# Maintain the Brain: A Quality Improvement Initiative to Promote Delirium Prevention, Detection and Awareness at London Health Sciences Centre

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## BACKGROUND

Delirium is a leading cause of preventable hospital-acquired harms in Ontario. It is associated with:

- Increased **mortality** (2x)
- Prolonged **length of stay** (8 days)
- Increased **risk of discharge to LTC** (2.4x)
- Increased **health care costs** ($11k/ hospitalization)

Despite its impact, delirium is often underrecognized, undermanaged & undocumented in electronic medical records. In 2024, Health Quality Ontario launched the 3-year Delirium Aware Safer Healthcare campaign. At LHSC, Maintain the Brain contributes to this campaign through initiatives to improve delirium prevention, detection, and awareness.

Delirium Aware Safer Healthcare (DASH)

## AIM

This QI project focuses on 3 core objectives:

- Reduce the proportion of inpatients newly prescribed sedative-hypnotic or opioid (deliriogenic) medications.
- Implement standardized, organization-wide delirium screening for inpatients aged 65+
- Promote delirium awareness through the development of patient and care partner-centered educational materials.

## IMPROVEMENT & INNOVATION

- Removal of deliriogenic medications from admission order sets, prompting clinicians to reconsider default prescribing of sedative-hypnotics and opioids.
- Co-development of a website and printed materials with patients and care partners to support awareness and engagement. Prototypes are in usability testing, with feedback shaping content that is accessible and engaging.
- Delirium screening with the 4AT tool is being embedded into nursing workflows for inpatients aged 65+.
    - A co-designed e-learning module is undergoing usability testing.
    - Early feedback highlights the need for on-ward teaching, to be delivered by physicians in September 2025.

**4AT**

**SIMPLE and SHORT** (<2 min)

**DOES NOT** require special training

**QUICK**

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** ☐

## MEASURES

**Outcome Measures:**

- the proportion of sedative-hypnotic/ opioid-naïve patients newly prescribed deliriogenic medications.
- the proportion of inpatients with a documented 4AT score.

**Process Measure:**

- the proportion of providers accessing the delirium e-learning module.

**Balancing Measure:**

- the aggregate use of sedating anti-psychotics.

## RESULTS & LESSONS LEARNED

Maintain the Brain is shifting how delirium is approached in acute care. Success to date reflects the value of **interprofessional collaboration, patient partnership**, and **targeted system-level changes.**

## IMPACT

This initiative lays the groundwork for culture change—embedding delirium prevention and screening into routine inpatient care, with anticipated improvements in outcomes, experience, and system efficiency.

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## Presented by Kelly MacIsaac

## Evidence of Conflict of Interest Disclosures:

| Name | Conflict Disclosures |
|---|---|
| Kelly MacIsaac | None |
| Erin Spicer | AMOSO AFP Innovation Fund Project Grant Recipient |
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