understanding and awareness of the toolkit steps and element of the process, and examples of understanding of delirium in terms of reversibility of delirium and distinction between types of delirium (hyper and hypo delirium) which they were not aware of before the introduction of the toolkit:

> "*We are really, really good here, really good because the HCAs sit by the patient bedside with this it [the getting to know you form] and then we read it…We report it verbally and we document. The non-pharmacological checklist, nurses do that. The 4AT assessment, often the doctors do that one"* (ID001)
>
> *"I think once you've done a 4AT assessment on somebody and use the toolkit, then you have got a structured process then well, we can go to our colleagues and say well, this person may benefit from all of the non-pharmacological methods" (*ID003).
>
> *"If I'm honest, the hypo delirium, the training highlighted that. I never realised that there was hypo delirium, so yeah, that was really helpful. So having the different types definitely is relevant, yeah"* (ID002).

However, there were also examples where the steps/elements were not so familiar, including the hypo/hyper delirium distinction, knowledge of the delirium folder, policy, delirium leaflet, available training, and knowledge of the delirium assessment on EMIS (patient record), although this may not be relevant for all staff to complete.

Under 'cognitive participation' (engagement/who does the work), there was a sense of team working and cohesion from the toolkit, knowing who does what among the multi-disciplinary team, with the recognition that identifying delirium is everyone's responsibility:

> *"We all take a hand in identifying if someone has delirium" (ID004).*

It was felt that HCA's and the new role of Trainee Advanced Clinical Practitioners, had a positive impact on identifying delirium, but the different professionals all bring something different to the process of managing the care as illustrated by this quote:

> *"I think it's great that we've got the Trainee ACPs now… You know and certainly the allied health professionals..., we're going, on an assessment basis, whereas the ward are kind of going on, I'm going to do for that patient. I'm going to, we're looking I think with different eyes, if you like (ID002).*

However, knowledge and ownership of parts of the process were at times hindered in situations where staff might lack in confidence perhaps due to inconsistent staffing from frequent staff turnover. This paradox of those who felt very comfortable with the process and those who did not is illustrated in these quotes:

> "*I feel that there are some areas of the MDT who are very confident with it and others that may be aren't. So I would think that between us, medical colleagues and ACP etc and the occupational therapist, there's a really good understanding and a really good way of working" (ID003).*

The importance of the support of the patient's family and loved ones was also acknowledged both in helping with the identification and management of delirium as they were the people that really knew the patient and could provide information and items to help orientate patients, provide familiarity and help keep them safe:

> *"Having family aware and updated is really important as well, because should we need a night sit, sometimes family will look after their loved ones and it just reduces the risk of injury because yes, they're normally at very high risk of falls"* (ID001).

> "*And families are also quite often very good at bringing bits and pieces in [for reminiscence] and identifying with, you know, some would like to listen to some music or favourite radio stations, which we can get on our TV's*" (ID004).

Under 'collective action' (how the work is done) a number of themes were evident that were features of the delirium toolkit process in practice: orientation, reminiscence, getting to know the patient, keeping patients with delirium safe, reassuring patients and families, assessment, changing of medications, and value of HCAs who have a pivotal role in helping to identify delirium, and ward volunteers who also had time to spend with patients. One respondent commented on whether there was scope for ward volunteers to become more involved in supporting with delirium care, with the skills they have, as well as their time to spend:

> "[HCAs] spend *such a lot of time with the patients, quite often they are the ones that will pick up the little, tiny sort of behaviour changes* (ID004)"

> *"The drug round, it takes time and you're, you're not able to spend time at patient bedside as we'd want to, the HCAs are amazing. All those volunteers are amazing"* (ID001).

There were also barriers identified to the work of the toolkit being done e.g. staffing issues and awareness, night time, not an appropriate time for patients or family.

> *"It can be the middle of the night someone does, unfortunately, become delirious and you have to, sometimes you have to manage them with medication just to keep them safe overnight, and it's not ideal, it's not ideal, but when you've got three members of staff."* (ID001)

Under the 'reflective monitoring' construct (how the work is understood) staff could see the benefits of the toolkit describing it as "extremely valuable" and "a necessity". The following quote highlights the view that having a process that appropriately manages delirium, not only helps the patient experiencing it but also those around them including family, staff and other patients around them:

> *"Having patients who are less agitated... It can make all the difference and then that takes out, you know, an element of care burden for the ward staff or families or, you know, which then makes the ward a nicer place to be in, for not only that patient, but other patients that are around"(*ID002).

There was the view that the toolkit had changed practice for the better among the participants in terms of staff competence in identification and management of delirium, as well as providing a clear structure for documentation:

> *"This would go back years and years; we probably used the word 'confused' more. We didn't really focus on delirium. We didn't look at the different types of delirium. Probably reasons why that person has had that change of some sort…So, I think it really is a very helpful, easy to use specific tool that allows you to document as well in a in a specific way, and easily understandable*" (ID003).

However, there were areas of need and improvement that were identified. For example, further training or perhaps "a little refresher" on the toolkit steps and process for those who may be less familiar and confident to use it and knowing who is responsible:

> *"Some members of staff have kind of always put their head in the sand. But again, I think that was more the fact that they didn't quite get what they were supposed to be doing or thought it was someone else's responsibility"* (ID002).
>
> *"Widening the number of people who feel happy to take to do it. Even if they just have a go and they're not sure"* (ID003*).*

Also, further clarification was needed for staff was around the types of delirium, where there were difficulties in understanding hypo-delirium and how to identify it (e.g. through the 4AT assessment) when it may not be obvious when symptoms presenting at end of life can be very similar or subtle. Delirium could therefore be missed if an 4AT assessment isn't completed in these situations:

> *"People that are drowsy and what have you could still be delirious. I think people who could be delirious, they associate it with being a little bit manic…and it's quite difficult as well because when people are sort of nearing the end of life as well some of the symptoms can sort of crossover as well" (*ID004).
>
> *"I'm not sure how empowered everybody feels about doing the delivery of assessments…but most people do a 4AT because that person's been confused"* (ID003).

6.2.2 4AT assessment:

As mentioned above there where some difficulties identified around when it is appropriate to complete a 4AT, particularly for hypo-delirium and staff confidence. Overall, however the assessment was viewed positively and was considered a simple test, by those confident in using it, that triggers thoughts about what is going on with a patient. It was used as a starting point for investigating patients, which provides a "baseline" which may be helpful in the future, and to "look for reversibility". It was also considered a helpful tool for "ruling out" as well ruling people in as having delirium. Having the tool available has helped to provide evidence for delirium when the hospice did not have this before:

> *"I've found that [4AT] really helpful… the counting the, from December backwards, the months backwards, that really is an interesting one to capture people, you know when people can't do it…It makes you think, well, what's behind all this?"* (ID003)
> *"you've actually done the 4AT and done your delirium assessment. So, you've got your, you've got your evidence" (ID003).*

To some extent there was uncertainty about who should complete the 4AT, but even if they did not complete it themselves the 4AT was well known. There were barriers that could hamper the process which included time pressures and also the turnover of medical staff. However, the coverage of delirium in the morning meetings acted as a safety net where members if the wider multi-disciplinary team could flag someone who may require a 4AT assessment:

> *“Some doctors are really good at identifying, it's completing, [4AT] others not so, it doesn't help when we have like that changeover of doctors and also when we get perhaps the trainee GPs or doctors that are only with us for a couple of days a week. So that sometimes doesn't always get captured, but again because we talk about it in MDT often it's like, you know it’s like that reminder has this been done” (ID002).*

6.2.3 Non-pharmacological checklist (NPCL):

The interviews highlighted ways that the NPCL was used in practice. It was seen as beneficial as a way to ensure things that will help are put in place. The NPCL acted as an aide memoire, reminding people of the things that need doing (rather than another onerous bit of paperwork):

> *“We, you know, normally we will do the paper form of non-pharmacological checklist … It’s important we do fill them in and it sometimes it can trigger something you haven't done.” (ID001).*
>
> *“..if a patient is quite agitated and their perhaps risk of falls, that[non-pharmacological checklist] can kind of capture all of that risk assessment do we need. Do they need to have the floor lower, crash mats?...Reducing some of those risks for that patient and be made self -aware” (ID002)*

Despite this there were examples of practicalities that could hinder the implementation of the NPCL e.g. such as not having items available of the patients (e.g. their glasses) and not enough or the right size orientation clocks or screens:

> *“Yes, a little bit like that, yes, and just making sure that things are being followed through like make sure there's enough clocks to go around..., we probably could do with some more but we have got a few”* (ID004).

There would be resource implication for the hospice to rectify this and provide additional clocks. Despite this wish there was acknowledgement from one respondent of the associated cost of caring for someone with delirium being “a lot of money for Pilgrims”.

The other barrier was that the NPCL seeming onerous and long to complete for some staff. However, it was made clear by one respondent that the form didn’t have to be completed by one person all at the same time.

6.2.4 Getting to know you form (GTKY):

As the name indicates this part of the delirium toolkit was a way to get to know the patient which can help with their management of delirium and was seen positively:

> *“So, loved ones can help fill that* [Getting to know you form*] in and it might mean that they watch Corrie every night time and keeping a routine of that person will help them… that's a comfort and it's those things we want to bring someone down”* (ID001)

After initial implementation it was found to be helpful to complete on every admission rather than just those with suspected delirium when it may be harder to complete accurately and the information is there to hand when needed:

> *"If we go and see a patient that has been added for us that has been assessed as having delirium we know we can look in the folder to find information [Getting to know you form]. You know, i.e. they might not want to go to bed until 10:00 at night or you know they don't like a lot of background noise" (*ID002).

6.2.5 Morning meetings:

Respondents highlighted the importance of discussing the delirium question at the morning meeting, acting as a key identifier, even if the question wasn't always brought up in a formal way the meetings were an opportunity to discuss whether a patient could potentially have delirium and whether further assessment is needed as a task for that day.

> "*There's always someone note taking during morning MDT meeting and that is one of the questions. You know, "Does the patient have delirium"?. Yeah. So it's a good time because kind of all of those disciplines are together"* (ID002).
>
> *"I'm not sure how often that [delirium question] is actually specifically that is asked. So, it comes over on the MDT handover about delirium. I don't know. I don't think it's actually objectively asked at any sort of handover as such"* (ID003).

The only suggested improvement in the morning meeting process was reporting back on what happened once someone has been identified as potential having delirium:

> *"I guess in terms of improvements, do we do we report on resolving delirium or change that had been made to support delirium? Probably not all the time but in handovers maybe that needs to be a more of a channel of communication between teams again"* (ID003).

6.2.6 Delirium Assessment

The delirium assessment was usually completed by the person who had completed the 4AT. There were positive comments from those that use it:

> *"It's [delirium assessment on EMIS] really easy to do. It's really clear…I find it very step by step. It's not too time consuming, but it covers everything we need to cover. It's a good aide-memoire as well if you haven't thought of something"* (ID003).

Overall, the delirium assessment (template on the EMIS patient record system) was the least familiar of the elements of the toolkit. This may be due to only certain staff members needing to complete but there was lack of clarity on the expected process for this part of the toolkit and some staff had not seen it used a great deal (which aligns with findings in other parts of this evaluation):

> *"We're not filling it [delirium assessment] in if they haven't got delirium. I don't know if we're meant to say 'no' and fill it in, I'm not sure… So I might even be doing that part wrong on my admission and not filling it in"(*ID001).

6.2.7 Delirium Leaflet/Poster:

The delirium leaflet and poster were seen positively as a way to raise awareness, reassure and provide information to patients and families. It was a way to explain that delirium is not unusual at end of life and it can be reversible:

> *"The leaflets really good and I think it's really helpful for the families because they're such a big part of, you know, patient care and their families and you know, delirium is just so frightening. It's so common, especially, you know, the older age group and in our line of work"* (ID004).
>
> "*I think it's[delirium leaflet] really helpful for families to have a really clear guide about what might be happening, what can be done about it…Because people who are delirious have some, you know, behaviours that are difficult for families to see and watch and deal with."* (ID003).

The poster is a recent addition to the toolkit and is displayed around the ward and other places where they can be easily seen such as on toilet doors. Staff felt this really helped to act as a visual reminder and jog their memory.
However, it was clear that one site (one individual interviewed) was not aware of these materials to utilise, which was also the site that did not have a delirium champion. This indicates the importance of having a key individual (delirium champion) to support with implementation and continue to raise awareness on an ongoing basis.

6.2.8 Delirium Champions:

All respondents were aware of delirium champions supporting the implementation of the toolkit, and had been seen positively:

> "We've had [name – delirium champion] sort of historically and she's always been a mind of information and that kind of stuff. So, yeah, she's always been quite proactive. I think she's one of the Champions and one of the people that started it" (ID004).
>
> "There was at least one [delirium champion] that I was aware of … I think it's helpful because it then kind of filters through the team. So, if one team member is doing the [paperwork] other team members hopefully are going to pick up from that" (ID002).

In terms of their continued support, views were mixed as to the value of the role now the toolkit had been implemented. Some felt they wouldn't be needed if the resources are available and knowing who is responsible for what with appropriate training. However, others felt that the champions could be a key resource to provide training and linking it to what to do, especially when it comes to changeover of staff and ensuring they are aware:

> *"So, do we need a champion? No, as long as the resources are available to us, we're already doing it. Why give someone that extra responsibility when we're already maintaining and meeting the needs?" (ID001)*
>
> *"I think having someone then we know exactly who they are is really helpful because again, going back to the changing staff and new staff" (ID003).*

6.2.9 Training:

Delirium is part of the mandatory training, but it was thought that further training would be useful, particularly as a refresher and training that linked with the toolkit resources and process itself. There was no agreement on what particular form this should take but one participant preferred it to be part of a whole training day alongside other topics:

> *"It's all very, very important as well. It would be nice to kind of have a training day where you could try and mop things together and have a bit of a day on some things"*(ID001*).*
>
> *"I think if it [training] could be linked with the resources that we've got in the pack, that would build staff confidence"* (ID002).

7. Discussion and Conclusion

The delirium toolkit has been a complex intervention to implement with a number of steps, actioned by different members of the multidisciplinary team. The retrospective evaluation of patient record data before and after implementation has shown that presence of delirium among patients in the inpatient unit at the hospice has decreased with the introduction of the delirium toolkit. This demonstrates an improvement in the care outcomes for patients (objective 3). Whether particular elements of the toolkit contributed to this more than others is not clear, but the toolkit is considered a structured process where every element has a part to play in the identification and management of delirium for patients, as shown in the delirium toolkit flowcharts (Appendix 1).

The staff survey and interviews indicated that staff using the delirium toolkit valued the individual elements and the associated process. They also demonstrated how it increased their confidence and ability to identify and manage delirium (objectives 1 and 2). However, there were staff identified for whom this process was less familiar who may lack in the confidence or knowledge to utilise the toolkit as it is intended. This may be due to staff turnover, and despite delirium being part of the mandatory training, further work is recommended to ensure the process is embedded in the inpatient units, taking account of additional requirements needed due to changing staff.

One area identified where confidence was lower was the understanding and identification of hypo-delirium. This finding is not a surprise as hypoactive delirium is often mistaken for depression (O'Sullivan et al 2014, Swigart et al 2008). This finding also reflects evidence from other similar studies in the literature. In a 2023 qualitative interview study with staff, hypoactive delirium was poorly recognised (Featherstone et al 2023) with an admission that these patients were "quiet" and often "missed", whilst patients with hyper delirium were easily identified due to the distressing symptoms manifested. A mixed methods quality improvement project by Jackson C et al 2024 also found that delirium was poorly recognised and introduced further guidelines and training as a result.

The Featherstone study also found that the understanding of the word delirium varied amongst those interviewed and the use of terms such as "terminal agitation", muddled" and "confusion" Similarly, the Jackson study found interview participants, often more junior staff, used ambiguous terms including "agitation", "confusion" or "distress".   This was also found to be commonplace in our evaluation. This may be why delirium may not have had a clear identity and some staff did not feel confident identifying this and delirium wasn't recognised as a medical condition in its own right.

A training programme was created by the hospice alongside the toolkit which is mandatory for all staff to complete online where hypo-delirium is specifically talked about and the signs and symptoms are included in a test at the end of the slides. Outside the evaluation some staff felt they needed more training but were unsure what this should be, so online training may have not delivered the results hoped for. For example, HCAs said they did not feel confident identifying hypo delirium in patients in spite of having to take the mandatory online training module and answering questions on hypo-delirium. With that in mind they were asking for face to face teaching. The hospice runs symptom control study days for HCAs and the delirium clinical lead now runs a delirium session with the HCA teams at all three hospice sites. In addition to further teaching sessions at HCA study days, the delirium clinical lead is offering a delirium session at the new Doctors induction, and already delivering training as part of the 'Principles and Practice in end of life care' training programme offered at the hospice to registered and unregistered staff.

The delirium clinical lead has designed a poster (Appendix 5) encouraging anyone (clinical staff, volunteers, non-clinical staff, patients, visitors etc) to heighten awareness of delirium, including hypo delirium, and report if they suspect this in any of our patients. They have now started to be put in prominent places in each inpatient unit.

In the interviews with staff, the role of the delirium champion and additional training were identified as ways that may be able to bridge the knowledge gap for staff that are new or less confident. However, it was raised in some of the staff interviews that time for busy clinicians to sustain and continue work as a delirium champion could be an issue. Indeed, one of the three sites was unable to involve anyone as a delirium champion and have a dedicated person on site. From the evaluation results by site this didn't appear to have a big impact on overall knowledge and understanding, but there were areas of the toolkit where there was a difference. This site was less aware of who was responsible for every step of the toolkit and they were less aware of the resources such as the delirium leaflet and new poster. It is possible having a delirium champion on site could have been influential in helping embed these elements into practice on this site. Indeed, other research studies suggested a champion role to improve the adoption of hospice delirium guidelines (Jackson C et al 2024).

The delirium toolkit evaluation shows that the rate at which the delirium assessment was being completed was particularly low between the time points looked at retrospectively. The completion of the 4AT assessment and the 'Getting to Know You' form has now been introduced for every patient on admission and is now helping to embed these steps of the toolkit into practice. The staff interviews have highlighted that further work may be required around when it may be appropriate to repeat the 4AT, particularly when they may be showing symptoms associated with hypo-delirium, which may be less obvious and associated with end of life.

The change to introducing these toolkit elements on admission or making part of it mandatory to complete on the patient record assessment template (the delirium question) appears to have helped to embed the process and improve patient care. Involvement of the whole multi-disciplinary team is also important, with doctors, ACPs, nurses, HCAs, allied health professionals and ward volunteers all having a role to play in the process of supporting the identification and management of delirium, as well as patients' own family and loved ones who know them best.

A particular strength of this evaluation has been the use of three different methods which has helped to enrich understanding and confirm similar findings across the methods. However, the number of participants completing the survey and agreeing to take part in an interview was lower than anticipated and therefore could be considered a limitation. Numbers were small for comparing sub-groups (profession and site) in the survey and we were therefore unable to interpret these results without some level of caution as to their statistical significance. For the interviews we had hoped to included views from a broader group of professions from the multi-disciplinary team and so we cannot be certain that the views from the four interviews were typical of the wider team (and from each site). Although there were similarities between the interviews. The participants that came forward were all staff that were very familiar with the toolkit, and we therefore did not have more in depth views from staff who were less confident or knowledgeable in its use.

There were also limitations relating to the data review phase of the evaluation. There were changes during the period of review after implementation which effected results negatively e.g. the delirium clinical lead being on unexpected long term leave, reduced numbers of OTs. This impacted on the number of forms and assessments being completed or uploaded on to the patient record. The move of parts of the toolkit being uploaded on the patient record as single documents to part of the admission made completion harder to identify for the reviewer.

The data review phase was a key phase in answering objective 3 of the project, to see whether the implementation of the delirium toolkit improved care outcomes for patients. We did show that rates of delirium and average number of 'delirium days' have reduced since the introduction of the toolkit, indicating better prevention and management of delirium. However, the analysis relied on a comparison of 'delirium words' to detect patients with delirium in the cohort before the introduction of the toolkit, as there was no structured way of recording it in the notes prior to the introduction of the toolkit. It is therefore based on interpretation of the notes by the reviewer and with the limited words it is possible that some delirium episodes may have been missed. The benefit of using delirium words, however, is the ability to capture episodes of delirium that would have otherwise been undetected as delirium. In the post-toolkit cohort we found delirium words in the patient notes for nearly half of the records where a 'no' answer was given to the delirium question (the question asking whether a patient had delirium).

As a retrospective study we found that it wasn't straightforward to identify other indicators of improved care outcomes for patients, with the procedures relating to delirium (or lack of) not being as clearly recorded prior to the introduction of the toolkit e.g. modification of potential causes, increase in non-pharmacological interventions, decrease in drug use. In addition to the evaluation being retrospective in nature, another limitation is that it did not seek the views and experiences from patients and/or their families/ loved ones. We would therefore recommend that future research in this area include this aspect and look at implementation prospectively by a randomised controlled trial design. With this design relevant data can be collected and compared between hospices implementing the intervention and hospices as a control group providing usual care. Following the completion of a successful feasibility study (Jackson GP et al 2024), there is a new national study, led by the University of Hull, that is being planning to undertake this type of work in which Pilgrims Hospice is hoping to participate in the future: https://fundingawards.nihr.ac.uk/award/NIHR161360.

8. Recommendations

- The delirium toolkit as a complete package of tools and a process is recommended for continued use within the Pilgrims Hospices inpatient units. Implementation of a similar approach is recommended for the detection and management of delirium in other hospice settings. Limited information obtained from the staff interviews indicates that the delirium toolkit could be transferable to the community setting, where it has already started to be introduced.
- Delirium champions (and/or a dedicated delirium clinical lead) are recommended to help with the implementation of the delirium toolkit into other services, either within different sites or professional teams.
- Ongoing awareness raising, support and training are suggested after initial implementation of the toolkit and mandatory training to ensure staff have the knowledge and confidence to use the toolkit appropriately and have a clear understanding of delirium (e.g. hyper and hypo delirium). This may be part of other face-to-face training provision or advice and information from the delirium lead or champions.
- The staff interviews identified the worth, skills, and time of the recently introduced ward volunteers which could be explored as a role to support further with the delirium toolkit process e.g. the non-pharmacological aspects.
- Further research would be recommended to see if the delirium toolkit (or similar approach) also works in other hospice settings and its cost effectiveness. A prospective randomised controlled trial design would be proposed which is being planned and led by the University of Hull.

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Appendix 1

Step by step Flowchart used during early implementation

FLOW CHART FOR DELIRIUM ASSESSMENT GUIDELINES FOR HOSPICE INPATIENTS

1. **Getting to know you form completed on admission (this can be done by the patient, carers, family and staff but can be added to by any MDT member who consults with the patient)**
2. **Patient is reported by anyone (including staff, family, carers, the patient) as showing signs of delirium. Common words associated with delirium are confusion, being muddled, not making sense, mixed up, not with it. Report delirium to the nurse in charge and ANP, Doctor (when next on duty unless immediate medical advice needed)**
3. **Non pharmacological and Therapy checklist to be completed as soon as possible this can be done by any of the ward staff, AHPs**
4. **Complete a 4AT assessment – this can be done by all staff**
5. **Complete a delirium assessment on EMIS this can be done by any clinician (qualified nurse, doctor, OT, Physiotherapist)**
6. **Delirium Leaflet to be given to patient, relatives and carers**
7. **Discuss at next ward MDT meeting and the plan of care and who will take a lead on which aspect of care identified on the delirium assessment and communicated to all relevant staff including well-being team and HCAs**
8. **Daily discussion at ward MDT meeting to assess progress of plan from MDT perspective and any additional measures that need to be taken**
9. **Remember to communicate information to patients and relatives/carers at all parts of the process so they are fully informed of and involved in the plan of care**
10. **All information concerning Delirium can be found in the blue delirium tool kit folder in the ward office.**

DELIRIUM ASSESSMENT FLOW CHART

1. COMPLETE GETTING TO KNOW YOU FORM ON ADMISSION

2. REPORT THAT THE PATIENT HAS DELIRIUM

3. COMPLETE NON PHARMACOLOGICAL CHECKLIST

4. COMPLETE A 4AT ASSESSMENT

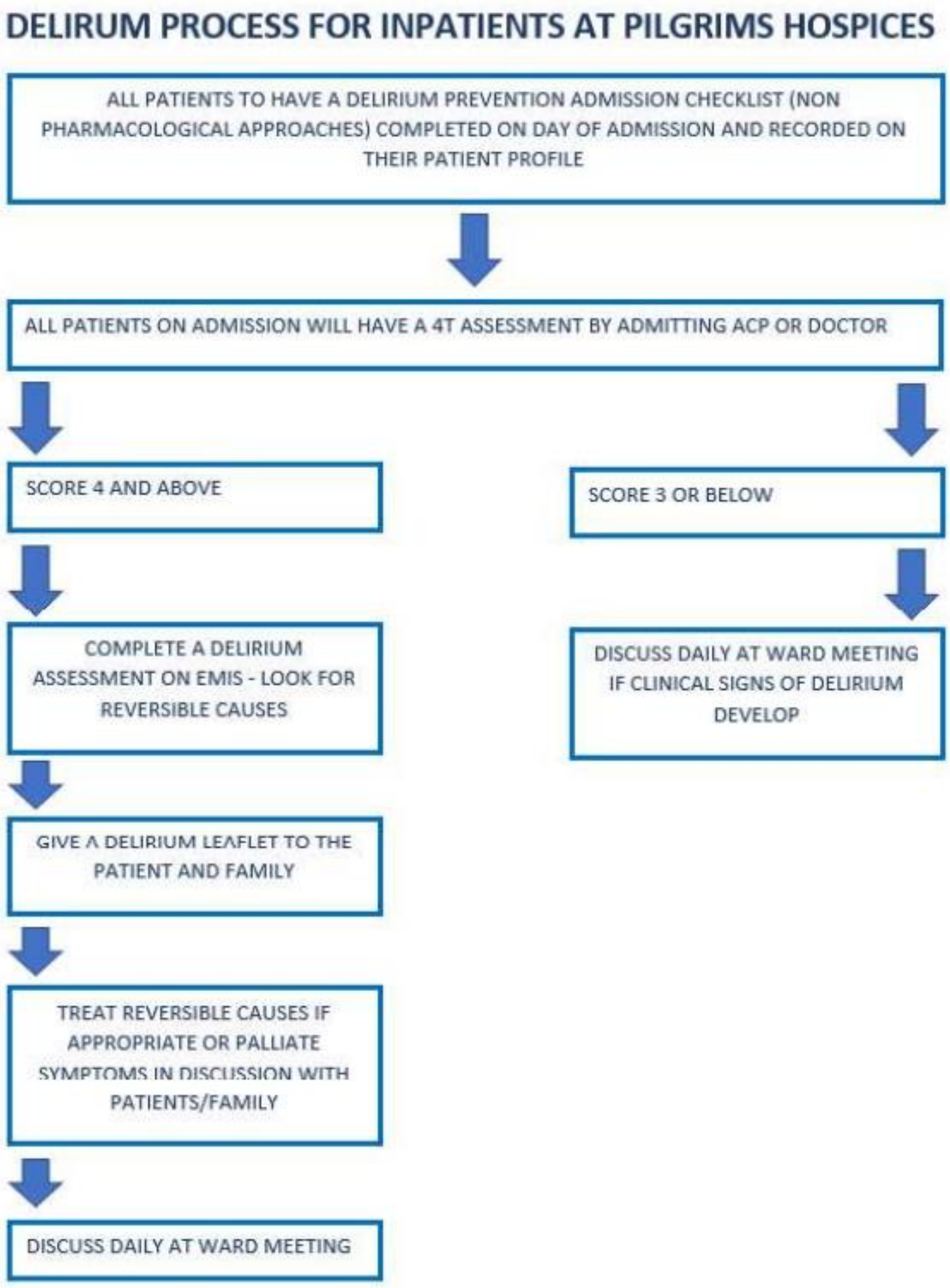
5. COMPLETE A DELIRIUM ASSESSMENT ON EMIS

6. GIVE DELIRIUM LEAFLET TO PATIENT/FAMILY/CARER

7. DISCUSS AT WARD MDT MEETING DAILY TO DISCUSS PLAN OF CARE

New Flowchart implemented in 2023

Delirium Assessment Flow Chart for Hospice Inpatients



DELIRUM PROCESS FOR INPATIENTS AT PILGRIMS HOSPICES

ALL PATIENTS TO HAVE A DELIRIUM PREVENTION ADMISSION CHECKLIST (NON PHARMACOLOGICAL APPROACHES) COMPLETED ON DAY OF ADMISSION AND RECORDED ON THEIR PATIENT PROFILE

ALL PATIENTS ON ADMISSION WILL HAVE A 4T ASSESSMENT BY ADMITTING ACP OR DOCTOR

SCORE 4 AND ABOVE

COMPLETE A DELIRIUM ASSESSMENT ON EMIS - LOOK FOR REVERSIBLE CAUSES

GIVE A DELIRIUM LEAFLET TO THE PATIENT AND FAMILY

TREAT REVERSIBLE CAUSES IF APPROPRIATE OR PALLIATE SYMPTOMS IN DISCUSSION WITH PATIENTS/FAMILY

DISCUSS DAILY AT WARD MEETING

SCORE 3 OR BELOW

DISCUSS DAILY AT WARD MEETING IF CLINICAL SIGNS OF DELIRIUM DEVELOP

Appendix 2

Delirium Toolkit - Staff survey questions by Site and Job Category

* Result is statistically significant with a p-value significance level of <0.05

** Result is statistically significant with a p-value significance level of <0.01

Delirium Toolkit - Staff survey questions by Site

Median (min-max)	Site			Total
	Canterbury	Ashford	Thanet	
General questions (0='still very new' to 10='Feels completely familiar')				
1.When you use the Delirium Toolkit how familiar does it feel?	5 (0-10) n: 27	4 (0-8) n: 13	6 (1-8) n: 10	5 (0-10) n: 50
2.Do you feel the Delirium Toolkit is currently a normal part of your work?	5 (0-10) n: 26	4 (0-9) n: 13	4 (2-9) n: 10	5 (0-10) n: 49
3.Do you feel the Delirium Toolkit will become a normal part of your work?	7 (0-10) n: 26	7 (3-10) n: 14	7 (3-10) n: 11	7 (0-10) n: 51
Coherence (sense-making) (1= 'strongly agree' to 5= 'strongly disagree').				
1. I can see how the Delirium Toolkit differs from usual ways of working	2 (1-5) n: 25	3 (2-4) n: 10	2.5 (2-4) n: 10	2 (1-5) n: 45
2. Staff in the organisation have a shared understanding of the purpose of the Delirium Toolkit	2 (1-5) n: 26	2 (1-5) n: 11	3 (2-4) n: 10	3 (1-5) n: 47
3. I understand how the Delirium Toolkit affects the nature of my own work	2 (1-4) n: 25	2 (1-5) n: 11	2 (1-3) n: 10	2 (1-5) n: 46
4. I can see the potential value of the Delirium Toolkit for my work	2 (1-3) n: 25	2 (1-3) n: 10	2 (1-3) n: 10	2 (1-3) n: 45
Cognitive Participation (Buy-in) (1= 'strongly agree' to 5= 'strongly disagree').				
1. There are key people who drive the Delirium Toolkit forward and get others involved	2 (1-3) n: 26	2 (1-4) n: 11	2 (1-4) n: 10	2 (1-4) n: 47

2. I believe that participating in the Delirium Toolkit is a legitimate part of my role	2 (1-3) n: 25	2 (1-5) n: 11	2 (1-3) n: 10	2 (1-5) n: 46
3. I am open to working with colleagues in new ways to use the Delirium Toolkit	2 (1-3) n: 25	2 (1-5) n: 12	2 (1-2) n: 10	2 (1-5) n: 47
4. I will continue to support the Delirium Toolkit	2 (1-3) n: 26	2 (1-5) n: 11	2 (1-3) n: 10	2 (1-5) n: 47
Collective Action (Doing) (1= ‘strongly agree’ to 5= ‘strongly disagree’).				
1. I can easily integrate the Delirium Toolkit into my existing work	2 (1-4) n: 25	2 (1-4) n: 9	2.5 (2-3) n: 10	2 (1-4) n: 44
2. The Delirium Toolkit disrupts working relationships	4 (2-5) n: 25	3.5 (3-5) n: 10	4 (3-5) n: 10	4 (2-5) n: 45
3. I have confidence in other people’s ability to use the Delirium Toolkit	2.5 (1-4) n: 26	2.5 (2-4) n: 10	2.5 (2-4) n: 10	2.5 (1-4) n: 46
4. Work is assigned to those with skills appropriate to the Delirium Toolkit	3 (1-4) n: 26	3 (2-4) n: 9	3 (2-5) n: 10	3 (1-4) n: 45
5. Sufficient training is provided to enable staff to implement the Delirium Toolkit	3 (1-5) n: 26	3 (2-4) n: 10	3 (2-5) n: 10	3 (1-5) n: 46
6. Sufficient resources are available to enable staff to implement the Delirium Toolkit	3 (1-5) n: 25	3 (1-5) n: 11	3 (1-4) n: 10	3 (1-5) n: 46
7.Management adequately supports the use of the Delirium Toolkit	2 (1-5) n: 26	2.5 (1-3) n: 10	2 (1-4) n: 9	2 (1-5) n: 45
Reflexive Monitoring (Appraisal) (1= ‘strongly agree’ to 5= ‘strongly disagree’).				
1. I am aware of reports about the effects of The Delirium Toolkit	3.5 (1-5) n: 26	3 (1-5) n: 11	3 (1-4) n: 10	3 (1-5) n: 47
2. The staff agree that the Delirium Toolkit is worthwhile	2 (1-4) n: 26	3 (1-4) n: 9	2.5 (1-3) n: 10	2 (1-4) n: 45

3. I value the effects that the Delirium Toolkit has had on my work	2 (1-3) n: 25	2 (1-4) n: 9	2 (1-3) n: 10	2 (1-4) n: 44
4. Feedback about the Delirium Toolkit can be used to improve it in the future	2 (1-3) n: 26	2 (1-2) n: 10	2 (1-3) n: 10	2 (1-3) n: 46
5. I can modify how I work with the Delirium Toolkit	2 (1-3) n: 24	2 (1-4) n: 9	2.5 (1-3) n: 10	2 (1-4) n: 43
Delirium Toolkit -questions familiarity of each step of delirium assessment (0='still very new' to 10='Feels completely familiar')				
1. Completing the 'getting to know you' form on admission	5 (1-10) n: 25	8 (1-10) n: 12	7.5 (3-10) n: 10	8 (1-10) n: 47
2.Report that the patient has delirium	7 (2-10) n: 25	8 (1-10) n: 12	8 (5-9) n: 10	7 (1-10) n: 47
3. Completing the non-pharmacological checklist	6 (0-10) n: 24	7 (0-9) n: 12	7 (1-10) n: 8	6.5 (0-10) n: 44
4.Completing a 4AT assessment	4 (0-10) n: 25	1.5 (0-9) n: 12	5 (0-10) n: 7	4 (0-10) n: 44
5.Completing a delirium assessment on EMIS	7 (0-10) n: 25	2 (0-8) n: 12	6 (0-10) n: 8	5 (0-10) n: 45
6.Giving a delirium leaflet to patient/family/ carer	6 (0-10) n: 25	5 (0-9) n: 12	2.5 (0-9) n: 8	5 (0-10) n: 45
7. Discussing at ward MDT meeting to discuss plan of care	6.5 (0-10) n: 24	7 (0-10) n: 11	6 (0-8) n: 8	6 (0-10) n: 43

Questions about training and knowledge of delirium and the delirium toolkit (by site)

n (%)	Site			Total
	Canterbury	Ashford	Thanet	
Experiences of the Toolkit (percentage answered 'yes')				
1.Do you know the individual responsibilities in every step of the flow chart	10 (39%)	5 (42%)	1 (9%)	16 (33%)
2 Does the delirium question get asked at MDT morning meetings?	14 (54%)	4 (33%)	4 (36%)	22 (45%)
3.Do you know who the delirium champions are in your unit?**	14 (54%)	3 (25%)	0 (0%)	17 (35%)
Training and understanding of delirium (percentage answered 'yes' or 'somewhat')				
1. Have you completed the online delirium training	25 (96%)	9 (75%)	7 (64%)	41 (84%)
2. Do you feel the training module has helped you to understand the importance and relevance of the Delirium Toolkit?	23 (92%)	9 (90%)	8 (89%)	40 (91%)
3. Does the training help you to use the delirium toolkit as part of your daily work?	20 (83%)	9 (82%)	5 (71%)	34 (81%)
4. Do you feel confident identifying hypo-delirium?	19 (76%)	6 (50%)	8 (80%)	33 (70%)
5. Do you feel confident identifying hyper-delirium?	19 (76%)	9 (75%)	8 (80%)	36 (77%)
6. Do you feel you understand what they term delirium is?	25 (100%)	11 (92%)	8 (89%)	44 (96%)

Delirium Toolkit - Staff survey questions by Profession

Median (min-max)	Profession				Total
	Medical	Nursing	HCA	AHP/Other	
General questions (0='still very new' to 10='Feels completely familiar')					
1.When you use the Delirium Toolkit how familiar does it feel?	6 (1-10) n: 12	4 (0-10) n: 13	3 (0-8) n: 11	5 (0-10) n: 13	5 (0-10) n: 49
2.Do you feel the Delirium Toolkit is currently a normal part of your work?	5 (1-10) n: 12	4 (0-10) n: 13	4 (0-10) n: 10	5 (0-10) n: 13	5 (0-10) n: 48
3.Do you feel the Delirium Toolkit will become a normal part of your work?	7.5 (2-10) n: 12	7 (1-10) n: 14	7 (3-10) n: 11	7 (3-10) n: 10	7 (1-10) n: 50
Coherence (sense-making) (1= 'strongly agree' to 5= 'strongly disagree').					
1. I can see how the Delirium Toolkit differs from usual ways of working	2 (1-5) n: 12	3 (2-4) n: 12	2 (1-3) n: 9	2 (2-4) n: 12	2 (1-5) n: 45
2. Staff in the organisation have a shared understanding of the purpose of the Delirium Toolkit	2.5 (1-4) n: 12	3 (2-5) n: 13	2 (1-3) n: 9	2.5 (2-5) n: 12	2 (1-5) n: 46
3. I understand how the Delirium Toolkit affects the nature of my own work	2 (1-4) n: 12	2 (1-5) n: 13	2 (1-3) n: 9	2 (1-4) n: 12	2 (1-5) n: 46
4. I can see the potential value of the Delirium Toolkit for my work	1 (1-3) n: 12	2 (1-3) n: 12	2 (1-3) n: 9	2 (1-2) n: 12	2 (1-3) n: 45
Cognitive Participation (Buy-in) (1= 'strongly agree' to 5= 'strongly disagree').					
1. There are key people who drive the Delirium Toolkit forward and get others involved*	1.5 (1-3) n: 12	2.5 (1-4) n: 12	2 (1-4) n: 10	2 (1-3) n: 12	2 (1-4) n: 46
2. I believe that participating in the Delirium Toolkit is a legitimate part of my role	1.5 (1-3) n: 12	2 (1-5) n: 13	2 (1-3) n: 9	2 (1-4) n: 12	2 (1-5) n: 46
3. I am open to working with colleagues in new ways to use the Delirium Toolkit	1 (1-3) n: 12	2 (1-5) n: 13	2 (1-2) n: 10	1.5 (1-2) n: 12	2 (1-5) n: 47

4. I will continue to support the Delirium Toolkit	1 (1-3) n: 12	2 (1-5) n: 13	2 (1-3) n: 9	2 (1-2) n: 12	2 (1-5) n: 46
Collective Action (Doing) (1= ‘strongly agree’ to 5= ‘strongly disagree’).					
1. I can easily integrate the Delirium Toolkit into my existing work	2 (1-4) n: 12	2 (2-3) n: 11	2 (1-3) n: 9	2 (1-4) n: 12	2 (1-4) n: 44
2. The Delirium Toolkit disrupts working relationships	4 (3-5) n: 12	4 (2-4) n: 11	4 (3-5) n: 10	4 (3-5) n: 12	4 (2-5) n: 45
3. I have confidence in other people’s ability to use the Delirium Toolkit	3 (2-4) n: 12	3 (2-4) n: 11	2 (1-3) n: 10	3 (2-4) n: 12	3 (1-4) n: 45
4. Work is assigned to those with skills appropriate to the Delirium Toolkit*	2 (2-3) n: 12	3 (1-4) n: 11	3 (2-4) n: 9	3 (2-4) n: 12	3 (1-4) n: 44
5. Sufficient training is provided to enable staff to implement the Delirium Toolkit	3 (1-4) n: 12	4 (2-5) n: 11	3 (1-5) n: 10	3 (2-5) n: 12	3 (1-5) n: 45
6. Sufficient resources are available to enable staff to implement the Delirium Toolkit	2 (1-4) n: 12	2.5 (2-5) n: 12	3 (1-4) n: 9	3 (2-4) n: 12	3 (1-5) n: 45
7.Management adequately supports the use of the Delirium Toolkit	2 (1-3) n: 12	2 (2-5) n: 11	2 (1-3) n: 9	2.5 (2-4) n: 12	2 (1-5) n: 44
Reflexive Monitoring (Appraisal) (1= ‘strongly agree’ to 5= ‘strongly disagree’).					
1. I am aware of reports about the effects of The Delirium Toolkit	3 (1-5) n: 12	4 (2-5) n: 12	3 (1-4) n: 10	4 (1-5) n: 12	3 (1-5) n: 46
2. The staff agree that the Delirium Toolkit is worthwhile	2.5 (1-3) n: 12	2 (2-4) n: 11	2 (1-3) n: 9	2.5 (1-4) n: 12	2 (1-4) n: 44
3. I value the effects that the Delirium Toolkit has had on my work	2 (1-3) n: 12	2 (2-3) n: 11	2 (1-3) n: 9	3 (1-4) n: 12	2 (1-4) n: 44

4. Feedback about the Delirium Toolkit can be used to improve it in the future	2 (1-3) n: 12	2 (1-2) n: 11	2 (1-3) n: 10	1 (1-2) n: 12	2 (1-3) n: 45
5. I can modify how I work with the Delirium Toolkit	2 (1-3) n: 12	2 (1-4) n: 10	2 (1-3) n: 9	2 (1-4) n: 12	2 (1-4) n: 43
Delirium Toolkit -questions familiarity of each step of delirium assessment (0='still very new' to 10='Feels completely familiar')					
1. Completing the 'getting to know you' form on admission	5 (1-10) n: 12	8 (1-10) n: 12	8 (1-10) n: 10	8 (1-10) n: 12	8 (1-10) n: 46
2.Report that the patient has delirium	8 (5-10) n: 12	8 (2-10) n: 12	7.5 (5-9) n: 10	7 (4-10) n: 12	7.5 (2-10) n: 46
3. Completing the non-pharmacological checklist	6.5 (1-10) n: 12	7 (0-10) n: 11	0.5 (0-9) n: 8	8 (0-10) n: 12	7 (0-10) n: 43
4.Completing a 4AT assessment**	8 (5-10) n: 12	0.5 (0-10) n: 12	0 (0-9) n: 8	1 (0-8) n: 11	5 (0-10) n: 43
5.Completing a delirium assessment on EMIS	8 (4-10) n: 12	6.5 (0-10) n: 12	0.5 (0-8) n: 8	2 (0-10) n: 12	6 (0-10) n: 44
6.Giving a delirium leaflet to patient/family/ carer	5.5 (2-10) n: 12	3.5 (2-10) n: 12	7 (0-10) n: 8	3.5 (0-10) n: 12	5 (0-10) n: 44
7. Discussing at ward MDT meeting to discuss plan of care	6 (3-10) n: 11	6 (0-10) n: 11	0 (0-7) n: 8	7 (3-10) n: 12	6 (0-10) n: 42

Questions about training and knowledge of delirium and the delirium toolkit (by profession)

n (%)	Profession				Total
	Medical	Nursing	HCA	AHP/Other	
Experiences of the Toolkit (percentage answered 'yes' or 'somewhat')					
1.Do you know the individual responsibilities in every step of the flow chart	7 (59%)	3 (23%)	3 (30%)	3 (23%)	16 (33%)

2 Does the delirium question get asked at MDT morning meetings?*	5 (42%)	5 (39%)	2 (20%)	11 (85%)	23 (48%)
3.Do you know who the delirium champions are in your unit?	4 (33%)	3 (23%)	4 (40%)	6 (46%)	17 (35%)
Training and understanding of delirium (percentage answered 'yes')					
1. Have you completed the online delirium training	11 (92%)	9 (69%)	8 (80%)	12 (92%)	40 (83%)
2. Do you feel the training module has helped you to understand the importance and relevance of the Delirium Toolkit?	12 (100%)	8 (89%)	8 (80%)	11 (92%)	39 (91%)
3. Does the training help you to use the delirium toolkit as part of your daily work?	11 (100%)	8 (80%)	8 (80%)	8 (80%)	35 (85%)
4. Do you feel confident identifying hypo-delirium?*	11 (92%)	10 (83%)	7 (70%)	5 (42%)	33 (72%)
5. Do you feel confident identifying hyper-delirium?	11 (92%)	11 (92%)	6 (60%)	8 (68%)	36 (78%)
6. Do you feel you understand what they term delirium is?	12 (100%)	12 (100%)	8 (89%)	11 (92%)	43 (96%)

Appendix 3

Delirium words identified by staff in the staff survey (response count)

Confusion	Agitation	Withdrawn	Reversible/ Non-Reversible Causes
Confusion (20)	Agitation (10)	Withdrawn (2)	Reversible causes (2)
Muddled (13)	Hallucinations (4)	Drowsy (2)	Non-reversible causes (1)
Confused (8)	Unsettled (4)	Fluctuating consciousness (2)	Infection (1)
Disorientated (7)	Restlessness (4)	Quiet (1)	Opioid toxicity (1)
Hallucinations (5)	Agitated (3)	Apathetic (1)	Clinical chemistry (1)
Disorientation (3)	Aggression (3)	Hard for patients (1)	Hypercalcaemia (1)
Wandering (3)	Aggressive (2)	Isolated (1)	Constipation (1)
Increased confusion (2)	Restless (2)	Separate (1)	Urine retention (1)
Cognitive deficit (1)	Terminal agitation (2)	Fatigued (1)	
Delusions (1)	Awake at night (1)	Non-connection of faces (1)	
Forgetfulness (1)	Challenging for relatives (1)	Acting out of character (1)	
New confusion (1)	Distressing (1)	Hypoactive (1)	
Disorientation of environment (1)	Manic (1)		
Issues around capacity and decision making (1)	Irritability (1)		
Delusional behaviour (1)	Fretful (1)		
Dementia (1)	Trying to get out of bed (1)		
Unaware (1)	Uncooperative (1)		
Acute change in mental status (1)	Behaviour issues (1)		
Change in cognition (1)	Extreme behaviour (1)		
Loss in motor skills (1)	Hyperactive (1)		
Unclear thought process (1)	Hyperactivity (1)		
	Hysteria (1)		
74	**47**	**15**	**9**

Appendix 4:

Matrix table: Findings from qualitative interviews with hospice staff, analysed by Normalisation Process Theory (NPT) constructs.

NPT construct (Description of the mechanism -operational question)	**Theme**	**Quotes (grouped by relevant toolkit element)**
Coherence (Work that defines and organises a practice i.e. sense making -What is the work?)	Understanding of toolkit steps/ delirium awareness	4AT assessment *"I've used it to sort of start the ball rolling to see where we're at with things. And I think it's been a, instead of sort of just, you know, having your own ideas about what that person may or not know the usual things like date of death and things, it's really a more specific way of doing things and also now it's in your head when you admit someone to the ward. If there's any question at all about their thinking or confusion, confusional state, then it's a good way to start to get an idea if there's any concerns, get a baseline" (ID003)* Non-pharmacological checklist *"We did non-pharmacological checklist and we put things in place and then we bring it up: What can be done to reduce a delirium? Can it be reversed? The first thing is bloods. You know your take, bloods. If someone's already in the dying phase then you'll keep them comfortable"(ID001).* *"The Assessment on EMIS. So we have that and we fill that in. We, you know, normally we will do the paper form of non-pharmacological checklist and put it in the black file and then it gets scanned onto EMIS… It's important we do fill them in and it sometimes it can trigger something you haven't done." (ID001).* *"This [non-pharmacological checklist) should be put in the blue folder with the "Getting to know you" form and, you know, people can make comments. Not all of it is applicable, so you just sign a date what is" (ID004).*

		Morning meetings *“The reporting that the patient has delirium, this is this is often the bit that's identified perhaps in the MDT that we have every morning. So it's, it's a good opportunity” (ID002).* *“There's always someone note taking during morning MDT meeting and that is one of the questions. You know, “Does the patient have delirium”?. Yeah. So it's a good time because kind of all of those disciplines are together” (ID002).* *“When we're working on the ward, we have the board ward around in the morning. So, like a ward around and within the board ward around there's a box that will be ticked to say whether someone has got delirium. So, it's quite often identified, it's always brought up in a meeting in the morning. Has this person got delirium? or, you know, is there a chance they have got delirium? So, that's usually where it's identified” (ID004).* *“I think the board ward around in the morning is really useful, even if the HCAs aren't at the board ward round I think the nurse in charge will bring the input from their sort of hand over in the morning before that meeting” (ID004).* Delirium Leaflet/Poster *“I’ve seen them* [delirium awareness poster], *yeah, yeah, yeah…It's a bit of a visual especially when it's on the back of the toilet door…I think it's a great for staff and relatives to just have that all you know. Except they might, they may take a relative who hasn't got to see delirium , but who knows, in a week or two weeks or two months’ time that they don't develop some of those symptoms” (ID002).* *“The fact that there's a leaflet as well. That's often given to patients, relatives at that time because it can be quite early on, they might, they might feel that they've come in and end of life is imminent, but it's actually, it's their delirium that's making their symptoms, agitation, you know worse, and you know, there might be something that can be done with that” (ID002).* *“The posters that went most recently, though, that's really good because they're everywhere and they need to catch the eye. So, it keeps it at the top of your mind” (ID003).*

		Training *"If I'm honest, the hypo delirium, the training highlighted that. I never realised that there was hypo delirium, so yeah, that was really helpful. So having the different types definitely is relevant, yeah" (ID002).* Other (identifying and using a number of steps in the process): *[Process in the community setting]"From my perspective it would be the if you're not sure you see in the report that the patient had delirium, it might be on the referral, it might be on the phone call. It might be the family's perception of what's going on. So, then you would, you might or may not have ever met that person before. So immediately, I would if I was concerned I'd exactly say, "Do you mind me asking you these questions"? And then I would think through what's going on there in terms of all the things I said earlier about medicines. So, it would be again, the assessment first, then what's going on? Obviously, when I came back, I would complete the assessment part of my visit and my notes. I may have to post the delirium leaflet because then I'd certainly make it part of my plan to unpick what we might be able to reverse" (ID003).* *"The 4AT think is put on to the system* [EMIS]. *The delirium assessment and the " Getting to know you" form are I think are scanned onto the system, eventually, but they are sort of in your face in the blue folder, looking at them, going to patient's room and what have you. But yes, I think every morning at the board ward round will sort of be updating about that person's delirium. You know, they're not sleeping or something, or what's happened and progress each sort of day. I think that's where we will be feeding back. Obviously the nurses have more handovers as well" (ID004).*
	Steps that are not familiar or certain in terms of process	4AT assessment *"That would be difficult because that would be very difficult to identify hypo due to the fact of people's low mood when family members are not able to visit" (ID001)*

		“I’m not sure about that for something. I was always under the impression that 4AT was filled in, sort of, by qualified staff, it says in the sort of the Flowchart format, not the flowchart, there's the other little bit [on the back of the flowchart] *maybe this can be done by all staff… So yeah, I'm not sure who should be filling, so that's a little bit unclear in my head” (ID004).* Morning meetings *“I'm not sure how often that* [delirium question] *is actually specifically that is asked. So, it comes over on the MDT handover about delirium. I don't know. I don't think it's actually objectively asked at any sort of handover as such. I think people who are suspected of having some delirium are then reported at the handovers and then you would go and assess that from there or you might go to someone yourself who hasn't been reported as having any sort of issues with confusion or delirium” (ID003).* Delirium Assessment *“then we're not filling it [delirium assessment] in if they haven't got delirium. I don't know if we're meant to say ‘no’ and fill it in, I’m not sure… So I might even be doing that part wrong on my admission and not filling it in”(ID001).*
	Awareness of the help of delirium champions	Delirium Champions *“We've had [name – delirium champion]sort of historically and she's always been a mind of information and that kind of stuff. So, yeah, she's always been quite proactive. I think she's one of the Champions and one of the people that started it” (ID004).* “*There was at least one [delirium champion] that I was aware of, and he and yeah, he was always very good at when patients were admitted, making sure the paperwork was completed… I think it's helpful because it then kind of filters through the team. So, if one team member is doing the other team members hopefully are going to pick up from that*” (ID002)

	Reversible causes	4AT assessment *“So, in terms of the person and patient you've got, you get your baseline, you can see changes. You can then look for reversibility. You can look at what you can do to make things as best as they can for that person. You need to give that information to the family” (ID003).* *And I guess for some families it could be it's good to know that actually some of this may be reversible. And if it isn’t, then at least they know that they're not alone, that it's not, it's not on, you know, it's not unheard of… For some people, it's part of normal changes. So, I think perhaps, you know, you can't be there all the time to explain something. So, I think to have that leaflet has been very helpful (ID003).* Other *“..but it* [delirium] *can be reversible. It might be something we've done, you know, with medication and things as well. Or it could be a change of state of a person.* *Yeah, I think it does in terms of supporting families as well to understand that actually this isn't particularly unusual (ID003)*
Cognitive participation (Work that defines and organises the individuals implicated in practice e.g. enrolment and engagement - Who does the work?)	Importance of loved one/family in supporting patients	Non-pharmacological checklist *“And sometimes it's even simple things, like if they've got a family and you want them to bring their glasses in. It's relying on other people to do certain things, and knowing which glasses are which and where they are and have they got broken and if someone hasn't got a pair of glasses, what are they going to do, which can make a real big difference. I guess it's all out of our hands a little bit, yeah”(ID004).* Getting to know you form *“Yeah, if they haven’t got loved ones or what have you who can assist or friends or anyone you can contact to get that little bit more information. Yes, there is a bit of a guessing game after that. If not, and obviously you know, trying to find out when the delirium is coming, or if it is delirium”* (ID004).

		<u>Delirium leaflet/poster</u> *"The leaflets really good and I think it's really helpful for the families because they're such a big part of, you know, patient care and their families and you know, delirium is just so frightening. It's so common, especially, you know, the older age group and in our line of work" (ID004).* <u>Other</u> *"Having family aware and updated is really important as well.* *Because should we need a night sit, sometimes family will look after their loved ones and it just reduces the risk of injury because yes, they're normally at very high risk of falls" (ID001).* *"And families are also quite often very good at bringing bits and pieces in* [for reminiscence] *and identifying with, you know, some would like to listen to some music or favourite radio stations, which we can get on our TV's" (ID004).*
	Team working and knowing who does what	<u>4AT assessment</u> *"I think the Team that we've got as in, health professionals and social workers are because we're so familiar with this it is often one of us that will say, oh has this [4AT] been done… I don't normally fill it out, the delirium assessment on EMIS. I think I have done it, but it's generally the person that completes this [the 4AT] that would then do that." (ID002).* *"So, I was given only from my own experience, I would think that there's agreement* [between staff] *because you've actually done the 4AT and done your delirium assessment. So, you've got your, you've got your evidence" (ID003).*

		Non-pharmacological checklist *“…we often get involved with patients with delirium, kind of, you know, trying to find a meaningful activity or assessing and transfers. Working alongside of the physios for mobility and also with regards to, we will often fill out the non-pharmacological aspect of the delirium” (ID002)* *“It’s a good point for discussion with the other colleagues as well, if you're not sure. And I think whatever the reason for that delirium, or that suspicion of delirium, I think the non-pharmacological checklist and getting that in place is really helpful as well. So other staff* [complete it]. *So we take it, that it’s going to be done, but then others staff would make sure that's done (ID003).* *“Any of us can fill these out [non-pharmacological checklist] if someone is identified in the morning meeting, for example with delirium or chance of having delirium. Anyone, HCAs as well, any of us can go and fill in this form with the patient. We do it in conjunction, we may need to go and ask the nurses questions. It's not just the patient. Quite often it will be the OT that will go and fill in this form, but I can do it as well and I think we all play a part in it” (ID004).* *“The toolkit delirium prevention and management care plan [non-pharmacological checklist] has been really good. I think as a team we're doing all the bits already within the toolkit. I think it brings us together quite a lot as a team as well. Like I say, things like complementary therapists and working closely with the HCAs and the nurses” (ID004).* Other *“We are really, really good here, really good because the HCAs sit by the patient bedside with this it [the getting to know you form] and then we read it…We report it verbally and we document. The non-pharmacological checklist, nurses do that. The 4AT assessment, often the doctors do that one (ID001)* *“Occupational Therapists, are very good at looking at someone holistically. So, I think it kind of, you know, it almost, it's [the toolkit] a natural kind of progression…* *I think it helps that I am part of a team who can take on this problem because then it just becomes part of your daily life. Might be difficult for those teams that don't quite use it to the same effect or not as confident in using it” (ID002)*

		"I think it's great that we've got the Trainee ACPs now… You know and certainly the allied health professionals.., we're going, on an assessment basis, whereas the ward are kind of going on, I'm going to do for that patient. I'm going to, we're looking I think with different eyes, if you like (ID002). *"I feel that there are some areas of the MDT who are very confident with it and others that may be aren't. So I would think that between us, medical colleagues and ACP etc and the occupational therapist, there's a really good understanding and a really good way of working"(ID003).* *"We, as health professionals obviously look at the non-pharmacological aspects, but what often will sort of notice or drag up to the nurses or the doctors if someone's got medication toxicity or something like that. So yeah, we all take a hand in identifying if someone has delirium" (ID004).* *"We do sort of work together quite closely, especially the qualified OTS and doctors and nurses, but yeah, you know the HCA as well" (ID004).*
Collective action (Work that defines and organises the operationalising of a practice - How does the work get done?)	Orientation	Non-pharmacological checklist *"So, what's really helpful is having the orientation clocks. Really, really beneficial to they [patients] don't seem to realise that it's dark and say they, the patients, don't always realize it's dark, that that means night time that with the delirium they're not comprehending, dark means sleep" (ID001)* *"That [non-pharmacological checklist] can be really helpful, and for the ward, because there may have been elements of the patient's kind of wishes, likes, dislikes that haven't been picked up upon or if they need reorientating. That's the time that we can have a check, you know, do that. Do they need a clock and calendar next to them? Do they need that verbal orientation? Are they going to be able to reach for drinks themselves or do they need prompting? So that's, that's a really good checklist if you like (ID002).*

		“From a personal, personal perspective that lots of the little bits of information are really important to a person, and I think also it can decrease delirium as well by going through these bits of information with people. Yeah, really important stuff like hearing aids and what they might like for breakfast. It's just orientating them a little bit better” (ID004).
	Reminiscence	Non-pharmacological checklist *“You know, particularly having personal items around they can touch and feel them and have them on their bed. They can know where they are. I can give them something to show they're at the Pilgrims Hospice” (ID001).* *“Reminiscence as well. I think they [volunteers] do a lot with patients. Usually they've been asked to do it, but it's knowing why they do it as well. So yeah, lots of these things are quite OT orientated as well (ID004).* *“And families are also quite often very good at bringing bits and pieces in* [for reminiscence] *and identifying with, you know, some would like to listen to some music or favourite radio stations, which we can get on our TV's” (ID004).*
	Getting to know the patient	Getting to know you form *“So, loved ones can help fill that* [Getting to know you form] *in and it might mean that they watch Corrie every night time and keeping a routine of that person will help them… that's a comfort and it's those things we want to bring someone down” (ID001)* *“I find getting to know them and the clocks for a nurse is really important on our day/ night shifts because sundown, honestly, people change. And you know,…when that sun goes down, people's behaviour changes. Yeah, it really does...* *and mood, mood can change. It’s a long, old night, if you can't sleep*”(ID001).

		“If we go and see a patient that has been added for us that has been assessed as having delirium we know we can look in the folder to find information [Getting to know you form]. *You know, i.e. they might not want to go to bed until 10:00 at night or you know they don't like a lot of background noise” (ID002).*
	Keeping patients with delirium safe	Non-pharmacological checklist *“..if a patient is quite agitated and their perhaps risk of falls, that[non-pharmacological checklist] can kind of capture all of that risk assessment do we need. Do they need to have the floor lower, crash mats?...Reducing some of those risks for that patient and be made self -aware” (ID002)* Getting to know you form *“ [Getting to know you form] it's a really good piece of information to have about somebody, especially if they are having delirium or they've got cognitive problems or, you know, they're quite scared and vulnerable. Yeah. It's nice to have a little bit more information about the patient and it's usually in the blue folder that they have in their room or on their bay. So you can sort of access it and find out a little bit more about the patient” (ID004).*
	Reassuring patients & families	Delirium leaflet/poster *“Especially, you know, patients that come into the hospice, relatives often think this is it then. But it might be they’re coming to the Hospice for symptom control. Yes, So it* [delirium leaflet] *kind of can help reassure family and friends, yeah” (ID002).* *“I think it's[*delirium leaflet*] really helpful for families to have a really clear guide about what might be happening, what can be done about it…Because people who are delirious have some, you know, behaviours that are difficult for families to see and watch and deal with.” (ID003)*

		I think the families find it really helpful, more so than the patients, if they are in a delirious state. You don't want to stress them out even more at that time. It depends, *you know, you can tell them verbally or speak to them and obviously going through this [“Getting to know you”] form is quite helpful in sort of conjunction with the leaflet or the book. I think it's got really nice way of, the quotes in it as well. I think they're quite nice. It makes people feel like it* [delirium] *is something that does happen and that the reasons for it happening as well”(ID004)* *“It's nice to sit down with them* [families] *and go through the leaflet and, you know, the word delirium can sound like a big scary word to people. But yeah, letting them know what it is and it can be reversible, and what we're doing to help and why we're putting certain measures in place. For the patient, yeah, I think it's so we've got the, the shiny one [leaflet] as well, which we would normally give to the people, which is quite nice…even though there's a lot of information in there I think it's quite an easy leaflet to read. Yeah, it tells you how common it is” (ID004)* <u>Other</u> *“I think it certainly gives you confidence when trying to reassure patients and their families, because we do have quite a lot of input with, you know, both of those elements. Yeah if they can see that the staff are confident about that, that particularly helps (ID002)*
	Assessment	<u>4AT assessment</u> *“I would do a review of the patient anyway, as part of my, my admission clerking and I guess I would pick up that probably, you know, concerns about levels of delirium or confusion…I would then work on it myself. I would then do a 4AT assessment and then go through the rest of it… then you'd like you'd start looking for what might be behind this” (ID003).* *“Somebody said, so and so seems really confused overnight or those sorts of words.* *Then you go and I would just say that “Do you mind? I'm just going to go back over a few things?”. And is it somebody I think that actually maybe they're not. Perhaps it’s been a poor night or something else has happened. I might just say “I just want to go through a few things. I'm going to ask some questions that might sound a bit strange. There's no right or wrong answer””(ID003).*

		I think once you've done a 4AT assessment on somebody and use the toolkit, then you have got a structured process then well, we can go to our colleagues and say well, this person may benefit from all of the non-pharmacological methods. So, you know, then you can also work on to, to would sleep hygiene and those sorts of things help as well. And then from a more medical and nursing point of view you've got all those other things to look at, like if it's something to do with bowels, bladder or discomfort or pain, is it a medicine we've changed or administered? Is it the person themselves with their changing functions? You know, maybe renal functions changed and things (ID003). *"I think it's[4AT] a really good way of ruling out people with delirium as well, as well as ruling it in. I've used it recently for someone who was reported to have had some changes in their perception, you know, sort of mental state, and there was some things going on. She completely passed the 4AT with flying colours… A lot of it was about anxiety"(ID003).* <u>Other</u> *"You know he's not sleeping, and we've looked at sort of sleep hygiene, you know, the reversible things. We're working quite closely with the patient's close family member.* *So you talk to them, try to get little clues as well as to why they might do it, was it a certain treatment… She's pinpointed when he stopped sleeping properly. and it's just sometimes it's like a little puzzle trying to work out as a team" (ID004).*
	Value of HCA's and ward volunteers as people who have time to spend with patients & families.	<u>Other</u> *"The drug round, it takes time and you're, you're not able to spend time at patient bedside as we'd want to, the HCAs are amazing. All those volunteers are amazing" (ID001).* *"But yeah, you know the HCA as well. They're doing an awful lot of this as well in encouraging patients to drink and mouth care and dentures and that kind of stuff"(ID004).*

		"So, you know, bits and pieces we can pick up from the HCA. They're such a vital part of delirium prevention and sort of management…I just think they do such an amazing job as do the nurses. They're, because they [HCAs] *spend such a lot of time with the patients, quite often they are the ones that will pick up the little tiny sort of behaviour changes. Sort of identifying those things that can make such a difference, especially if you get in there early" (ID004).*
	Barriers to the toolkit work being done (night-time, not appropriate time for patient/family, staffing issues)	4AT assessment *" Some doctors are really good at identifying, it's completing [4AT] others not so, it doesn't help when we have like that changeover of doctors and also when we get perhaps the trainee GPs or doctors that are only with us for a couple of days a week. So that sometimes doesn't always get captured, but again because we talk about it in MDT often it's like, you know it like that reminder has this been done" (ID002).* *"It seems to be lots of people report confusion states at night. So, maybe then there's less staff so they don't have time to do a 4AT and maybe not be the best time but sometimes I think well might have been a good time to do it if you had, if you had the time" (ID003).* Non-pharmacological checklist *Maybe a little bit, I think it is another form to fill in. I think maybe, yeah, it's sort of, it's quite time consuming, but then again you can get, you don't have to sit with a patient and do it. You can go and ask other members of staff. It isn't always easy if the family aren't there at certain times (ID004).* Other *"It can be it can be the middle of the night someone does, unfortunately, become delirious and you have to, sometimes you have to manage them with medication just to keep them safe overnight, and it's not ideal. It's not ideal, but when you've got three members of staff and a lot of patients who are two to roll and you phoned the loved ones and they can't come in and you can't get an agency overnight, that's where it gets difficult" (ID001)*

		"You know, just those new staff being aware of the resources that we have and the flow chart… Unfortunately, the Ward is often quite high turnover. Yeah, it's capturing those, that new stuff, those new staff" (ID002). *"I think everyone has so much to do it is an important aspect, but I think, yeah, I think people may think that's another form to fill in… And whose responsibility is it to do the form? You know, when I've seen in there anyone could do that. Will people leave it for someone else to do it because anybody can do that" (ID004).*
Reflexive monitoring (Work that defines and organises the everyday understanding of a practice - How the work is understood/what do they think?)	Staff see the benefits of the toolkit	<u>4AT assessment</u> *"I've found that* [4AT] *really helpful… the counting the, from December backwards, the months backwards, that really is an interesting one to capture people, you know when people can't do it…It makes you think, well, what's behind all this?"* (ID003) <u>Non-pharmacological checklist</u> *"I find that that pharmacological checklist is really helpful. You know, what would we change? What medications are they are on? What's their current condition? Because, and then it's the whole thing about has this been building up?, is it fluctuating?, is it brand new? It's really helpful to try and focus your mind on what it might be about"* (ID003). *"It could just be as simple as their bloods are out and they are so, so unsettled that we can make them more comfortable and reduce that delirium. And normally that's why we have the non-pharmacological and medication. So there are some really, really beneficial things here that work" (ID001)* <u>Getting to know you form</u> *"It's really good toolkit because you get to know someone and it probes questions that you wouldn't necessarily think of, particularly 'the 'Getting to know you'[form]. That for me is really important. Really important, because everything is on there about their life at home, you know".* (ID001)

		Delirium leaflet/poster *“I really like the fact that that we’ve got, that we've got the resources to give”* (ID002). *“ I think the leaflet is really good for patients. I think it's a really helpful resource” (ID004).* Delirium Assessment “*It's [delirium assessment on EMIS] really easy to do. It's really clear…I find it very step by step. It's not too time consuming, but it covers everything we need to cover. It's a good aide-memoire as well if you haven’t thought of something”* (ID003) Other *“I think it's extremely valuable to, to put those measures in place. Because without it, I think the risk is that patients gets labelled you know, as difficult patients and actually it could just mean that they need some reassurance or, you know a piece of equipment put in place and that and that can and then if they're settled, the family is going to be more settled, the staff are going to have more time and that patient's going to have a better experience”* (ID002) “*It's a necessity…Make sure I have, everyone is aware of it and having resources to support what you're trying to do”* (ID002). *“Having patients who are less agitated... It can make all the difference and then that takes out, you know, an element of care burden for the ward staff or families or, you know, which then makes the ward a nicer place to be in, for not only that patient, but other patients that are around”*(ID002). *“This would go back years and years, we probably used the word ‘confused’ more.* *We didn’t really focus on delirium. We didn't look at the different types of delirium.* *Probably reasons why that person has had that change of some sort…So, I think it really is a very helpful, easy to use specific tool that allows you to document as well in a in a specific way, and easily understandable” (ID003).*

		"..until I came to the Hospice, I was sort of aware of delirium, but I think having this project has really identified it, what it is. Yeah, it's really educated me by having this toolkit as well. It's been really helpful" (ID004). *"… as a project, I think it's been really good at identifying to me what delirium is, and it does make you think" (ID004).*
	Further training needs and requirements and how to meet them	Non-pharmacological checklist *The sort of early parts of this year I have heard, and perhaps some staff aren't very confident and filling things like the non-pharmacological checklist out. I don't really know why that was. I don't know? Perhaps, and perhaps it was thought, it wasn't something for the nursing qualified nursing staff to do, but my understanding it, you know, especially the non-pharmacological checklist anyone can potentially sit down and fill it out and find that information out if a relative was there* (ID002). Delirium Champions *"whether new staff can have a session with the delirium champions, maybe, again, training and linking it to what we do…Induction would be a good start point for it to have to make sure that delirium is on there."* (ID002). Training *"It's all very, very important as well. It would be nice to kind of have a training day where you could try and mop things together and have a bit of a day on some things"*(ID001). *I would say I think it brings more, a better awareness. Yeah. And some staff are better than others. Is that more around engagement or just their training they might have had?* (ID002). *"..the delirium, I mean it's, I think it's always good to refresh, you know even if you have to do training, you know, once a year, or you know, have a refresher every two years or something" (ID002).*

		"I think if it [training] *could be linked with the resources that we've got in the pack, that would build staff confidence"* (ID002) *"It was a long time ago since I did mine [training], but I feel fine with it, absolutely fine with it, but I guess we've got lots of new people who may have missed that…So, my feeling would be that anyone who's probably working clinically with patients, not just medical and ACPs, nurses as well, maybe that should be part of their mandatory training?... And then like I would think, if there's any new updates, evidence based updates around delirium and the management of delirium, then that could be built into all our training."* (ID003) *"I know we have enough training already quite often in the yearly sort of mandatory training, and what have you, but even if there's somewhere, where we know where to go if we do need a little bit more information. Not necessarily having to repeat the training every year, just somewhere where we know that the up to date information is probably…There probably is somewhere and I should know and it's not there, but you know, it's my first port call quite often is Cipher* [HR system] *and, you know, know where the clinical policies are and that kind of stuff"* (ID004).
	Difficulties of identifying types of delirium (particularly Hypo-delirium).	<u>4AT assessment</u> *"That would be difficult because that would be very difficult to identify hypo [delirium] due to the fact of people's low mood when family members are not able to visit…you wouldn't be able to. I don't think without symptoms, unless you took blood, you would know if someone was withdrawn. Would you know if without talking they might be able to express it? That'd be tricky" (ID001).* *"There are definitely people you wouldn't, wouldn't carry that [4AT] out on because you know from your interactions with them, there is no suspicion of any delirium (ID003).*

		Other *"People that are drowsy and what have you could still be delirious. I think people who could be delirious, they associate it with being a little bit manic and a bit, yes. Yes, and it's quite difficult as well because when people are sort of nearing the end of life as well some of the symptoms can sort of crossover as well, so it may be the dying process, but it may be delirium and it may be reversible. So, it's a real sort of, yeah, very complex" (ID004).* *" I mean, just doing this myself, it's been, you know, a learning thing for me because I didn't know any of all this beforehand" (ID004).*
	Issues with interventions to help with management of delirium -suggested improvements).	Non-pharmacological checklist *"You know, if there's a wish list that would be, I reckon my wish list, I guess is to help orientate. They can see a clock, not have a small clock. That is what they've got in the bay, that's all they've got"(ID001).* *"So we've got things like twiddle muffs and blankets and kind of, mood lamps and things like that, but it would be nice though, you know, there are only a few clocks / calendars on the ward and it would be it would really help with those patients that need re-orientating to have the availability of, you know, at least one of those in every side room and perhaps a bigger one on the wall in the bays (ID002).* *"Yes, a little bit like that, yes, and just making sure that things are being followed through like make sure there's enough clocks to go around..., we probably could do with some more but we have got a few" (ID004).* Morning meetings *"So, I guess in terms of improvements, do we do we report on resolving delirium or change that had been made to support delirium? Probably not all the time but in handovers maybe that needs to be a more of a channel of communication between teams again" (ID003).*

		Other *"Widening the number of people who feel happy to take to do it. Even if they just have a go and they're not sure" (ID003).*
	Delirium Champions -not deemed required/sustainable for most interviewees, just need to know info. -One only felt they were helpful to continue to have.	Delirium Champions *"So do we need a champion? No, as long as the resources are available to us, we're already doing it. Why give someone that extra responsibility when we're already maintaining and meeting the needs?" (ID001)* *"I think having someone then we know exactly who they are is really helpful because again, going back to the changing staff and new staff" (ID003).* *"Maybe I think it's just ensuring that everyone knows who should be responsible, what should be done, and you know that these can be in the blue folder along with the "Getting to know you" forms and who's responsible filling them out" (ID004).*
	Knowledge about processes and resources available, where and who is responsible.	4AT assessment *"I'm not sure how empowered everybody feels about doing the delivery of assessments. Because I don't think it needs to sit with generally one person or the other. I think most people would even, even if you're not sure of the cause, if you think someone's got it, but most people do a 4AT because that person's been confused" (ID003)* Other *"Some members of staff have kind of always put their head in the sand. But again, I think that was more the fact that they didn't quite get what they were supposed to be doing or thought it was someone else's responsibility" (ID002).*

		"I think the non-pharmacological form is really good and the "Getting to know you" form. I think they're really useful, because they don't always get done. I think we're doing them sometimes without writing it down. We do try and do it, but I think it's really useful for new members of staff as well just to make sure. Certain people that are good at doing certain things and if they're on holiday and you know, away from work, I think it's just a good reminder for people that are not so good at doing it to make sure that all the things, all the boxes being ticked, something you know like wearing spectacles, you know, they're not always picked up" (ID004). *"The Toolkit as a whole again, it's just knowing, identifying what I am allowed to do, what I'm expected to do, and what have you. So, maybe a little bit more guidance because I spoke to the OTs and I think they were the under the impression that the 4AT does get sort of completed by maybe the doctors, a lot of the time. So, it's clear in everybody's mind, you should be doing it. So yeah, maybe a little refresher along the way or sort of knowing where this information is found" (ID004).*
	Cost of delirium to the service	Other *"If they need a one to one but they haven't got capacity and then I need to again have mental capacity assessment. I need social workers involved, my family to be informed and need additional staff to keep me safe. So someone with delirium, you know, it's a lot of money for Pilgrim's. There's no funding. It's not like you have a grant that when someone has delirium"* (ID001)

Appendix 5

Delirium Poster

Pilgrims Hospices

Could it be Delirium?

Notice anything different?

Up to 40% of Hospice patients may have Delirium, but it is not always recognised and reported.

What is Delirium?

A new development of mental confusion.

There are two types of Delirium:

Hyperactive	**Hypoactive***
Patients can be restless and agitated	Patients can be drowsy, less active and have reduced speech
Can wander	Listless and withdrawn
Can be disorientated to time and place	

Most cases can be successfully managed. If you recognise any of these symptons, please report this to a member of staff.

*Hypoactive delirium can be commonly mistaken for depression or dementia