Salford Royal NHS Foundation Trust
Early Detection For Delirium (ED4D) Project

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Emergency Physician
Salford Royal NHS Foundation Trust
Part of the Northern Care Alliance NHS Group
THINK DELIRIUM
It can be prevented and treated

Spot it. Stop it.
New assessment tool and management bundle now on EPR
GDE : Delirium and Dementia

• Increase detection of delirium
• Enhance detection of undiagnosed dementia cases
• Provide tailored care and improve outcomes.
What is delirium?
Why is it important?

- Delirium is poorly detected
- Detection improves care & outcomes
- Delirium is about 30% preventable
- Early detection benefits patients and carers
- Type of acute brain failure
- Similar biomarkers to traumatic brain injury
How common?

- Delirium affects \textit{1 in 8 acute hospital inpatients}.
- Up to 30% Emergency Department patients
- 15% of adult acute general patients
- 30% of acute geriatrics patients
- 10-50% of surgical patients
- 50% of Intensive Care patients
- 50% of patients post hip fracture surgery
Making the case for change

Delirium is distressing for patients, family and staff and has potentially life-threatening outcomes including:

- Higher risk of falls & other harms
- 3 fold higher mortality (1 in 5 dead in one month, currently 14.1%, MI and sepsis)
- More likely to get dementia
- Speeds up decline in dementia (doubles rate)
- More likely to go into care
- 2-3 fold increased length of hospital stay (34-73 days monthly average)
- High readmission rate (approx 25%)

If delirium is missed in ED, outcomes are much poorer for patients
Measurable outcomes identified by the Delirium and Dementia project

- Improved quality of care by increased % of over 65s receiving an ED clinical assessment also receiving a 4AT assessment
- Improved quality of care by an increased % of over 65s receiving a 4AT assessment on admission to hospital
- Reduction in in-patient falls (for those patients with delirium)
- Reduction in average length of stay for patients with delirium recorded as i) a health issue ii) a diagnosis
- Reduction in readmissions within a month of discharge for patients with delirium recorded as i) a health issue ii) a diagnosis (approx 25%)
- Consistent adherence to comprehensive dementia FAIR assessment process
- Reduced prescription rate of anti-psychotic medication (in delirium)
- Increased dementia diagnostic rates for over 65s, leading to earlier treatment enabling prolonged independence and delay in institutionalisation
- Improved mortality for patients diagnosed with delirium (currently 14.3%)
Screening 65% of 65+ admissions from the A&E department for delirium by March 2018.

**Technology**
- 4AT Screening Tool
- Digital pathway for care bundle

**Improve training and education**
- Collect patient stories
- Raised awareness and mandatory training
- Carer education

**Leadership**
- Develop cohort of delirium champions

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- Develop cohort of delirium champions

- Liaising with clinicians to test user friendliness of the document
- Evidence based - choice of delirium assessment and management tool
- Incorporate patient stories collection in carers training
- Training sessions planned for various healthcare professional groups
- Data collection on number of falls, specials, and use of anti psychotic medication for patients who have received a delirium screen and those who have not
- Identify and train ED champions, include carers
# PDSA summary

<table>
<thead>
<tr>
<th>Technology</th>
<th>Improve Training and Education</th>
<th>Leadership</th>
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<td>– EAU Consultants</td>
<td></td>
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<tr>
<td></td>
<td>– Junior doctors</td>
<td></td>
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<td></td>
<td>– Nursing staff</td>
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Global Digital Exemplar

THINK DELIRIUM
It can be prevented and treated

Digitised Pathways

Spot it. Stop it.
New assessment tool and management bundle now on EPR

Salford Royal NHS Foundation Trust
University Teaching Trust

safe • clean • personal
Delirium and Dementia Assessment
**4AT - Assessment Test For Delirium & Cognitive Impairment**

**Diagnosis and Management of Delirium Guidelines**
- Click here to view policy on Trust intranet

**4AT information**
- Click here to view 4AT website

**Does the patient appear to be confused**
- Yes
- No

**Alertness information**
This includes patients who may be markedly drowsy (e.g., 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.

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

**AMT4 information**
Age, date of birth, place (name of the hospital or building), current year.

**AMT4 score**
- No mistakes - 0
- 1 mistake - 1
- 2 or more mistakes/untestable - 2

**Attention information**
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.

**Attention score**
- Achieves 7 months or more correctly - 0
- Starts but scores <7 months/refuses to start - 1
- Untestable (cannot start because unwell, drowsy, inattentive) - 2

**Acute change or fluctuating course information**
Evidence of significant change or fluctuation in: alertness, cognition, other mental function (e.g., paranoia, hallucinations) arising over the last two weeks and still evident in last 24 hours. 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?"

This item requires information from one or more sources, e.g., own knowledge of patient, other staff who know the patient, GP letter, family or carers.

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Alertness score
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- Mild sleepiness for > 10 seconds after waking, then normal - 0
- Clearly abnormal - 4

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TOTAL SCORE 12
Refer to the detailed score information below once the assessment is complete

Assessment Score Information
Score of 4 or more
Possible delirium +/- cognitive impairment.
TIME bundle to be completed within 2 hours of this assessment - proceed to the next section / tab.

Diagnosis
Delirium present
- Yes
- No
<table>
<thead>
<tr>
<th><strong>T - Triggers</strong></th>
<th>Abnormality found</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEWS</td>
<td>Yes</td>
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<tr>
<td>Blood glucose</td>
<td>Yes</td>
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<td>Infection</td>
<td>Yes</td>
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<td>Hydration</td>
<td>Yes</td>
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<tr>
<td>Medication changes</td>
<td>Yes</td>
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<td>Pain</td>
<td>Yes</td>
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<td>Urinary retention</td>
<td>Yes</td>
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<td>Constipation</td>
<td>Yes</td>
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<td>Metabolic</td>
<td>Yes</td>
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<table>
<thead>
<tr>
<th><strong>I - Investigate</strong></th>
<th>Abnormality found</th>
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</thead>
<tbody>
<tr>
<td>Bloods</td>
<td>Yes</td>
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<tr>
<td>ECG (ACS)</td>
<td>Yes</td>
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<tr>
<td>Infection screen</td>
<td>Yes</td>
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<tr>
<td>Imaging</td>
<td>Yes</td>
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<thead>
<tr>
<th><strong>M - Manage</strong></th>
<th>Completed</th>
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<tbody>
<tr>
<td>Treat causes</td>
<td></td>
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<tr>
<td>Clinical details</td>
<td></td>
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<tr>
<th><strong>E - Explain</strong></th>
<th>Completed</th>
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<tbody>
<tr>
<td>Explain to family</td>
<td></td>
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<tr>
<td>Explain to Team</td>
<td></td>
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<tr>
<td>Document diagnosis</td>
<td></td>
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</tbody>
</table>
Delirium screen – order set

<table>
<thead>
<tr>
<th>Pathology</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Selected tests</td>
<td></td>
</tr>
<tr>
<td>Date to be collected</td>
<td>10-05-2018</td>
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<tr>
<td>Collection Type</td>
<td>Ward Collection</td>
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</tbody>
</table>

<table>
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<tr>
<th>Clinical Information - Pathology</th>
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<tbody>
<tr>
<td>Haematology</td>
<td></td>
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<tr>
<td>Blood Chemistry</td>
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<tr>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>Investigations</td>
<td></td>
</tr>
<tr>
<td>Contact number/bleed - ECG</td>
<td></td>
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<td>Clinical information - ECG</td>
<td></td>
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| Drug Info |  |

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**Delirium Assessment**

**Aged 65 years or above or newly confused**  
- Yes  
- No

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- Click here to view 4AT website

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**Acute change or fluctuating course score**  
- No -0  
- Yes -4

**4AT total score outcome**  
- 0: delirium or cognitive impairment unlikely but delirium still...  
- 1-3: possible cognitive impairment  
- 4 or above: possible delirium +/- cognitive impairment
## PDSA summary

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- GDE EPR changes implemented 19/9
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### Improve Training and Education
- Medical student project to find out understanding of 4AT and delirium
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- Arrange teaching sessions for staff
  - EAU Consultants
  - Junior doctors
  - Nursing staff
- Daily walk around ED
- New doctors induction
- Presented at the team brief

### Leadership
- Delirium champions group
- Leaders forum
- ED consultants updated on progress
- ‘Well done’ poster and feedback to ED staff
Update

• 17/22 confident in diagnosing delirium
• 12/22 would use 4AT
• 17/22 knew to use tools from EPR
• 2 people knew to screen >65, 15 only if confused
• 11/22 said delirium had been promoted

• Major improvement in knowledge of tool, still some preconceptions to work on!
14/06/17
Delirium discussion added to Safety Huddle in ED

07/09/17
Siren newsletter containing delirium info was emailed out and uploaded on the intranet

19/09/17:
EPR changes as part of GDE Programme went live

12/10/17
Training session for Junior Doctors

07/12/17
New doctors induction

01/04/18
Doctors changeover
No. of Patients Diagnosed With Delirium

EPR Changes
<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline (1/10/16-3/3/17)</th>
<th>Dec 17</th>
<th>March 18</th>
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<tbody>
<tr>
<td>% 4AT in ED</td>
<td>8.1</td>
<td>33</td>
<td>41</td>
</tr>
<tr>
<td>% delirium who had a fall</td>
<td>18.3</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>Mortality rate (%)</td>
<td>14.3</td>
<td>17.4</td>
<td>14.3</td>
</tr>
<tr>
<td>Readmission within a month (%)</td>
<td>19.5</td>
<td>15.1</td>
<td>14.3</td>
</tr>
<tr>
<td>LOS (days)</td>
<td>50</td>
<td>47</td>
<td>60</td>
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National Recognition

• “icanpreventdelirium” Quality Improvement Award
• Shortlisted for Quality Improvement Initiative of the Year HSJ Patient Safety Awards
• Contacted by other organisations across the country and are interested in using something similar in their departments.
Film Production

Delirium Awareness - Salford Royal - YouTube
https://www.youtube.com/watch?v=mDogR9A92cw
7 days ago - Uploaded by Nice Cat Media
Film Theory: Is PENNYWISE In A Wrinkle In Time? (Stephen King Connected Universe Theory) - Duration: 16 ...

Enid's Story - from Salford Royal, Global Digital Exemplar - YouTube
https://www.youtube.com/watch?v=y2aXI9KVh-k
21 Feb 2018 - Uploaded by Salford Royal
Our Global Digital Exemplar (GDE) programme, which now includes more than 50 digital projects, is already ...
Enid’s story
What next?

• Delirium screening in ED - ongoing education
• TIME management bundle
• Spread screening to Emergency Assessment Unit
• Improve assessment across the whole hospital
• Development of a blue-printing template with GDE partners
Summary

• Used QI methodology
• Developed bespoke electronic documents with EPR team
• Engagement at all levels
• Culture change around delirium at Salford Royal NHS Foundation Trust
Thank you

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Acknowledgements

**GDE project team**
- Emma Vardy
- Shelley Heywood
- Matieusz Labiak
- Karen Hill
- Lesley Wintle
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- Sarah Hulme
- Lisa Hodgson
- Lisa Orme
- Robert Dodd
- Nathy Connolly
- Jenny Wilson
- Mike Turner
- Gareth Thomas (Group Chief Clinical Information Officer)

**ED4D team**
- Umang Grover
- Beverley Thompson
- Louise Nutt
- Sarah Monks
- Rebecca Thompson
- Tony Holmes
- Chen Ng
- Alex Bagnall
- Fraser Brooks
- Suzanne Masterman
- Georgia Clarke
- Elaine Inglesby-Burke (Executive Sponsor)

**Collaborators**
- Scottish Delirium Association
- Karen Goudie (Health Improvement Scotland)
- Yvonne Moulds, Julie Mardon (Crosshouse hospital)
- Haelo and Maxine Power