An Interprofessional Approach to Delirium

Maralynne Mitcham Fellowship 2017-2018

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Goals

To improve the care of our delirious patients by enhancing our interprofessional approach

To foster an interprofessional delirium work group and research group

To attend and participate in interprofessional meetings and scholastic activities

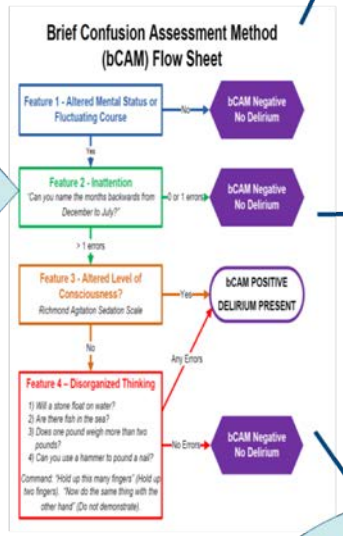
To enhance my interprofessional communication skills

Outcomes

DIETITIAN and SLP:
Silver Spoons feeding assistance program

PT and OT:
Emphasis on early mobility and ambulation

NURSING:
Screen every adult patient twice daily

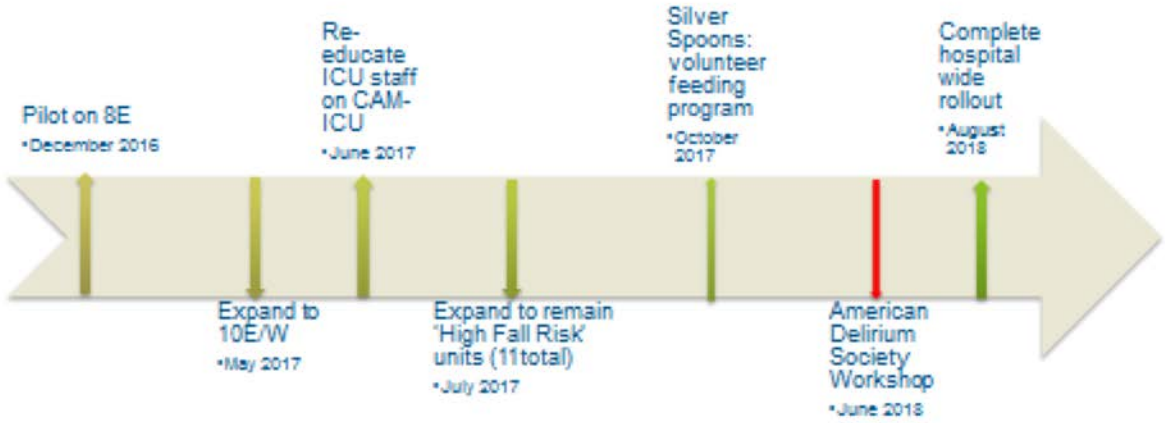


NURSING:
Initiate **Acute Confusion Care Plan**, emphasizing non-pharmacologic strategy

PHYSICIANS:
Modify medical and pharmacologic treatment. Education to all treatment teams

VOLUNTEERS:
Assist with Silver Spoons feeding program and early mobility program and provide companionship

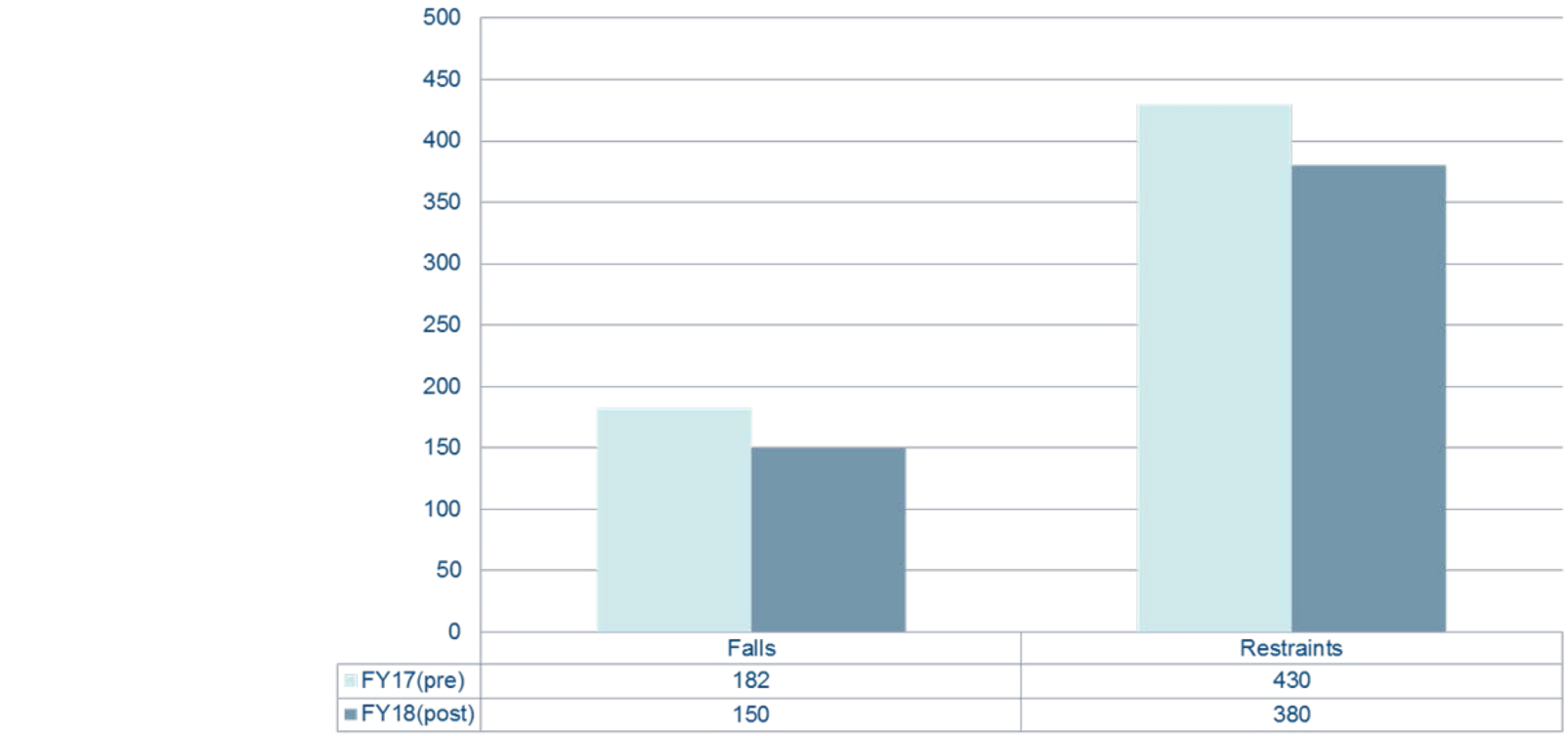
Roll out timeline



Compiling data on patient falls, restraints and CAM positive patients

Educating residents and faculty physicians

Outcomes



	FY17 (Pre)	FY18(Post)	%Change
Falls	182	150	-18%
Restraints	430	380	-12%

Delirium at an Academic Hospital: An Interprofessional Approach

Benjamin Kalivas MD, Kristine Harper MSN, RN, NE-BC, David Comeau DPT, MHA, Michelle Donnelly MSP-CCC-SLP, Kelly Hedges CDVS, Kelley Martin MPH, RDN, LD, Katelyn Ferguson BS, Mark Newbrough MD

MUSC Health
Medical University of South Carolina

BACKGROUND

Delirium is a multifactorial medical syndrome that results in acute change in mental status and attention

Also known as "acute confusional state", "encephalopathy", "acute brain failure"

Delirium is common problem that effects many hospitalized patients, particularly the elderly

Effects over 50% of ICU patients and as much as 35% on non-ICU patients

Patients who experience delirium in the hospital have an increased mortality and morbidity

Morbidity of delirium includes higher risk of falls, receiving mechanical restraints, increased LOS, hospital cost and progression of cognitive decline

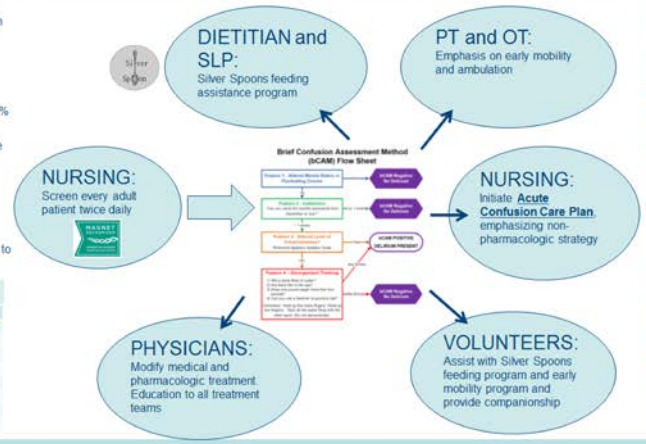
Estimated $164million in extra healthcare costs

Multicomponent, interprofessional treatments shown to help prevent delirium

Risk Factors For Delirium

Modifiable	Unmodifiable
Severity of Illness	Dementia/Cognitive impairment
Surgery	Advanced age
Sedating medications	History of delirium or CVA
Environment (ICU)	Chronic organ failure
Sleep deprivation	
Pain	
Immobility	
Dehydration	

Our Interprofessional Approach



RESULTS

Initiation of delirium screening and resulting interprofessional treatment plan was well received by staff and patients

Dietitian and SLP worked together to create the Silver Spoons feeding program which empowered volunteers to assist in feeding our delirious patients

Physical and occupational therapy, with the help of volunteers, enhanced focus on early mobility

Physicians from Delirium Work Group worked to educate physicians and staff across disciplines about delirium and our management approach

CONCLUSIONS

An interprofessional approach is essential in managing the complex medical syndrome of delirium

Collaboration between different groups facilitates improved quality of care for all patients, particularly this challenging group

Additional data analysis needed to quantify impact on morbidity and mortality

Delirium screening and an interprofessional care plan should be considered for all non-ICU patients

REFERENCES

Han JH, Wilson A, Vasilevskis EE, et al. Diagnosing Delirium in Older Emergency Department Patients: Validity and Reliability of the Delirium Triage Screen and the Brief Confusion Assessment Method. Annals of emergency medicine. 2013;62(5):457-465.

Inouye SK. Delirium in Older Persons. NEJM 2006; 354:1157-1165.

Leslie DL, Marcantonio ER, et al. One-year health care costs associated with delirium in the elderly population. Arch Intern Med 2008; 168: 27-32

National Acadamies of Practice, April 2018

Delirium screening as a tool to reduce falls and mechanical restraint use in hospitalized patients

Benjamin Kalivas, MD, Kristine Harper, MSN, RN, NE-BC

MUSC Health
Medical University of South Carolina

BACKGROUND

Delirium is common problem that effects many hospitalized patients, particularly the elderly

Patients who experience delirium in the hospital have an increased mortality and morbidity

Morbidity associated with delirium can include falls and need for mechanical restraints

The confusion assessment method (CAM) has been modified and validated for use specifically on non-ICU patients, bCAM

Screening for delirium is considered standard of care in the ICU, but is not part of most non-ICU care plans

Falls are an expensive ($13,500per fall) complication of hospitalized patients, particularly in elderly patients

METHODS

Screening initially piloted on 8E, then expanded to additional high fall risk units over next 6 months

Nursing conducts modified CAM (bCAM) twice daily on all patients during the initial assessment

If patients screen positive, nursing institutes the "Acute Confusion Care Plan"

Education provided to interprofessional team about clinical approach to delirious patients

Incidence of falls and use of mechanical restraints after initiation of screening compared to same month in the year prior to initiation

RESULTS

Nursing driven delirium screening and management was well accepted and had minimal impact on workflow

Frequency of falls and use of mechanical restraints was lower after initiation of screening protocol

Figure 1. Nursing Delirium Screening Tool

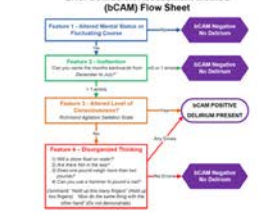


Table 1: Reduction in falls and restraint use

	FY17 (Pre)	FY18(Post)	%Change
Falls	182	150	-18%
Restraints	430	380	-12%

Figure 2. Total patient falls and mechanical restraint use before and after use of delirium screening

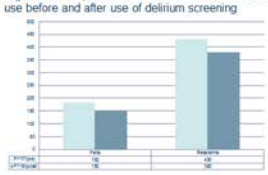
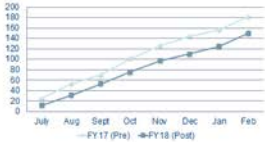


Figure 3. Cumulative falls before and after intervention



CONCLUSIONS

After initiation of delirium screening protocol, the incidence of falls was reduced

32 fewer falls in 8 months after screening predicts approximately 48 fewer falls in a year, which equates to nearly $650K in hospital costs avoided

The use of mechanical restraints was reduced after the initiation of delirium screening protocol

SUMMARY

Screening for delirium is easy and effective in non-ICU patients and can be a part of nursing work flow

Non-pharmacologic, nursing driven interventions can have significant impact on falls and mechanical restraint use

By reducing patient falls and use of mechanical restraints we are improve quality and overall cost of care

Delirium screening should be considered the standard of care for non-ICU patients

Additional time series regression and statistical analysis is needed to help prove impact of this screening tool

REFERENCES

Han JH, Wilson A, Vasilevskis EE, et al. Diagnosing Delirium in Older Emergency Department Patients: Validity and Reliability of the Delirium Triage Screen and the Brief Confusion Assessment Method. Annals of emergency medicine. 2013;62(5):457-465.

Inouye SK. Delirium in Older Persons. NEJM 2006; 354:1157-1165.

Hshieh TK, Hill AM, et al. Cost effectiveness of patient education for the prevention of delirium: economic evaluation from a randomized, controlled trial. BMC Medicine.

Barr J, Fraser GL, et al. Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit. Critical Care Medicine. 2013

1st PLACE

Department of Medicine Research Day, Feb 2018

SILVER SPOONS: VOLUNTEER FEEDING ASSISTANCE FOR PATIENTS WITH DELIRIUM

Katelyn Ferguson; Kelley Martin, MPH, RDN, LD; Kelly Hedges, CDVS; Kristine Harper MSN, RN, NE-BC; Benjamin Kalivas, MD

MUSC
MEDICAL UNIVERSITY of SOUTH CAROLINA

OBJECTIVES

Establish a mealtime assistance program for patients with delirium.

Demonstrate that a volunteer feeding program is safe for delirious patients

Improve patient's nutrition and hydration status in hopes of reducing the duration and severity of delirium.

METHODS

In coordination with dieticians, speech language pathology and the Delirium Work Group at MUSC a feeding protocol was created

A training protocol was developed to utilize volunteers in an environment to provide safe and comfortable mealtime assistance

Nurses identified patients who would benefit, with priority to appropriate delirious (bCAM positive) patients and facilitated volunteers in assisting with meals and providing companionship

Data was collected on the number of meals fed, percent food and beverage intake, calories consumed, and the impact on nursing time and workflow

RESULTS

Six volunteers assisted with 16 meals

Over 470 minutes of total nursing time have been saved by this program with our volunteers saving on average 29 minutes of nursing time each meal.

Average age of patient was 59yo

Average Nursing Time Saved Per Meal	Average Caloric Intake Per Meal
29 minutes	405 cal

Average Percent Intake Per Meal	
Food	Beverage
57%	72%

Silver Spoon

CONCLUSIONS

Utilization of trained volunteers to assist with feeding of patients with delirium is safe.

By using volunteers to encourage intake at mealtime, we have been able to improve nutritional and hydration status of patients at high risk for deficiency due to disruption of mental state.

There can be significant improvement in nursing time spent in assisting with meals by utilizing a volunteer driven feeding program

This program has the potential to be instrumental in providing care for patients with delirium by improving oral caloric and fluid intake, and thus improving nutrition status and potentially impacting the duration and severity of the delirious episode

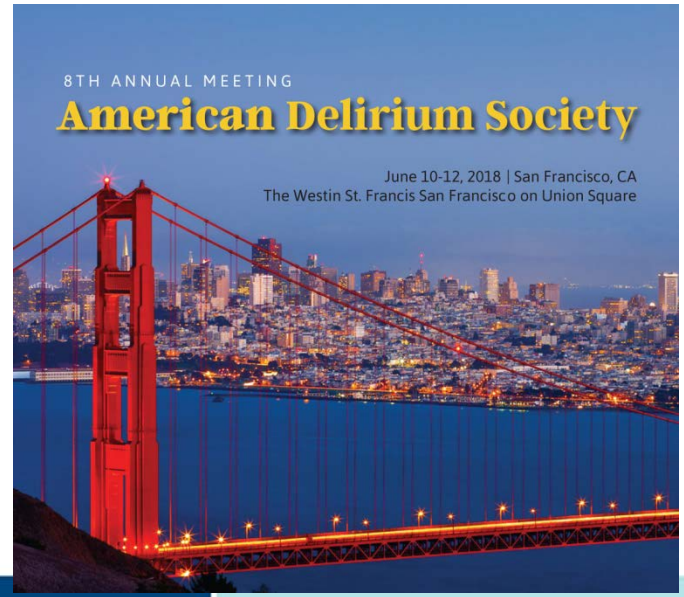
Silver Spoons is one piece of a interprofessional delirium management system at our hospital

REFERENCES

Edwards D, Carrier J, Hopkinson J. Assistance at mealtimes in hospital settings and rehabilitation units for patients (>65 years) from the perspective of patients, families and healthcare professionals: Amixed methods systematic review. International Journal of Nursing Studies. 2017; 46: 150-119.

Ahmed S, Laurent B, Sampson EL. Risk factors for incident delirium among older people in acute hospital medical units: a systematic review and meta-analysis. Age and Ageing. 2014; 43(3):326-333.

American Delirium Society, June 2018



What else the fellowship has allowed me to do:

Help fund co-investigator, Kristine Harper to travel and speak at the American Delirium Society

Sponsor and abstract competition to facilitate interprofessional research

Create clinical and educational tools

Delirium Is…

- Common
- Has serious complications
- Expensive
- Often unrecognized
- Preventable

Causes of Delirium

Drugs (pain meds, benzos, sedating, steroids).
Environmental factors (hearing aids, eye glasses, sleep/wake cycle)
Lab abnormalities (Na, K, Ca, BUN/Cr)
Infection
Respiratory status (hypoxia)
Immobility
Organ failure
Unrecognized dementia
Shock (sepsis)

Goals for the future

Continue to participate in IP Day and other IP initiatives here at MUSC

Continued involvement in National Academies of Practice, Academy of Medicine

Expand and internally audit our screening program

Improve hospital wide, interprofessional education programs

Further study our patients with retrospective analysis and grow our delirium research efforts

Submit a manuscript to further disseminate our IP approach to this common problem

Create a simulation/standardized patient educational experience