Healthcare Improvement Scotland

@opachis

# THINK DELIRIUM

## Improving the care for older people

## Delirium toolkit

NHS Education for Scotland

SCOTTISH DELIRIUM ASSOCIATION

**www.healthcareimprovementscotland.org**

# Contents

# Introduction

## Delirium is a state of mental confusion. It is also known as an 'acute confusional state'.

**Illness, surgery and medications can all cause delirium. It often starts suddenly, but usually lifts when the condition causing it gets better. It can be frightening – not only for the person who is unwell – but also for those around him or her.**

Delirium is a serious medical emergency and statistics suggest that the prevalence of delirium in people on medical wards in hospital is about 20–30%, while 10–50% of people having surgery develop delirium. People who develop delirium may need to stay longer in hospital or in critical care, have more hospital-acquired complications, such as falls and pressure ulcers, be more likely to need to be admitted to long term care if they are in hospital, and are more likely to die[1]. Delirium is a recognised problem in older people that is frequently overlooked or misdiagnosed and is very distressing to individuals and to their families and carers.

In collaboration with the Scottish Delirium Association, NHS Education for Scotland and colleagues across NHSScotland, Healthcare Improvement Scotland has developed a range of tools and resources to support improvements in the identification and immediate management of delirium. This toolkit has been produced to provide easy access to all of these tools and resources. The tools included here have been tested by small teams in test sites across NHSScotland and feedback from staff has informed their development.

[1] NICE clinical guideline 103 http://guidance.nice.org.uk/CG103

## Who is at risk of delirium?

Any patient can develop delirium, but certain factors can increase the risk. These include:

- older people – the risk increases with age.
- older people taking multiple medicines.
- people with dementia.
- people who are dehydrated.
- people with an infection.
- severely ill people.
- people who have had surgery, especially hip surgery.
- people who are nearing the end of their life.
- people with sight or hearing difficulties.
- people who have a temperature.
- older people with constipation or urinary retention.

## How can I help someone with delirium?

You can help someone with delirium feel calmer and more in control if you:

- stay calm.
- talk to them in short, simple sentences.
- check that they have understood you. Repeat things if necessary.
- try not to agree with any unusual or incorrect ideas, but tactfully disagree or change the subject. Reassure them. Remind them of what is happening and how they are doing.
- remind them of the time and date.
- make sure they can see a clock or a calendar.
- try to make sure that someone they know well is with them. This is often most important during the evening, when delirium often gets worse. If they are in hospital, bring in some familiar objects from home.
- make sure they have their glasses and hearing aid.
- help them to eat and drink.
- have a light on at night so that they can see where they are if they wake up.

# Delirium risk reduction

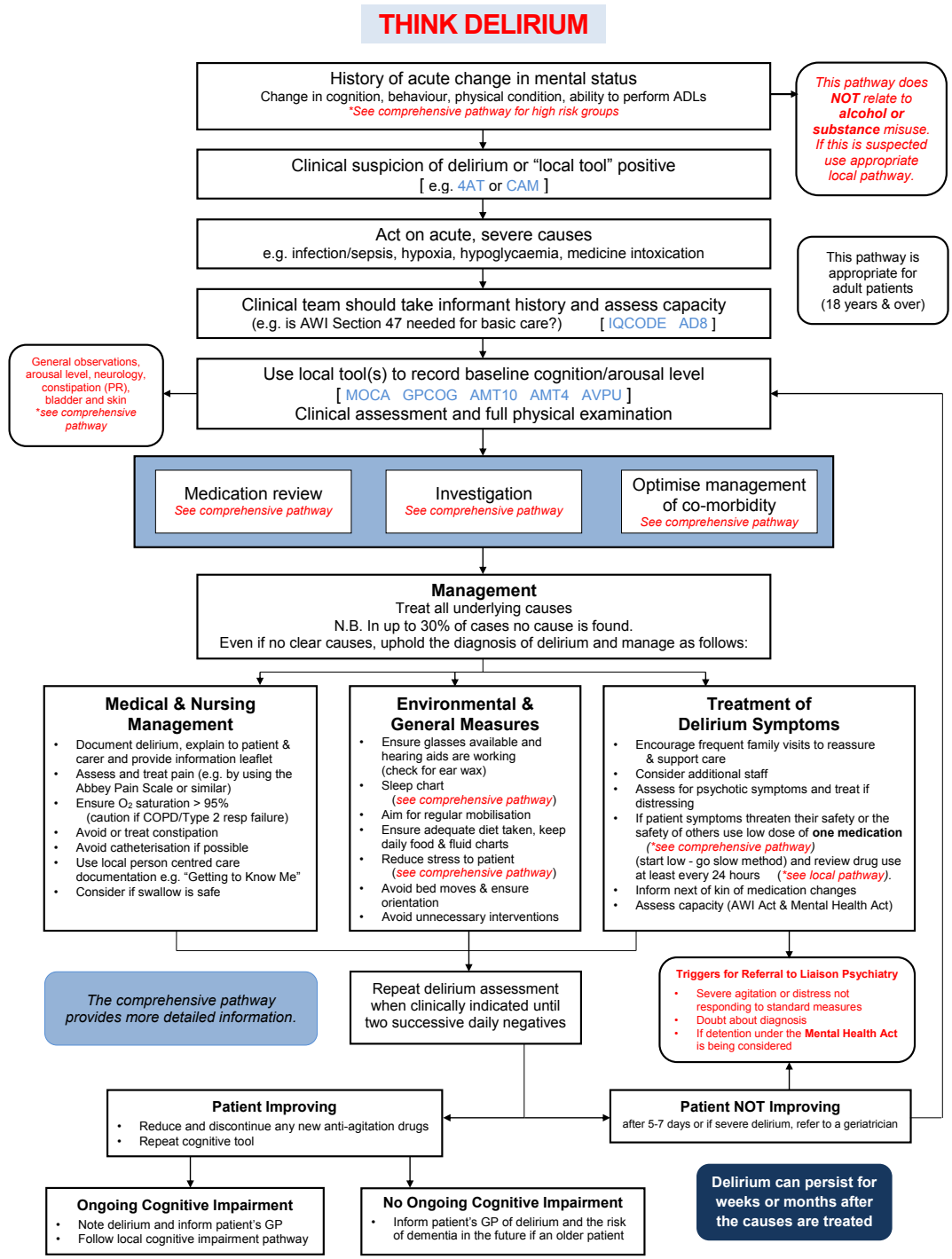
**Evidence suggests that up to 33% of incident delirium can be prevented[1]. A range of strategies may help reduce the risk of delirium in an older person. NICE has outlined the following preventative interventions[2] that may help you play your part in reducing the risk of delirium for the people in your care.**

| Clinical factor | Preventative intervention |
|---|---|
| Cognitive impairment or disorientation | • Provide appropriate lighting and clear signage. A clock (consider providing a 24-hour clock in critical care) and a calendar should also be easily visible to the person at risk.<br>• Reorientate the person by explaining where they are, who they are, and what your role is.<br>• Introduce cognitively stimulating activities (for example, reminiscence).<br>• Facilitate regular visits from family and friends. |
| Dehydration or constipation | • Encourage the person to drink. Consider offering subcutaneous or intravenous fluids if necessary.<br>• Seek advice if necessary when managing fluid balance in people with comorbidities (for example, heart failure or chronic kidney disease). |
| Hypoxia | • Assess for hypoxia and optimise oxygen saturation if necessary. |
| Immobility or limited mobility | • Encourage the person to:<br>– mobilise soon after surgery<br>– walk (provide walking aids if needed – these should be accessible at all times).<br>• Encourage all people, including those unable to walk, to carry out active range-of-motion exercises. |
| Infection | • Look for and treat infection.<br>• Avoid unnecessary catheterisation.<br>• Implement infection control procedures in line with 'Infection control' (NICE clinical guideline 2). |
| Multiple medications | • Carry out a medication review for people taking multiple drugs, taking into account both the type and number of medications. |
| Pain | • Assess for pain. Look for non-verbal signs of pain, particularly in people with communication difficulties.<br>• Start and review appropriate pain management in any person in whom pain is identified or suspected. |
| Poor nutrition | • Follow the advice given on nutrition in 'Nutrition support in adults' (NICE clinical guideline 32).<br>• If the person has dentures, ensure they fit properly. |
| Sensory impairment | • Resolve any reversible cause of the impairment (such as impacted ear wax).<br>• Ensure working hearing and visual aids are available to and used by people who need them. |
| Sleep disturbance | • Avoid nursing or medical procedures during sleeping hours, if possible.<br>• Schedule medication rounds to avoid disturbing sleep.<br>• Reduce noise to a minimum during sleep periods*. |

* See 'Parkinson's disease' (NICE clinical guideline 35) for information about sleep hygiene.

[1] Inouye SK, Bogardus ST, Charpentier PA et al. (1999) A multicomponent intervention to prevent delirium in hospitalised older patients. N Engl J Med, 340, 669–76
[2] NICE clinical guideline 103 http://guidance.nice.org.uk/CG103

# Delirium management: summary pathway




The SDA pathways are not exhaustive. Additional or alternative assessments, investigations, management strategies or treatments may be necessary for individuals. **Clinical judgement & decisions should be made by the appropriate responsible healthcare professional.**

www.scottishdeliriumassociation.com
@scotdelirium
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# Identifying delirium

The 4 'A's Test or 4AT is an assessment tool for delirium and cognitive impairment. The 4AT tool (www.the4at.com) is designed to be used by any health professional at first contact with the patient, and at other times when delirium is suspected. It incorporates the Months Backwards test and the Abbreviated Mental Test - 4 (AMT4), which are short tests for cognitive impairment. The 4AT is rapid to administer. As an assessment tool it does not provide a formal diagnosis but a positive score should trigger more formal assessment.

Through testing of detection methods and initiation of the TIME bundle (see page 11), we have also created a combined tool to detect, manage, and review delirium through the repeat assessment.

These tools are the start of a process to manage the medical emergency delirium. The tools aim to help clinicians to follow appropriate care pathways and help plan ongoing care and assessment to ensure safe, effective, person-centred delivery of care for older people every time.

**It is important to involve families or carers in identifying delirium. You may want to consider using the Single Question to Identify Delirium (SQID) which simply asks relatives or carers, "Do you think [name of patient] has been more confused, sleepy or drowsy?"**

This simple question can help identify change and help keep families and carers involved.

# 4AT single assessment tool

Name:
Date of birth:
CHI number:

Date: / /
Zero time: :

**Practitioner name:** _____ **Practitioner signature:** _____

**Designation:** _____

| **[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. | |
| 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 the last 24 hours. | |
| No | 0 |
| Yes | 4 |

**4AT Score**
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 guidance notes

## The 4AT is an assessment tool designed for rapid and sensitive initial assessment of cognitive impairment.

Items 1-3 are rated solely on observation of the patient at the time of assessment.

Item 4 requires information from one or more sources, for example your own knowledge of the patient, other staff who know the patient (for example 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.

A score of 4 or above 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 severe cognitive impairment: more detailed testing may be required depending on the clinical context.

**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.

**Attention:** the Months Backwards test assesses attention, the main cognitive deficit in delirium; most patients with delirium will show deficits. Other types of cognitive impairment, for example dementia, can also lead to deficits on this test.

**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?"

**For more information, please visit: www.the4at.com**

# TIME bundle

Name:
Date of birth:
CHI number:

Date: / /
Zero time: :

**Practitioner name:** _____ **Practitioner signature:** _____

**Designation:** _____

| | **Initiate TIME within 2 hours** (initial and write time of completion) | **Assessed/ sent** | **Results seen** | **Abnormality found** |
|---|---|---|---|---|
| *T* | **Think exclude and treat possible triggers** | | | |
| | NEWS (think sepsis six) | | | |
| | Blood glucose | | | |
| | Medication history (identify new medications/change of dose/medication recently stopped) | | | |
| | Pain review (Abbey Pain Scale) | | | |
| | Assess for urinary retention | | | |
| | Assess for constipation | | | |
| *I* | **Investigate and intervene to correct underlying causes** | | | |
| | Assess Hydration and start fluid balance chart | | | |
| | Bloods (FBC, U&E, Ca, LFTs, CRP, Mg, Glucose) | | | |
| | Look for symptoms/signs of infection (skin, chest, urine, CNS) and perform appropriate cultures/imaging depending on clinical assessment (see sepsis six) | | | |
| | ECG (ACS) | | | |
| *M* | **Management Plan** | | | ***Completed*** |
| | Initiate treatment of ALL underlying causes found above | | | |
| *E* | **Engage and Explore** (complete within 2 hours or if family/carer not present within 24 hours) | | | |
| | Engage with patient/family/carer – explore if this is usual behaviour. Ask: How would you like to be involved? | | | |
| | Explain diagnosis of delirium to patient and family/carers (use delirium leaflet) | | | |
| | Document diagnosis of delirium | | | |



v3.0 Testing May 2014

# TIME bundle guidance

**First 2 hours** | Within 2 hours or if family/carer not present within 24 hours

| Triggers | Investigate | Manage | Engage |
|---|---|---|---|
| *Severe illness* | *FBC, U&Es, CRP, LFTs, Glucose, Mg, Ca, $PO_4$ urinalysis Consider ABG* | *First and foremost treat underlying causes* | *Families and carers can give you a history of change. Always speak to them to obtain history and baseline function.* |
| *Trauma/surgery* | *Culture, urine, sputum, wounds. Consider blood culture (Sepsis Six), CXR* | *Manage sepsis* | *Families and friends can help reorientate.* |
| *Pain* | *Always carry out routine observations (EWS) including AVPU and Think Glucose* | *Refer to delirium management: comprehensive pathway for complete care guidance** | *Always document delirium diagnosis.* |
| *Infection/sepsis* | *Start fluid balance* | *DO NOT USE RESTRAINT* | *Reassure families and carers.* |
| *Dehydration* | *Think about hydration status* | *AVOID ANTIPSYCHOTIC MEDICATIONS – these may worsen delirium or contribute to the risk of falls and immobility (see delirium comprehensive pathway)** | |
| *Hypoxia* | | | |
| *Hypoglycaemia* | | | |
| *Medications* | | | |
| *Alcohol and drugs withdrawal* | | | |
| *Urinary retention/ constipation* | | | |

**Delirium comprehensive pathway can be found at www.scottishdeliriumassociation.com*

# 4AT combined assessment tool

Name:
Date of birth:
CHI number:

Date: / /
Zero time: :

**Practitioner name:** _____ **Practitioner signature:** _____

**Designation:** _____

| **[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. | |
| 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 the last 24 hours. | |
| No | 0 |
| Yes | 4 |
| **Total** | |

**if scored 4 or more this is possible delirium +/- cognitive impairment**

**if scored 1-3 possible cognitive impairment. More detailed cognitive assessment and informant history taking are required**

**If scored 0 delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)**

| **Initiate TIME within 2 hours** *(initial and write time of completion)* | | **Assessed/ sent** | **Results seen** | **Abnormality found** |
|---|---|---|---|---|
| *T* | **Think exclude and treat possible triggers** | | | |
| | **NEWS (think Sepsis Six)** | | | |
| | **Blood glucose** | | | |
| | **Medication history (identify new medications/change of dose/medication recently stopped)** | | | |
| | **Pain review (Abbey Pain Scale)** | | | |
| | **Assess for urinary retention** | | | |
| | **Assess for constipation** | | | |
| *I* | **Investigate and intervene to correct underlying causes** | | | |
| | **Assess hydration and start fluid balance chart** | | | |
| | **Bloods (FBC, U&E, Ca, LFTs, CRP, Mg, Glucose)** | | | |
| | **Look for symptoms/signs of infection (skin, chest, urine, CNS) and perform appropriate cultures/imaging depending on clinical assessment (see Sepsis Six)** | | | |
| | **ECG (ACS)** | | | |
| *M* | **Management Plan** | | | **Completed** |
| | **Initiate treatment of *ALL* underlying causes found above** | | | |
| *E* | **Engage and Explore** (complete within 2 hours or if family/carer not present within 24 hours) | | | |
| | **Engage with patient, family and carers – explore if this is usual behaviour. Ask: How would you like to be involved?** | | | |
| | **Explain diagnosis of delirium to patient, family and carers (use delirium leaflet)** | | | |
| | **Document diagnosis of delirium** | | | |



v3.1 Testing Sep 2014

# 4AT repeat assessment tool

| | | | | |
|---|---|---|---|---|
| **Tester:**<br>**Date:**<br>**Time:** | | | | |

| **[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.<br>**Ask the patient to state their name and address to assist rating.** | | | | |
| Normal (fully alert, but not agitated, throughout assessment) | 0 | 0 | 0 | 0 |
| Mild sleepiness for <10 seconds after waking, then normal | 0 | 0 | 0 | 0 |
| Clearly abnormal | 4 | 4 | 4 | 4 |

| **[2] AMT4** | | | | |
|---|---|---|---|---|
| Age, date of birth, place (name of the hospital or building), current year. | | | | |
| No mistakes | 0 | 0 | 0 | 0 |
| 1 mistake | 1 | 1 | 1 | 1 |
| 2 or more mistakes/untestable | 2 | 2 | 2 | 2 |

| **[3] Attention** | | | | |
|---|---|---|---|---|
| Ask the patient: **"Please tell me the months of the year in backwards order, starting at December."**<br>To assist initial understanding one prompt of **"What is the month before December?"** is permitted. | | | | |
| Achieves 7 months or more correctly | 0 | 0 | 0 | 0 |
| Starts but scores < 7 months / refuses to start | 1 | 1 | 1 | 1 |
| Untestable (cannot start because unwell, drowsy, inattentive) | 2 | 2 | 2 | 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 the last 24 hours. | | | | |
| No | 0 | 0 | 0 | 0 |
| Yes | 4 | 4 | 4 | 4 |

**4AT Score**
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)

| **Total** | | | |
|---|---|---|---|
| | | | |



v3.1 Testing Sep 2014

# Delirium learning resources

## Learnpro modules

NHS Education for Scotland, in collaboration with colleagues from across NHSScotland, has developed a range of learning resources to support staff and enhance their knowledge and understanding of delirium. Although the Improving Care for Older People programme focuses on acute general hospital care, it is essential that all staff working across health and social care are able to recognise delirium, seek medical advice, provide appropriate support and take steps to reduce the risk of delirium. To support the diversity of learning needs across the workforce the learning resources consist of two modules, which are accessible on Learnpro as well as an interactive mobile application available on iOS and android.

- The module 'An Introduction to Delirium' provides the baseline knowledge and skills required by all staff working in health and social care settings including in a person's own home.
- The module 'Delirium: Prevention, Management and Support' has been designed to enhance the knowledge and skills of all health professionals working across all care sectors. It will enable them to feel confident of their ability to identify, treat, prevent and provide appropriate support to people with delirium and their families and carers.

The mobile application is available to all staff, but is specifically aimed at health professionals who use or potentially could value learning using smart phone/tablet technology.

## Education videos

Healthcare Improvement Scotland has produced a series of videos to help educate and raise awareness of delirium. The videos include Professor Alasdair MacLullich, University of Edinburgh, helping to explain what delirium is, the focus and importance of our work, and how our programme is helping to improve the care of older people in acute care. You can view the video gallery by searching for 'OPAC video gallery' at **www.healthcareimprovementscotland.org**

## Staff, patients' and families' experiences report

In conjunction with University of West of Scotland, we also produced a report to provide details of a project undertaken to explore staff, patients' and families' experiences of episodes of delirium in an acute hospital setting.

We were keen to explore what it felt like to both give and receive care during an episode of delirium to:

- enhance our learning about caring for patients and family during an episode of delirium
- help us to improve communication, and
- contribute to the development of a guidance document for the delirium bundle.

This is a qualitative study which highlights the importance of continued engagement with everyone involved during these episodes. You can find the report at **www.healthcareimprovementscotland.org**


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