Delirium Prevention protocol implementation in the Acute Care of the Elderly (ACE) Unit Phase 1 of 3
S. Liliana Oakes, MD has no relevant financial relationships with commercial interests to disclose.
The Team

- Inter-professional ACE team
  - CS&E Participant: Dr. Oakes
  - CS&E Alumni consultants: Dr. Suh, Dr. Patel
  - Dr. Efeovbokhan, clinical nurse manager
  - Team Member: Imelda Rohner RN, Nurse manager
  - Team Member: Michelle Dang, MS2, MSTAR student
  - Health Career student: Swetha Gogu
  - Restorative aid: Juanita Rodriguez
  - Facilitator: Hope Nora, PhD
  - Blair Sarbacker Pharm D
  - Get input from some patients and caregivers

- Sponsor Department/ Institution
  CSR City Centre, FCM Department, AFAR grant (MSTAR program)
AIM

Increase utilization of the cognition and mobility components of the delirium prevention protocol to 90% in the next 3 months at the Acute Care of the Elderly (ACE) unit at Christus Santa Rosa City Centre (this protocol is actually 6 parts).
Project Milestones

- Team Created: April 2011
- AIM statement created: May-June 2011
- Weekly Team Meetings: Every Wednesday pm
- Background Data, Brainstorm Sessions: May 20
- Workflow and Fishbone Analyses
- Interventions Implemented: July - Date
- Data Analysis: August - Date
- CS&E Presentation: September 16
What is Delirium?

- Delirium is an acute change in mental status
- It is a temporary and reversible state of severe confusion
- It lasts hours to days
- Three types:
  - Hyperactive
  - Hypoactive
  - Mixed
- Different than dementia because of:
  - Fluctuating nature of delirium
  - Inattention
Who is at Risk for Developing Delirium?

- Hospitalized elders > 65 years old
- Individuals with pre-existing diseases
  - Dementia
  - Parkinson’s disease
- Individuals with multiple diseases
- Taking multiple medications
- If you are:
  - Sleep deprived
  - Malnourished
- If you have:
  - Vision problems
  - Hearing problems
Why is Delirium Significant?

- Increases inpatient stay by 17.5 million days
- Accounts for $4 billion Medicare expenditures\(^1\)
  - Increases costs after discharge as well
- Complicates hospital stays for more than 2.3 million people
- One episode increases an individual’s risk of morbidity and mortality up to 2 years\(^2\)
  - Later diagnosis of dementia
- Part of “never events” mandated by the Center for Medicare/aid; delirium increases LOS for patients, affects the staff ratio due to agitation and behavioral problems.
Why is Delirium Significant?

**Hospital Elder Life Program**

<table>
<thead>
<tr>
<th>Day</th>
<th>Cumulative Incidence of Delirium</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>0.05</td>
</tr>
<tr>
<td>5</td>
<td>0.10</td>
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<tr>
<td>7</td>
<td>0.15</td>
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<tr>
<td>9</td>
<td>0.20</td>
</tr>
<tr>
<td>11</td>
<td>0.25</td>
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</tbody>
</table>

**Usual care** vs **Intervention**

**Median length of stay**

6 Risk Factors to Prevent Delirium:

- Cognition
- Mobility
- Vision
- Hearing
- Sleep
- Dehydration

*We also added a cultural component*

Inouye, Sharon K. "A Multicomponent Intervention to Prevent Delirium in Hospitalized Older Patients."
QI Process Tools

- Measure observations
  - Shadow RNs/CNAs (day & night shifts)
  - Figure out barriers/fish bone
  - Illustrate ideal processes through flow charts
  - Make decisions for implementation
  - Standardizations of procedures
Barriers Leading to an Incomplete Delirium Protocol -PLAN

FISH BONE

**PATIENT/FAMILY**
- Family keeping pt awake at night
- Competing priorities (lack of staff to toilet pt)
- Busy boxes are underused
- Personal items lost during transfer
- Pt is missing equipment from home
- No budget to buy equipment

**LACK OF RESOURCES**
- Culturally competent translation
- Lack of family health education
- Bathroom privileges denied
- Pt and/or family non-compliant

**ENVIRONMENT**
- Lights on at night
- Test interferes with pt’s sleep
- Housekeeping wakes pt up
- Changing nurses & rooms confuses pts
- The IV pump is beeping
- Extraneous noise

**ATTITUDE**
- Poor role modeling by MDs
- Delirium is not a priority
- RN has different priorities than MD
- Staff lacks education
- Caregiver lacks education
- Pt lacks education
- Lack of education on family room resources

**MEDIATIONS**
- Diuretics
- Benadryl
- Benzodiazepine for sleep
- Emergency dept. placed a Foley catheter

**EDUCATION**
- Families don’t understand difference between Dementia & Alzheimer’s Disease
- Hand washing
- Parkinson’s Disease
- Pt is NPO for a procedure/study
- Untreated Dementia
- Pt with poor oral intake, including fluids

**CO-MORBIDITY**
- Lack of restorative staff
- Lack of incentives
- Offering Ambien as a 1st protocol instead of as a last resort
- Barriers in communication when nurses forget to document

**STAFF**
- Diuretics
- Benadryl
- Benzodiazepine for sleep
- Emergency dept. placed a Foley catheter

**DOCUMENTATION**
- Inefficient charting
- Not enough time
- Inadequate EMR training
- Takes too much effort

**MEDICATIONS**
- Lack of education on family room resources

**PLAN**
Barriers Leading to an Incomplete Delirium Protocol

Lack of family health education

Culturally competent translation

Documenting

Inefficient charting

Not enough time

Inadequate EMR training

Takes too much effort

Patient/Family

Family keeping pt awake at night

Competing priorities (lack of staff to toilet pt)

Busy boxes are underused

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No budget to buy equipment

Lack of resources

Cultural competence

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Attitude

Poor role modeling by MDs

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Caregiver lacks education

Pt lacks education

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Pt with poor oral intake, including fluids

Staff

Pt lacks education

Lack of restorative staff

Lack of incentives

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Education

Incomplete Delirium Protocol

Co-morbidity

Inadequate EMR training

Takes too much effort

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Education

Incomplete Delirium Protocol

Co-morbidity
Ideal Cognition Flow Chart

1. Assess patient's cognitive function
   - R.N.: Mini-cog exam
   - M.D./Med Student: CAM

2. Orient pt 1X a day
   - R.N.: Normal or Abnormal?
   - M.D./Med Student: Does the pt have delirium?

3. Does pt have a history of dementia?
   - R.N.: Geriatric consult?
   - M.D./Med Student: Eval. by PCP to determine type of dementia

4. Full cognitive assessment to determine type of dementia
   - Slums
   - CLOX I & II
   - ADL
   - Advanced Directive

5. Does the pt have dementia?
   - R.N.: Implement cognitive interventions because pt is at risk for delirium
   - M.D./Med Student: Pt has MCI

6. Solicit family's help with interventions

7. Continue interventions daily

8. If pt develops acute episode of delirium
   - R.N.: Make sure communication board is up-to-date
   - M.D./Med Student: Does the pt have MCI
Cognition Portion of Delirium Protocol

- Did the MD/RN/CNA orient pt to person by saying their name? (n=36, 52.78%)
- Did the MD/RN/CNA orient pt to place/time? (n=36, 5.56%)
- Did RN/CNA encourage family to engage pt in cognitively stimulating activities/conversations frequently while at the ACE unit? (n=59, 0.00%)
- Did RN/CNA educate the pt and/or family on the relationship between cognitive function and delirium? (n=59, 0.00%)
Ideal Mobility Flow Chart

MD assesses pt's mobility upon admission

Is pt bedridden?

Yes

CNA walks with the pt 2X day

If MD ordered physical therapist, pt works with CNA 
& therapist

Encourage family to walk with pt when possible

No

CNA does AROM with pt 2X day

Encourage family to do AROM with pt when possible

Can pt do active range of motion (AROM)?

Yes

CNA does passive range of motion (PROM) with pt 2X day

Encourage family to do PROM with pt when possible

No

Mobility helps keep pt alert & oriented

Continue mobility exercises daily during the rest of the pt's stay
### Mobility Portion of the Delirium Protocol

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of the pts who could walk, did the Aide assist them with ambulation?</td>
<td>41.67%</td>
<td>0.00%</td>
<td>12</td>
</tr>
<tr>
<td>If the family was present during the exercises, did the Restorative Aide inform them they could help with the pt's mobility during their stay at the ACE Unit?</td>
<td>0.00%</td>
<td>0.00%</td>
<td>22</td>
</tr>
<tr>
<td>Did Aide educate pt and/or family on the importance of mobility &amp; its relationship with delirium?</td>
<td>0.00%</td>
<td>0.00%</td>
<td>18</td>
</tr>
<tr>
<td>Did Aide encourage pt and/or family to continue exercising after the pt left the ACE Unit?</td>
<td>0.00%</td>
<td>0.00%</td>
<td></td>
</tr>
</tbody>
</table>
Potential Interventions

Solutions:
- Educational Brochures for the pt & families
- In-service training sessions for RNs
Phase I/ACT

- **Implement cognition protocol**
  - Ask RNs/CNAs to address the pt by name frequently, regardless of mental status.
  - Teach mini-cog and ask RNs to start using it
  - Educate pts & families/brochure

- **Implement mobility protocol**
  - Ask restorative aide to have the pts count for themselves
  - Turn off TV during exercises
  - Ask restorative aide to ambulate pts more
  - Educate pts & families
Implementing Change & Collecting Results

Collect data/8 weeks after implementing cognition & mobility interventions

For each phase:

- **DO-** Implement change
- **CHECK-** Collect data by observing
- **ACT-** Implement change in other units