A Collaborative Approach to the Prevention and Management of Delirium:

The Medical Psychiatry Alliance
Adult and Seniors Inpatient Delirium Project

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Mary-Lynn Peters, NP, MS, GNC (C)
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Agenda

1. The Medical Psychiatry Alliance
2. Delirium at Trillium Health Partners
3. Implementation Strategies
   • Structures/processes
   • Engagement
   • Education
4. Results
5. Lessons Learned
6. Q&A
The Impact

**Patients**
- Fewer medical interventions
- Improved quality of life and life expectancy
- Increased educational and employment potential

**Families**
- Fewer absences from work/community
- Reduced anxiety

**Care Providers**
- Improved morale
- Access to experts and education

**Health System**
- Reduced costs due to co-morbidity
- More effective use of health care funding

**Economy**
- Increased productivity and reduced absenteeism
- Reduced effects from childhood trauma
Delirium at Trillium Health Partners
Trillium Health Partners

• 3 sites: Credit Valley Hospital, Mississauga Hospital, Queensway Hospital
• 1400+ beds*
• Serves the communities of Mississauga, the Halton-Peel region, and west Toronto
• University of Toronto Mississauga Academy of Medicine
Delirium at Trillium Health Partners prior to the MPA

- Incidence in THP general internal medicine is ~25%
- Consistent with rates found in the literature (10 – 24%)
- Average LOS for patients with delirium = 22 days
- No standard screening, prevention or management prior to the MPA
Delirium Project at Trillium Health Partners

**GOAL**
To reduce the incidence, severity and duration of delirium for all adult inpatients at Trillium Health Partners.

**WHY**
Has serious negative consequences for patients and families
Adverse impact on patient experience, staff experience
Is common
Is largely preventable
Is costly

**HOW**
Prevention – Universal Precautions
Screening – CAM screening
Management – Order Set, Delirium Team
Transitions of Care
Implementation: Structures and Processes
How would you structure implementation of a large-scale project such as this one?
The path to our goal

Our goal: Every patient will receive screening for delirium once/shift and standardized delirium prevention and management strategies

- Pilot unit
- Multiple PDSA cycles
- One year

- Phased implementation, initially single site
- Created cohorts of units
- Quarterly spread
- Implementation ‘time out’ in Q4

- Delirium team + BPSO team
- Education delivery on units
- Attendance at huddles
- Support practice changes
## Implementation Timeline: high level

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Mississauga Hospital</td>
<td>Q2</td>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
</tr>
<tr>
<td></td>
<td>Launch on Pilot Unit, Cardiology</td>
<td>Medicine (4 units)</td>
<td>Neurology, Neurosurgery</td>
<td>ICU, Mental Health, Oncology</td>
</tr>
<tr>
<td></td>
<td>CV surgery, Ortho, CSICU, Rehab (3 units)</td>
<td>General Surgery (2 units)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit Valley Hospital</td>
<td></td>
<td>Medicine (5 units)</td>
<td>Surgery</td>
<td>ICU, Mental Health, Oncology</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rehab, Cardiology, CCU</td>
<td></td>
</tr>
</tbody>
</table>
MPA Adult and Seniors Inpatient Delirium Project Overview

**Assessment**
- Confusion Assessment Method (CAM) tool once/shift

**Prevention**
- Up in a chair
- Walk around the block
- 10 @ 10
- Lights on

**Management**
- Delirium Management Order Set
- Delirium Management Algorithm
- Delirium Team
- Up in a chair
- 10 @ 10

**Transitions of Care (in development)**
- Pre-Op Clinics
- Discharge template

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**Direct care provision:**
- Screening, Prevention, Management, Transitions

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**Consultative care provision:**
- Delirium Team
Stepped Care Model for Delirium

Referral to Delirium Team is via delirium screening. Decision Support provides daily reports to Delirium Team of patients who have had 2 positive CAMs within the past 48 hours.
Delirium Prevention Strategies: “10 at 10”

• Music, movement, and laughter
• Twice/week at 10:00, for 10 minutes
• Physical activity and an opportunity to socialize
• Music and activity ↓anxiety, ↓depressive symptoms or destructive behaviour and ↓restlessness

(Cheong et al., 2016; Pedersen et al., 2017; Vink et al., 2013)
Delirium Team

- Nurse practitioner, Occupational Therapist, Geriatrician, Psychiatrist
- Initial assessment by NP/OT
- Majority of cases seen by NP or OT
- Team rounds twice/week, complex cases discussed
- Followed by team for 2-3 visits
- Local capacity building, in-the-moment teaching
Communicating with patients and families

How To Help Support:

- **Stay awake during the day**: You can help your loved one by encouraging them to stay awake.
- **Eat meals in a chair**: You can help your loved one by encouraging them to eat their meal in a chair, not in bed.
- **Speak slowly and clearly**: Remember when speaking to your loved one to speak clearly and take your time.
Implementation Strategies: Engagement
Engagement with Leaders

Your team will be asked to:

**Attend Delirium Education**
- Coffee break sessions
- Lunch and Learn sessions
- Unit huddles
- Delirium Champion Resource workshop

**Perform Delirium Screening**
- Delirium screening once/shift with CAM tool (in Meditech and SCM)
- Delirium Order Set

**Delirium Prevention/Management**
- Up in a chair for lunch
- Lights on/ blinds open in daytime
- Walk around the block

**Delirium Prevention/Management**
- Up in a chair for two meals/day
- 10 at 10 twice/week

One month — One month — Two weeks — Two weeks
## Engagement with Leaders

### How we will support your team:

<table>
<thead>
<tr>
<th>Unit-based delirium champions</th>
<th>Delirium Team</th>
<th>RNAO BPG Delirium, Dementia and Depression team</th>
</tr>
</thead>
</table>
| • 4 per unit: 1 Allied, 3 Nursing | • Nurse Practitioner, Occupational Therapist, Geriatrician, Psychiatrist  
• Champions will need to be chosen and will attend a 4 hour workshop which will address:  
• Champion role expectations  
• How to be a champion  
• In-depth education about dementia/delirium/depression (3D’s) | • Inter-professional team  
• Attend unit huddles  
• Assist with delivery of coffee break education re-fresh sessions  
• Provide support to unit champions re: being a champion, 3D’s  
• Provide support to unit re: 3D’s  
• Perform delirium assessments, make clinical recommendations for delirium patients* |

* Patients will be seen by one or several members of the team, determined on a case by case basis. Not all patients will be seen by a physician.
Engagement: creating a ‘buzz’!

- CAM screening challenge: winning unit received a pizza party
World Delirium Awareness Day

- Creation of video to highlight delirium, raise awareness
- World Delirium Awareness Day links, info on THP Hub intranet page
Implementation Strategies: Education
# Implementation Strategies: Education

<table>
<thead>
<tr>
<th>Educational content</th>
<th>Format for provision of education</th>
<th>Supporting materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of screening tool (Confusion Assessment Method- CAM)</td>
<td>Coffee break drop in sessions</td>
<td>Posters</td>
</tr>
<tr>
<td>Delirium</td>
<td>Lunch and learn sessions</td>
<td>Lanyard cards</td>
</tr>
<tr>
<td>Prevention strategies</td>
<td>Skills day sessions</td>
<td>Pocket cards</td>
</tr>
<tr>
<td>Management strategies</td>
<td>MP3C module</td>
<td>Delirium Tent cards</td>
</tr>
<tr>
<td>How to be a champion</td>
<td>Attendance at unit huddles</td>
<td>Decision making algorithm</td>
</tr>
<tr>
<td>Attendance at program rounds</td>
<td>4 hour champions workshop</td>
<td>Champion-specific material:</td>
</tr>
<tr>
<td></td>
<td>On-line e-module to be developed</td>
<td>Delirium booklet</td>
</tr>
</tbody>
</table>
Universal Prevention Strategies

LET’S STOP DELIRIUM
40% of delirium is preventable

Communication
- Communicate in a clear, slow, simple manner
- Repetition may be needed
- Provide orienting information when providing care at least 3x/day
- Frequently use the patient’s name
- Identify yourself and explain what you are about to do

Pain management
- Administer medication using Pain Scale (i.e. ABBEY)
- Provide analgesia
- Provide non-pharmacologic pain relief strategies

Hydration/Oral Intake
- Encourage or assist oral intake
- Assess and manage hydration and nutritional status
- SLP and/or dietician assessment
- Place in high-sided bed for all patients (use Hoyer lift if needed)

Medication Review

Mobility
- Mobilize as soon as possible
- Mobilize bedside for minimum 10 minutes each
- Minimize use of immobilizing devices
- Reposition immobile patients
- Q4H
- Place in high-backed chair (minimum 4 hour bedside) (use Hoyer lift if needed)

Bowel and Bladder
- Discontinue urinary catheter
- Assess for urinary retention
- Technique rotating
- Monitor bowel habits

Physiologic Stability

Environment
- Assess for safety risks
- Room and area lighting, appropriate for time of day
- Minimize room changes
- Quiet environment at night

Know your patient
- Modify the environment
- Communicate clearly
- Ongoing assessment
Results
### Who has Delirium? Demographic Analysis Pilot Unit and Cohort 1

<table>
<thead>
<tr>
<th>Demographic and Clinical variables Total</th>
<th>Delirium status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 5619</td>
<td>Present</td>
<td>Absent</td>
</tr>
<tr>
<td>All</td>
<td>570 (10.1%)</td>
<td>5049 (89.9%)</td>
</tr>
</tbody>
</table>

#### Age in years: Mean±SD

<table>
<thead>
<tr>
<th>Age group</th>
<th>Present</th>
<th>Absent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 60 years</td>
<td>32 (2.6)</td>
<td>1188 (97.4)</td>
<td>1220</td>
</tr>
<tr>
<td>61 – 70 years</td>
<td>57 (4.0)</td>
<td>1358 (96.0)</td>
<td>1415</td>
</tr>
<tr>
<td>71 – 80 years</td>
<td>122 (8.0)</td>
<td>1405 (92.0)</td>
<td>1527</td>
</tr>
<tr>
<td>&gt; 80 years*</td>
<td>359 (24.6)</td>
<td>1098 (75.4)</td>
<td>1457</td>
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</tbody>
</table>

#### Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Present</th>
<th>Absent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>273 (8.9)</td>
<td>2807 (91.1)</td>
<td>3080</td>
</tr>
<tr>
<td>Female</td>
<td>297 (11.7)</td>
<td>2242 (88.3)</td>
<td>2539</td>
</tr>
</tbody>
</table>

#### Previous admission**

<table>
<thead>
<tr>
<th>Admission status</th>
<th>Present</th>
<th>Absent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No admission</td>
<td>346 (8.8)</td>
<td>3587 (91.2)</td>
<td>3933</td>
</tr>
<tr>
<td>Within 2 years admission</td>
<td>222 (13.7)</td>
<td>1402 (86.3)</td>
<td>1624</td>
</tr>
</tbody>
</table>

#### Admission **

<table>
<thead>
<tr>
<th>Admission status</th>
<th>Present</th>
<th>Absent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unplanned (ED admission)</td>
<td>441 (14.6)</td>
<td>2571 (85.4)</td>
<td>3012</td>
</tr>
<tr>
<td>Planned</td>
<td>129 (4.9)</td>
<td>2478 (95.1)</td>
<td>2607</td>
</tr>
</tbody>
</table>

#### Unit

<table>
<thead>
<tr>
<th>Unit</th>
<th>Present</th>
<th>Absent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardio Medicine</td>
<td>177 (9.3)</td>
<td>1733 (90.7)</td>
<td>1910</td>
</tr>
<tr>
<td>Cardio Surgery</td>
<td>155 (7.8)</td>
<td>1835 (92.2)</td>
<td>1990</td>
</tr>
<tr>
<td>Ortho</td>
<td>202 (13.3)</td>
<td>1315 (86.7)</td>
<td>1517</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>36 (17.8)</td>
<td>166 (82.2)</td>
<td>202</td>
</tr>
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</table>

**December 2017 – December 2018**  
Number of records included for analysis: 5619  
Incidence rate of Delirium based on CAM screening results: 10.1%  

Data analysis courtesy of Institute for Better Health, Trillium Health Partners
What metrics would you track in a project such as this?
Early Results on Pilot Unit, August 2016 – July 2017

![Bar chart showing adherence to interventions: Up in Chair and CAM Q shift. The chart compares adherence in August 2016 (Aug-16) and July 2017 (Jul-17).]
Monthly CAM Screening Rate, Pilot Unit

Data analysis courtesy of Institute for Better Health, Trillium Health Partners
Monthly Delirium Rates, Pilot Unit

Data analysis courtesy of Institute for Better Health, Trillium Health Partners
Monthly CAM Screening Rate, Cohort 1

Data analysis courtesy of Institute for Better Health, Trillium Health Partners
Monthly Delirium Rates, Cohort 1

Monthly Delirium rate - Cohort 1

Data analysis courtesy of Institute for Better Health, Trillium Health Partners

Shift1: P <0.001, Shift2: P = 0.133
Monthly CAM Screening Rates, Cohort 2

Data analysis courtesy of Institute for Better Health, Trillium Health Partners
Monthly Delirium Rates, Cohort 2

Data analysis courtesy of Institute for Better Health, Trillium Health Partners

Shift 1: P < 0.001, Shift 2: P < 0.05
# Sharing Results

<table>
<thead>
<tr>
<th>Type of report</th>
<th>Content of report</th>
<th>Director receives</th>
<th>Manager receives</th>
<th>Educator receives</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM completion report</td>
<td>CAM completion rates for the previous 24 hours</td>
<td></td>
<td></td>
<td>✓</td>
<td>Monday-Wednesday-Friday</td>
</tr>
<tr>
<td>Delirium Dashboard</td>
<td>CAM completion rates, positive CAM scores, and utilization of non-pharmacological strategies for past week.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Weekly</td>
</tr>
<tr>
<td>CAM Completion rates: Monthly</td>
<td>CAM completion rates, by shift, for past month</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Monthly</td>
</tr>
<tr>
<td>CAM completion rates: Quarterly Trends</td>
<td>CAM completion rates, by shift, for past 3 months</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>
Communication of Results, example

CAM Dashboard Example

**Final CAM Score Completion Rate**

<table>
<thead>
<tr>
<th>Date</th>
<th>Shift 1 Complete %</th>
<th>Shift 2 Complete %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018/09/10</td>
<td>88.9%</td>
<td>77.3%</td>
</tr>
<tr>
<td>2018/09/11</td>
<td>97.7%</td>
<td>83.7%</td>
</tr>
<tr>
<td>2018/09/12</td>
<td>83.7%</td>
<td>81.4%</td>
</tr>
<tr>
<td>2018/09/13</td>
<td>81.4%</td>
<td>76.7%</td>
</tr>
<tr>
<td>2018/09/14</td>
<td>76.7%</td>
<td>72.1%</td>
</tr>
<tr>
<td>2018/09/15</td>
<td>74.4%</td>
<td>79.1%</td>
</tr>
<tr>
<td>2018/09/16</td>
<td>88.4%</td>
<td>83.7%</td>
</tr>
<tr>
<td>2018/09/17</td>
<td>72.7%</td>
<td>67.4%</td>
</tr>
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</table>

**# of Patients with Positive CAM score**

<table>
<thead>
<tr>
<th>Date</th>
<th>Shift 1 #</th>
<th>Shift 2 #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018/09/10</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2018/09/11</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2018/09/12</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2018/09/13</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2018/09/14</td>
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<tr>
<td>2018/09/15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2018/09/16</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2018/09/17</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**# of patients getting assistance for daily mobilization**

<table>
<thead>
<tr>
<th>Date</th>
<th>Shift 1 #</th>
<th>Shift 2 #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018/09/10</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>2018/09/11</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>2018/09/12</td>
<td>8</td>
<td>9</td>
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<tr>
<td>2018/09/13</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>2018/09/14</td>
<td>11</td>
<td>9</td>
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<tr>
<td>2018/09/15</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>2018/09/16</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>2018/09/17</td>
<td>12</td>
<td>10</td>
</tr>
</tbody>
</table>

**# of patients provided re-orientation information BID**

<table>
<thead>
<tr>
<th>Date</th>
<th>Shift 1 #</th>
<th>Shift 2 #</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018/09/10</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>2018/09/11</td>
<td>20</td>
<td>22</td>
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<tr>
<td>2018/09/12</td>
<td>25</td>
<td>25</td>
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<tr>
<td>2018/09/13</td>
<td>22</td>
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</tr>
<tr>
<td>2018/09/14</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>2018/09/15</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>2018/09/16</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2018/09/17</td>
<td>26</td>
<td>25</td>
</tr>
</tbody>
</table>
Staff experiences with 10 @ 10

Yes, I see the staff more engaged in getting the patients up. I see the staff – like they’ll say, “Oh, did you see my patient in the thing today doing the dancing and she normally lays in the bed.” …I think the staff see the value in it now too, of getting patients up. Nurse, Cardiac Care

He wasn’t really communicating with me. You know, we walked him, it was challenging. He had a hard time, like following commands. You take him to the class and you put on some music and he was having a party. Like, he was … it was amazing, like just to see that … like, the change in him. It was phenomenal. Allied Health, OT
Lessons Learned

• Awareness of and attention to organizational priorities when planning implementation
• Engagement at many levels and often!
• Support
• Ownership
• Pace implementation activities to allow time for PDSA cycles

Is it top down or bottom up?

“Start low and go slow – but go!”
Key Messages

• Delirium is everyone’s responsibility-
  
  **It takes a village!**

• Easier to prevent than to treat

• Multi-component interventions are the most successful
  
  “strong evidence that multi-component interventions can prevent delirium in both medical and surgical settings”

(Siddiqi, Harrison, Clegg, et al., 2016)
Questions?
References
References


References


