

# Delirium Treatment through a Multidisciplinary Behavioral Intervention

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## Background

- “Delirium is a serious disturbance in mental abilities that results in confused thinking and reduced awareness of your environment (Mayo Clinic, 2015).”
- It is one of the most common neuropsychiatric syndromes encountered by clinicians treating hospitalized patients. It is estimated to affect up to 56% of hospitalized patients with hospital mortality rates of up to 25%.
- Studies have suggested that delirium adds an extra \$60,000 in additional health care costs per delirious patient per year.
- Delirium is potentially avoidable, however, systematic interventions to prevent and treat it have yet to be adopted and implemented across the nation.
- In an effort to prevent the clinical impact of delirium at our hospital, we developed a delirium prevention checklist that would include all the key components for delirium prevention.

## Specific Aims

1. The aim of the project was to pilot test the implementation of our delirium prevention checklist.
2. The aim of this report is to describe cost related outcomes of our pilot intervention.

## Intervention

- Participants: Any patient from the University of Utah Medical Center who was admitted to one of two separate medical floors for whom delirium was diagnosed and a close supervision panel was ordered. Exclusion criteria included suicidal patients.
- Our pilot intervention was implemented in October 2017, in two medical floors (WP5 and AIMA).
- Every time a close supervision panel was ordered for a patient, the sitter was instructed to go through our delirium prevention checklist with the patient.
- The check list addresses the key components of delirium prevention: cognitive stimulation, orientation, facilitation of sleep, and early mobilization (COFE) .
- Please see Figure 1 for examples of our checklist items.

## Study of Intervention

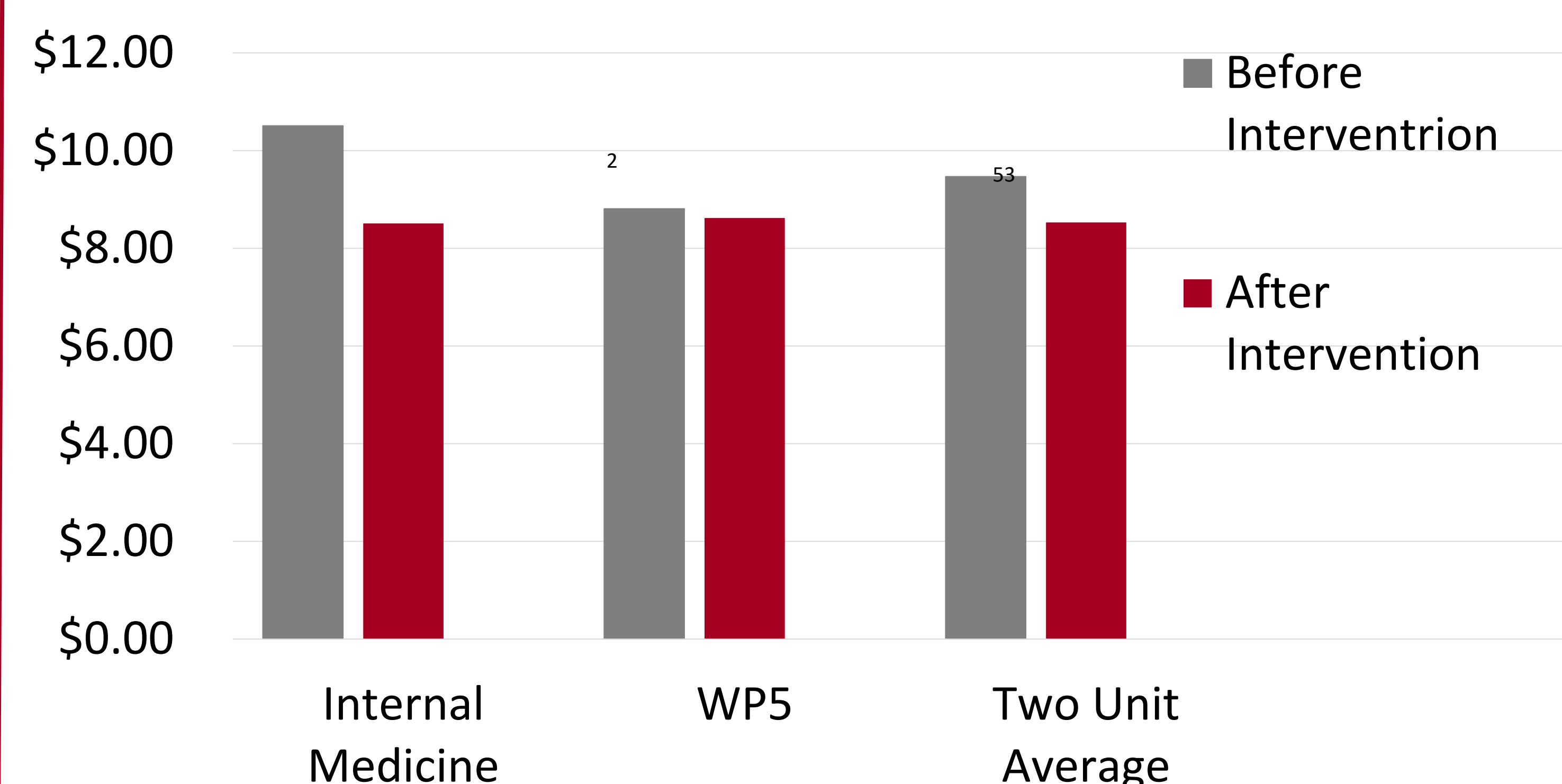
- Baseline data on healthcare cost in delirious patients was collected from October 2016 to October 2017 at the University of Utah Medical Center.
- Measures: cost per patient day and extrapolated costs per year.

Figure 1. Delirium prevention (COFE) check list

Cognitive Stimulation (Day)	Cognitive Stimulation (Night)	Orientation	Facilitation of Sleep	Early Mobilization
<ul style="list-style-type: none"> <li>• Lights on at 8AM</li> </ul>	<ul style="list-style-type: none"> <li>• Cluster cares</li> </ul>	<ul style="list-style-type: none"> <li>• Update whiteboard with date and name of caregivers</li> </ul>	<ul style="list-style-type: none"> <li>• Toilet prior to bedtime</li> </ul>	<ul style="list-style-type: none"> <li>• Minimize physical restraints</li> </ul>
<ul style="list-style-type: none"> <li>• Blinds open</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease sensory stimulation</li> </ul>	<ul style="list-style-type: none"> <li>• Clock in view of patient</li> </ul>	<ul style="list-style-type: none"> <li>• Cluster cares at night</li> </ul>	<ul style="list-style-type: none"> <li>• Utilize mobility board and mobilize per stated goals</li> </ul>
<ul style="list-style-type: none"> <li>• Encourage visitors</li> </ul>	<ul style="list-style-type: none"> <li>• TV Off</li> </ul>	<ul style="list-style-type: none"> <li>• Frequent re-orientation</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce night time noise</li> </ul>	<ul style="list-style-type: none"> <li>• Have patient out of bed and upright in chair for meals</li> </ul>
<ul style="list-style-type: none"> <li>• Boredom Busters</li> </ul>	<ul style="list-style-type: none"> <li>• Lights off at 9PM</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage patient to wear glasses or hearing aids</li> </ul>		

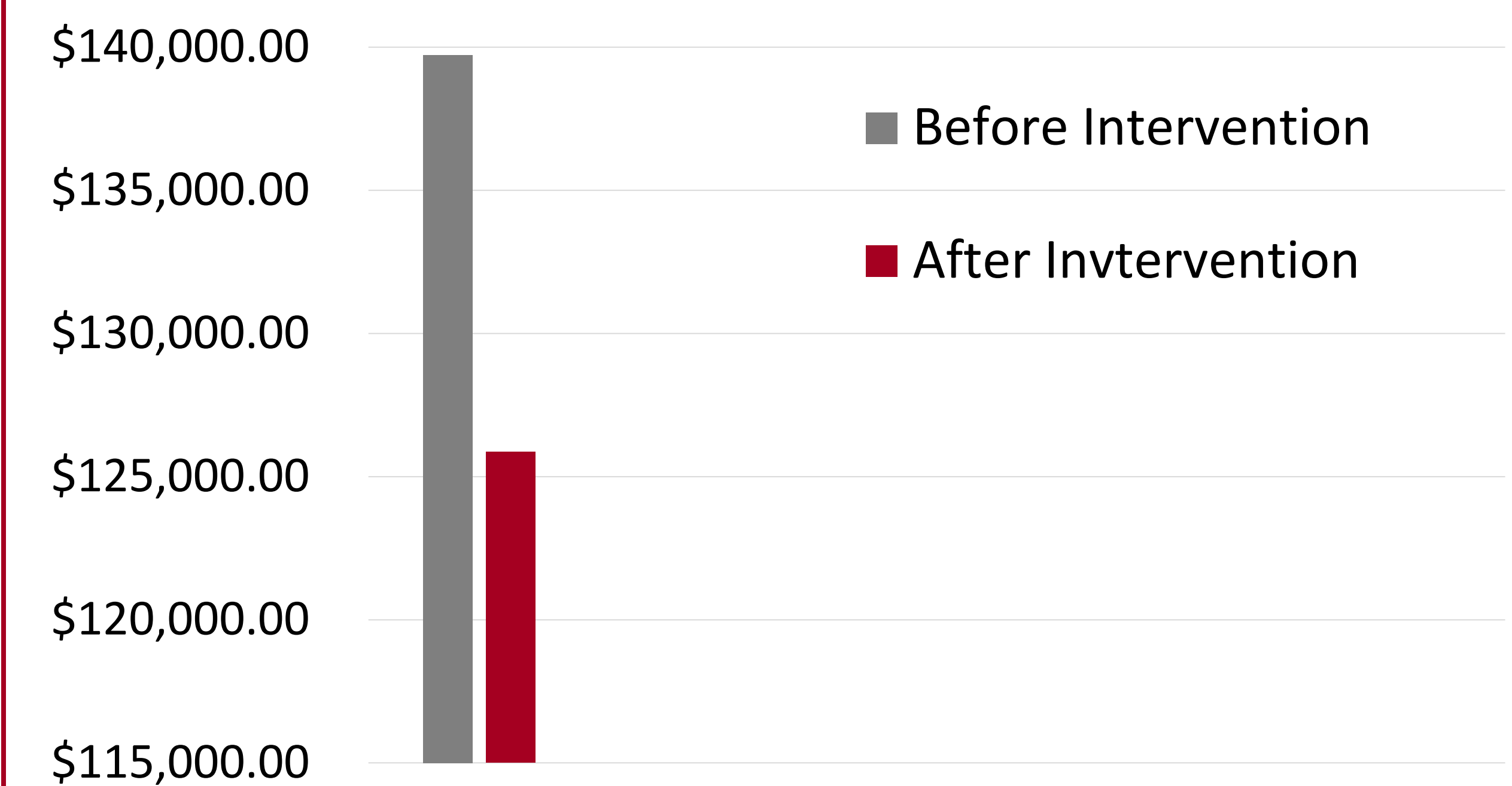
## Results

Figure 2. Cost per patient day on two separate medical floors



## Results (continued)

Figure 3. Extrapolated Cost Per Year (est. 14,755 patient days)



## Discussion

- Our study demonstrates that a simple intervention, such as a checklist, may reduce the related healthcare cost, presumably by decreasing the duration of delirium.
- Our delirium check list did not increase overhead cost, as the checklist was implemented by existing personnel.
- The checklist poses no risk to patients, unlike other interventions such as medications or restraints, and can be safely implemented on any hospital floor.

## Conclusion

- Delirium is a very common problem in hospitalized patients and leads to increased patient morbidity and mortality. Additionally, it can significantly increase healthcare cost. Our study demonstrates that a preventive interventions such as frequent re-orienting and social engagement can reduce healthcare cost.
- Future direction includes analyzing the data for length of stay and hospital wide implementation. Additionally, it may be useful to assess whether this intervention decreases duration of delirium in affected patients.

## References

- 1) Young J, Murthy L, Westby M, et al. Diagnosis, prevention, and management of delirium: summary of NICE guidance. *BMJ* 2010;341:c3704.
- 2) Gonzalez M, Martinez G, Calderon J, et al. Impact of delirium on short-term mortality in elderly inpatients: a prospective cohort study. *Psychosomatics* 2009;50:234–8.