

*Feasibility Testing of a
Technology Application at the Point of Care*



Feasibility Testing of a Technology Application at the Point of Care

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Greetings from Philadelphia



Objectives

- Discuss facilitators and barriers identified by bedside nurses that support implementing an electronic delirium screening tool at the point of care.
- Examine the feasibility of implementing a screening tool at the point of care.

Background & Significance

- Delirium is under-recognized and not documented by nurses in over 85% of patients who are delirious (Milisen, 2002).
- Nurses play a critical role in assessing risk for delirium because they provide 24-hour care and see the patient in a variety of circumstances (Foreman, 1991; Inouye, 2000).

Background & Significance

- Failure to recognize delirium can lead to serious and costly adverse events including increased LOS, falls, UTIs, restraint use, new nursing home placement, serious morbidity, and mortality (Galanakis, 2001; Inouye, 1998; Olofsson 2005; Rudolph, 2005).

Significance

- Costs skyrocketing.
- Delirium is preventable.
- Adverse events can be reduced and prevented.
- August 2007 – Medicare no longer paying for medical errors.

R03: Pilot Study

- *“Delirium Screening: From Research to Point of Care”*
- Co-I: Dr. Christopher Sciamanna
- Agency for Healthcare Quality and Research (AHRQ)
- 1-R03-HS-016917-01
- 2007-2009

Specific Aims

- **Aim 1.** To establish the feasibility of incorporating the Confusion Assessment Method (CAM), screening tool for delirium, with score alert system into a hospital-based electronic medical record and evaluate the facilitators and barriers to full integration.
- **Aim 2.** To assess the effect of screening with the Confusion Assessment Method (CAM) on nurses' ability to recognize delirium.

Specific Aims

- **Aim 3.** To determine the effect of screening with the Confusion Assessment Method (CAM) on the management of delirium by nurses.
- **Aim 4.** To determine the effect of screening with the Confusion Assessment Method on clinically recognized adverse events including falls, pressure ulcers, urinary tract infections, restraint use in postoperative older adults undergoing hip and knee surgery.

Specific Aim #1

- Incorporating the Confusion Assessment Method (CAM) with score alert system into the EMR
- Facilitators
- Barriers

Specific Aim #1

- Working with Hospital IT
- Total number of technical support hours needed for the implementation were tracked and the time needed to input and save patients' CAM data in the system was tracked

Specific Aim #1

- Bedside nurses who will interact with the system at the point of care were recruited to participate in focus group discussions to understand the barriers and opportunities to incorporating a screening intervention to assist nurses in screening for delirium at the point of care.
- Feasibility was further be established by examining the satisfaction of nurses with using the CAM in the EMR at the point of care.

Specific Aim #1

- CAM 4-item short form embedded into nursing documentation flow sheets
- Score Alert with Positive Screen
- Five Evidence-Based Interventions



Name: DRUMMINS, Donna **MRN:** 54013107 **Sex:** F
Account: 45402226 **Room Bed:** 9235P
Date of Birth - Age: 3-Jun1999=9 **ADMD LOS:** 2-Jul08=5

Flowsheet Charting CONFUSION ASSESSMENT METHOD FLOWSHEET

Flowsheet Charting History Display through: 3-Jul2008 11:13 Back Days: 6

| CONFUSION ASSESSMENT METHOD FLOWSHEET | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|
| Summary Note | | | | | | | | | |
| <input type="checkbox"/> CAM Worksheet | | | | | | | | | |
| <input type="checkbox"/> Acute Change in Mental Satus | | | | | | | | | |
| <input type="checkbox"/> Fluctuation of Abnormal Behavior | | | | | | | | | |
| <input type="checkbox"/> Difficulty Focusing Attention | | | | | | | | | |
| <input type="checkbox"/> Disorganized/Incoherent Thinking | | | | | | | | | |
| <input type="checkbox"/> Overall Rating of LOC | | | | | | | | | |
| <input type="checkbox"/> CAM Total | | | | | | | | | |
| <input type="checkbox"/> Interventions For Positive CAM | | | | | | | | | |
| <input type="checkbox"/> Orient and Reorient Patient | | | | | | | | | |
| <input type="checkbox"/> Prov Pt w/Cognitive Stimulating Activity | | | | | | | | | |
| <input type="checkbox"/> Encourage Ambulation | | | | | | | | | |
| <input type="checkbox"/> Monitor For Dehydration | | | | | | | | | |
| <input type="checkbox"/> Ensure Pt Using Visual &/or Hearing Aids | | | | | | | | | |

Add New Column Update Change Time Audit One Column Older One Column Newer Back

54013107 DRUMMINS, Donna - F

File Patient Session Navigate Help

← [Icons] →

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Confusion Assessment Method (CAM) Shortened Version Worksheet

I. Acute Onset and Fluctuating Course

a) Is there evidence of an acute change in mental status from the patient's baseline? No Yes

b) Did the (abnormal) behavior fluctuate during the day, that is tend to come and go or increase and decrease in severity? No Yes

II. Inattention

Did the patient have difficulty focusing attention, for example being easily distractible or having difficulty keeping track of what was being said? No Yes

III. Disorganized Thinking

Was the patient's thinking disorganized or incoherent, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject? No Yes

IV. Altered Level of Consciousness

Overall, how would you rate the patient's level of consciousness?
 *If Alert (Normal), mark 'No', otherwise mark 'Yes'. No Yes

CAM Total:

Score of 7 or above suggests a diagnosis of delirium.

****If CAM positive consider implementing interventions on screen below.**

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54013107 DRUMMINS, Donna - F

File Patient Session Navigate Help

Pt/Phys Search Pt Info Clin Data Results Meds Orders Nurse Review Flowsheets CCFS MAR/WL Viewer

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Interventions For Positive CAM

Below are 5 evidence-based interventions that the nurse may choose to implement if positive CAM

| | Yes | Comment |
|--|--------------------------|---------|
| Orient and Reorient Patient | <input type="checkbox"/> | |
| Prov Pt w/Cognitive Stimulating Activity | <input type="checkbox"/> | |
| Encourage Ambulation | <input type="checkbox"/> | |
| Monitor For Dehydration | <input type="checkbox"/> | |
| Ensure Pt Using Visual &/or Hearing Aids | <input type="checkbox"/> | |

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Specific Aim #1

- Focus Group #1
- Focus Group #2
- 15 Participants
- 1.5 hours included dinner
- Incentive: card for food vendor

Specific Aim #1

- Job satisfaction and challenges
- Familiarity with using screening tools
- Knowledge and attitude towards patient population

Specific Aim #1

- Impressions of the CAM tool
- Proficiency with computers
- Experience with research

Specific Aim #1: Focus Group Results

- Facilitators
- Barriers

Specific Aim #1: Focus Group Differences

- Focus Group #1
- Focus Group #2

Specific Aim #2: Pre-Intervention Phase

- Established rate of delirium in healthy, older adult elective surgery patients.
- Research Assistant screened with 9-item CAM.

Specific Aim #2: Pre-Intervention Phase

- Delirium in 7% of older adult surgical patients
- Falls (1)
- Pressure Ulcers (2)
- Restraint Use (0)
- UTIs (pending)

Specific Aim #2: Post-Intervention Phase

- Research Assistant screening with 9-item paper and pencil CAM
- Nurses screening with 4-item CAM embedded in EMR
- Preliminary data

Specific Aim #3: Effect of Screening on Management

- Nurses screening with CAM embedded in EMR (not forced completion)
- Nurses selecting evidence-based interventions (able to bypass)

Specific Aim #4: Effect of Screening on Adverse Events

- Falls
- Pressure Ulcers
- Restraint Use
- UTIs

