



# Managing delirium in Palliative Care

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## Delirium - the extent of the problem for palliative care



*The most prevalent neuropsychiatric disorder in advanced cancer and patients with advanced, irreversible illness*

- **28-42% at admission to pall care unit**

*Lawlor 2000/Watt 2019*

- **56- 88% of patients in their final days**

*Gagnon 2000/Recchia 2022*

- **23% of community hospice patients (57% in final days)**  
– **most common reason for acute admission for EoLC**

*Recchia 2022*

- **Poor prognostic sign, predictor of mortality**

*Agar 2016*



## Delirium diagnosis – DSM5



- A. Disturbance in attention (ie reduced ability to direct , focus, sustain, and shift attention) and awareness (reduced orientation to the environment)
- B. Disturbance in cognition e.g. memory deficit, disorientation, language, visuospatial ability or perception
- C. Develops over a short period of time – usually hours or days and represents a change from baseline attention and awareness and tends to fluctuate in severity during the course of a day.
- D. Clear physiological cause or causes (eg sepsis, drugs, medical condition etc)

# What things might make you wonder if delirium is present?

- Withdrawn or slowed-down
- Talking 'off the track' or rambling
- Unusually impatient, frustrated, suspicious, stubborn, 'difficult'
- 'Very settled; through the day but becoming unsettled, demanding, distressed, agitated as night comes on.'



Arnold et al *Int J Pall Nurs* 2022

Figure 2. Word cloud of words describing delirium and associated symptoms in the case notes of 16 patients with delirium

# Hyperactive Delirium subtype



# Hypoactive Delirium subtype

# How long have we known that we need to be screening in pall care?

- 78-85% of pall care patients with delirium have the hypoactive subtype

Lawlor et al *Arch Int Med* 2000

Spiller & Keen *Pall Med* 2006

- Hypoactive delirium is easily misdiagnosed as depression, fatigue or impending death (50% of pall care patients diagnosed with depression may actually have delirium)

Leonard et al *Psychosomatics* 2009

- 37% of pall care specialists use a screening tool for delirium (only 5% on admission to IPU)

Woodhouse et al *BMJ Supp Pall Care* 2020

# Delirium Assessment Tools

## Confusion Assessment Method (CAM)

*Inouye SK et al. Ann Intern Med 1990*

## Memorial Delirium Assessment Scale (MDAS)

*Breitbart WB et al. JPSM 1997*

## Nursing Delirium Screening Scale (Nu-DESC)

*Gaudreau J-D, et al. JPSM 2005*

## 4AT (The 4 'A's Test – Attention, Alertness, AMT, Acute change)

*Belelli et al 2014*



(label)

Patient name:

Date of birth:

Patient number:

Date:

Time:

Tester:

Assessment test for delirium & cognitive impairment

CIRCLE

[1] ALERTNESS

This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

- Normal (fully alert, but not agitated, throughout assessment) 0
Mild sleepiness for <10 seconds after waking, then normal 0
Clearly abnormal 4

[2] AMT4

Age, date of birth, place (name of the hospital or building), current year.

- No mistakes 0
1 mistake 1
2 or more mistakes/untestable 2

[3] ATTENTION

Ask the patient: 'Please tell me the months of the year in backwards order, starting at December.' To assist initial understanding one prompt of 'what is the month before December?' is permitted.

- Months of the year backwards
Achieves 7 months or more correctly 0
Starts but scores <7 months / refuses to start 1
Untestable (cannot start because unwell, drowsy, inattentive) 2

[4] ACUTE CHANGE OR FLUCTUATING COURSE

Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs

- No 0
Yes 4

4 or above: possible delirium +/- cognitive impairment
1-3: possible cognitive impairment
0: delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

4AT SCORE

Empty box for 4AT score

GUIDANCE NOTES

The 4AT is a screening instrument designed for rapid initial assessment of delirium and cognitive impairment. A score of 4 or more suggests delirium but is not diagnostic: more detailed assessment of mental status may be required to reach a diagnosis. A score of 1-3 suggests cognitive impairment and more detailed cognitive testing and informant history-taking are required. A score of 0 does not definitively exclude delirium or cognitive impairment: more detailed testing may be required depending on the clinical context. Items 1-3 are rated solely on observation of the patient at the time of assessment. Item 4 requires information from one or more source(s), eg. your own knowledge of the patient, other staff who know the patient (eg. ward nurses), GP letter, case notes, carers. The tester should take account of communication difficulties (hearing impairment, dysphasia, lack of common language) when carrying out the test and interpreting the score.

Alertness: Altered level of alertness is very likely to be delirium in general hospital settings. If the patient shows significant altered alertness during the bedside assessment, score 4 for this item. AMT4 (Abbreviated Mental Test - 4): This score can be extracted from items in the AMT10 if the latter is done immediately before. Acute Change or Fluctuating Course: Fluctuation can occur without delirium in some cases of dementia, but marked fluctuation usually indicates delirium. To help elicit any hallucinations and/or paranoid thoughts ask the patient questions such as, 'Are you concerned about anything going on here?'; 'Do you feel frightened by anything or anyone?'; 'Have you been seeing or hearing anything unusual?'

The 4 A's Test

4AT - Rapid Clinical Test for Delirium Detection (the4at.com)



# The 4AT, a rapid delirium detection tool for use in hospice inpatient units: Findings from a validation study

*Palliative Medicine*

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Zoë Tieges<sup>4,5</sup> and Alasdair MJ MacLulich<sup>4</sup>

## Abstract

**Background:** Delirium is a serious neuropsychiatric syndrome with adverse outcomes, which is common but often undiagnosed in terminally ill people. The 4 'A's test or 4AT ([www.the4AT.com](http://www.the4AT.com)), a brief delirium detection tool, is widely used in general settings, but validation studies in terminally ill people are lacking.

**Aim:** To determine the diagnostic accuracy of the 4AT in detecting delirium in terminally ill people, who are hospice inpatients.

**Design:** A diagnostic test accuracy study in which participants underwent the 4AT and a reference standard based on the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders. The reference standard was informed by Delirium Rating Scale Revised-98 and tests assessing arousal and attention. Assessments were conducted in random order by pairs of independent raters, blinded to the results of the other assessment.

**Setting/participants:** Two hospice inpatient units in Scotland, UK. Participants were 148 hospice inpatients aged  $\geq 18$  years.

**Results:** A total of 137 participants completed both assessments. Three participants had an indeterminate reference standard diagnosis and were excluded, yielding a final sample of 134. Mean age was 70.3 (SD = 10.6) years. About 33% (44/134) had reference standard delirium. The 4AT had a sensitivity of 89% (95% CI 79%–98%) and a specificity of 94% (95% CI 90%–99%). The area under the receiver operating characteristic curve was 0.97 (95% CI 0.94–1).

**Conclusion:** The results of this validation study support use of the 4AT as a delirium detection tool in hospice inpatients, and add to the literature evaluating methods of delirium detection in palliative care settings.

**Trial registry:** ISCRTN 97417474.

# Identifying delirium



THE UNIVERSITY  
of EDINBURGH

[IDENTIFYING Delirium HCP  
vimeo.com](#)

# Background

Palliative Medicine 2006, 20: 17–23

## Hypoactive delirium: assessing the extent of the problem for inpatient specialist palliative care

Juliet A Spiller<sup>1</sup> Marie Curie Hospice, Edinburgh and West Lothian Palliative Care Service and Jeremy C Keen Highland Hospice, Inverness

Delirium is a common problem and cause of distress among patients with palliative care needs. The focus to date has been on managing the patient with agitated, hyperactive

## Symptoms of Depression and Delirium Assessed Serially in Palliative-Care Inpatients

MAEVE LEONARD, M.B., MRCPsych, JULIET SPILLER, M.B., FRCP  
JEREMY KEEN, M.D., FRCP, ALASDAIR MACLULLICH, M.B., Ph.D., FRCP  
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Vol. 48 No. 2 August 2014

Journal of Pain and Symptom Management 199

### Special Section: Studies to Understand Delirium In Palliative Settings (SUNDIPS)

## Delirium Diagnostic and Classification Challenges in Palliative Care: Subsyndromal Delirium, Comorbid Delirium-Dementia, and Psychomotor Subtypes

Maeva M. Leonard, MB, MRCPsych, MD, Meera Agar, MBBS, FRACP

Vol. 48 No. 2 August 2014

Journal of Pain and Symptom Management 215

### Special Section: Studies to Understand Delirium In Palliative Settings (SUNDIPS)

## End-of-Life Delirium: Issues Regarding Recognition, Optimal Management, and the Role of Sedation in the Dying Phase

Shirley H. Bush, MBBS, MRCP, FACHPM



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Cochrane Database of Systematic Reviews | Review - Intervention

## Drug therapy for delirium in terminally ill adults

✉ Anne M Finucane, Louise Jones, Baptiste Leurent, Elizabeth L Sampson, Patrick Stone, Adrian Tool  
Authors' declarations of interest

Version published: 21 January 2020 Version history

<https://doi.org/10.1002/14651858.CD004770.pub3>

## Psycho-Oncology

Psycho-Oncology 26: 291–300 (2017)

Published online 1 May 2016 in Wiley Online Library (wileyonlinelibrary.com). DOI: 10.1002/pon.4140

## Review

## The experiences of caregivers of patients with delirium, and their role in its management in palliative care settings: an integrative literature review

Original research

## Delirium management by palliative medicine specialists: a survey from the association for palliative medicine of Great Britain and Ireland

Jason W Boland<sup>1</sup>, Monisha Kabir<sup>2</sup>,  
Juliet Anne Spiller<sup>5,6</sup>, Miriam J Johnson<sup>3</sup>,  
Peter Lawlor<sup>2,3,4</sup>

## ABSTRACT

**Objectives** Delirium is common in palliative care settings. Management includes detection, treatment of cause(s), non-pharmacological

► Additional material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/bmjspcare-2018-001586>).



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British Journal of Community Nursing, Vol. 25, No. 7 Palliative Care

## Managing delirium in terminally ill patients: perspective of palliative care nurse specialists

Clare Harris, Juliet Spiller, Anne Finucane

Published Online: 2 Jul 2020 | <https://doi.org/10.12968/bjcn.2020.25.7.346>

Sections PDF/EPUB

## Abstract

Delirium occurs frequently in community palliative care inpatients. It is often undiagnosed and untreated. This study explored the experiences of palliative care nurse specialists in managing delirium in terminally ill patients. We explored the challenges to delirium management in the community palliative care setting, the role of nurse specialists, and the impact of delirium on patients and their families. The study was a qualitative research.

## Original Article

## The 4AT, a rapid delirium detection tool for use in hospice inpatient units: Findings from a validation study

Elizabeth Arnold<sup>1</sup>, Anne M Finucane<sup>1,2</sup>, Stacey Taylor<sup>1</sup>,  
Juliet A Spiller<sup>1</sup>, Siobhan O'Rourke<sup>3</sup>, Julie Spenceley<sup>3</sup>, Emma Carduff<sup>3</sup>,  
Zoë Tieghe<sup>4,5</sup> and Alasdair MJ MacLulich<sup>4</sup>

## Abstract

**Background:** Delirium is a serious neuropsychiatric syndrome with adverse outcomes, which is common but often undiagnosed in

terminally ill patients with delirium, to identify delirium at the end of life, to identify and help the caregiver support the

Medline, Cinahl and Scopus from

Open Access

Quality improvement report

BMJ Open Quality

## A quality improvement approach to cognitive assessment on hospice admission: could we use the 4AT or Short CAM?

Lucy Baird, Juliet Anne Spiller

To cite: Baird L, Spiller JA, A

ABSTRACT

It was noted that the assessment and screening for cognitive impairment on patient admission at the Marie Curie Hospice in Edinburgh required review. We subsequently undertook a quality improvement project (QIP) to see if this was something which could be improved. Despite admission documentation suggesting completing the Short Confusion Assessment Method (Short CAM),<sup>3</sup> this was rarely done. The Short CAM appears quick and easy to use, but was not printed in patients' notes meaning it was not easy to access and therefore unlikely to be completed. Using a quality improvement approach (PDSA: Plan, Do, Study, Act) this project aimed to improve cognitive assessment on admission to a hospice inpatient unit by: (1) determining staff preference between the Short CAM and the four 'A's Test (4AT)<sup>1</sup> and (2) using PDSA cycles to embed the preferred tool into the admission process (figure 1), while continuing to assess usability



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Sage

Cognitive assessment on admission will allow early identification of patients who may be suffering from delirium. This will subsequently allow for appropriate investigation of the underlying cause and treatment to improve patient

Diagnostic and Statistical Manual of Mental Disorders has revised the definition of delirium.<sup>2</sup> Delirium is a disturbance in attention that develops over a short period of time (hours to days) and fluctuates in severity during the course of the illness. It is a 'disturbance in attention' and 'disturbance in consciousness' are not

# Aim

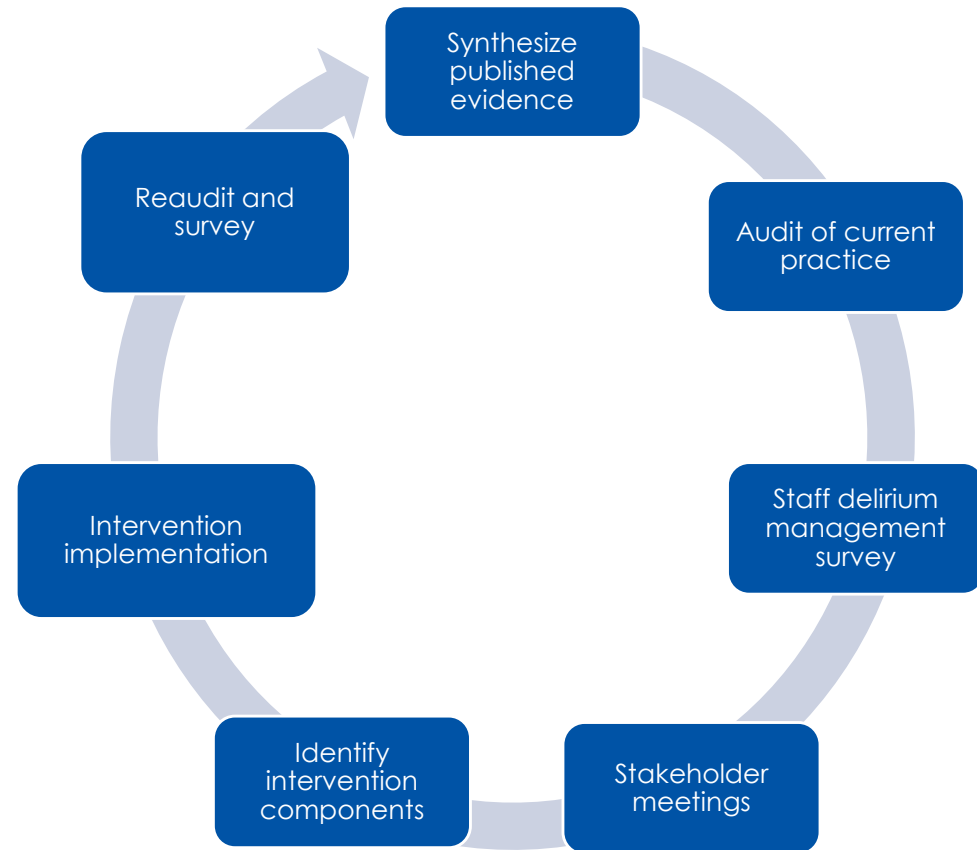
To co-develop a systematic approach to improving delirium care in hospice inpatient settings.



Marie Curie Hospice Edinburgh



Marie Curie Hospice Glasgow



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# Do you use a formal tool to screen for delirium?

① Start presenting to display the poll results on this slide.

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# What tool do you use?

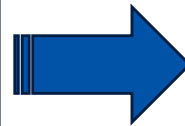
① Start presenting to display the poll results on this slide.

**What would take to convince  
people you work with  
to use the 4AT?**



# Audit of current practice

- **100** consecutive admissions (n=50 per IPU)
- Reviewed day of admission and following 2 days



- **28%** had delirium according to retrospective review

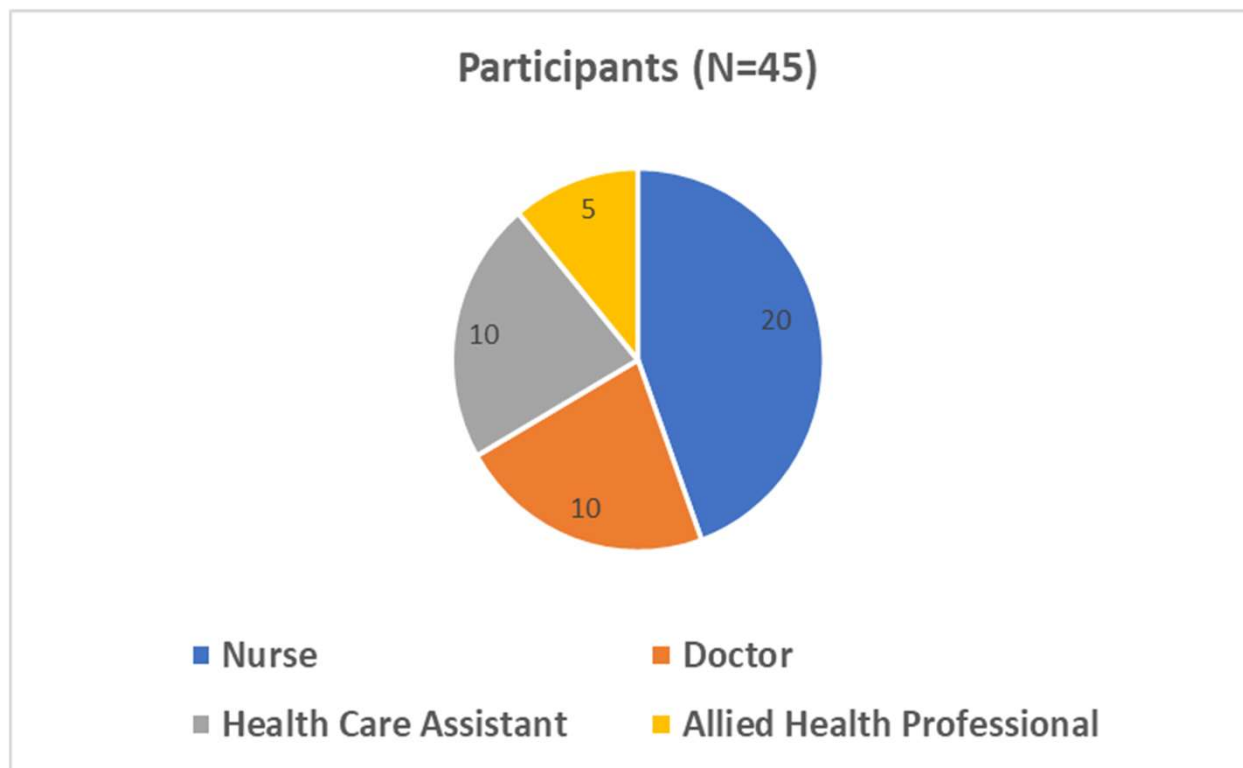
**BUT**

- Only **25%** were screened for delirium
- Only **10%** had 'delirium' documented
- Difficult to distinguish specific delirium care from routine good practice.
- Variability in screening by hospice
- The word 'delirium' was infrequently used

# Synonyms for and symptoms of delirium

does-not-know-where-is  
short-term-memory-worsened non-sequiters-for-answers  
little-things-running-across-the-screen rambling nodding-off  
incoherent struggles-to-stay-on-topic difficulty-concentrating  
tired **sleepy** **confused**  
lucidity-fluctuating  
hallucinations distress **confusion** difficult-historian seeing-shadows  
cognitive-impairment distressed struggled-to-answer-questions  
off-topic **agitated** **muddled** paranoid vague **drowsy**  
restless **disorientated** frightened  
agitation thinks-being-chased falling-asleep mumbling  
**anxious** limited-history low-mood terminal-agitation  
closing-eyes wandering

# Survey of inpatient unit staff (N=45)



- Good knowledge of risk factors
- Underestimated prevalence towards end of life
- Nealy all agreed they had a role in identifying if a person had delirium
- Only one-third reported routinely using delirium assessment tools
- Only **41%** agreed they had adequate training

# Intervention

## Intervention Components:

- Marie Curie webpages updated
- New Marie Curie branded booklet on delirium (work in progress)
- PowerPoint training resource on 4AT
- Delirium videos x 2 – Patient/family video and healthcare professional video
- Training/Education – new staff induction, mandatory updates, online learning
- Staff engagement – clinical leads, service leads, medical directors, clinical educators

# Delirium Videos

Co-design of 2 short evidence-based videos:

**Supporting people  
with delirium**



**Caring for someone  
with delirium**

For healthcare professionals



# Videos

## Co-design of 2 short evidence-based videos:

- One video for patients, families and informal carers –to explain what delirium is, it's causes and how it is treated, but with the main focus on how family members can support the person with delirium
- The second video is a short training video for healthcare professionals, focusing on delirium assessment and management
- <https://youtu.be/muyzDzzFCvw>

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**Thank you.**

