



The Impact of a Redesigned Patient Whiteboard on the Incidence of Delirium in Hospitalized Patients

Bennett Osantowski MD, Subha Hanif MD, Steven Townsend MD, Andrew Yan MD, Pierre Morris MD, Elizabeth Towner PhD, Deborah King RN

Wayne State University Transitional Year Residency and Ascension Providence Rochester Hospital



WAYNE STATE UNIVERSITY

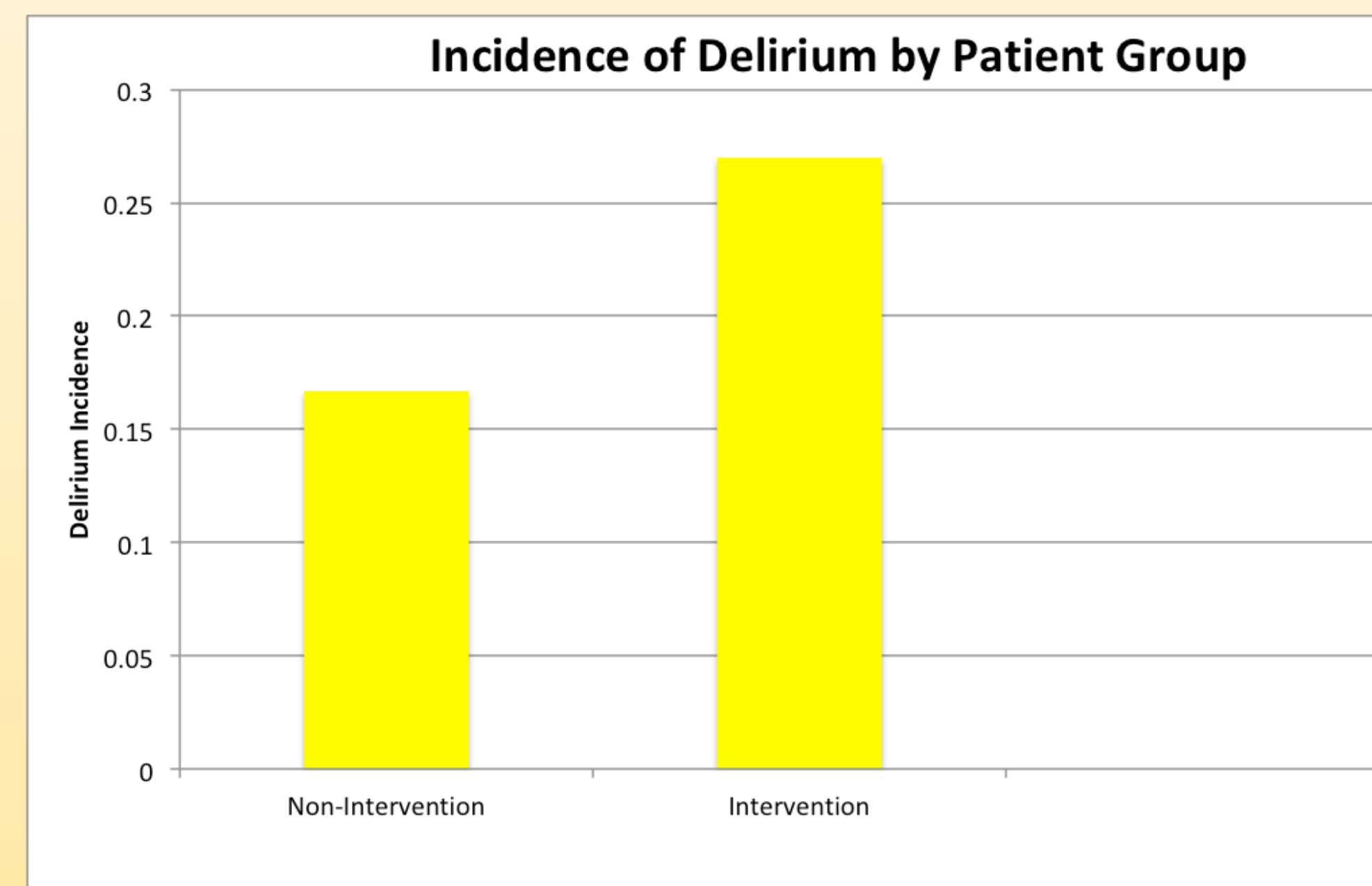
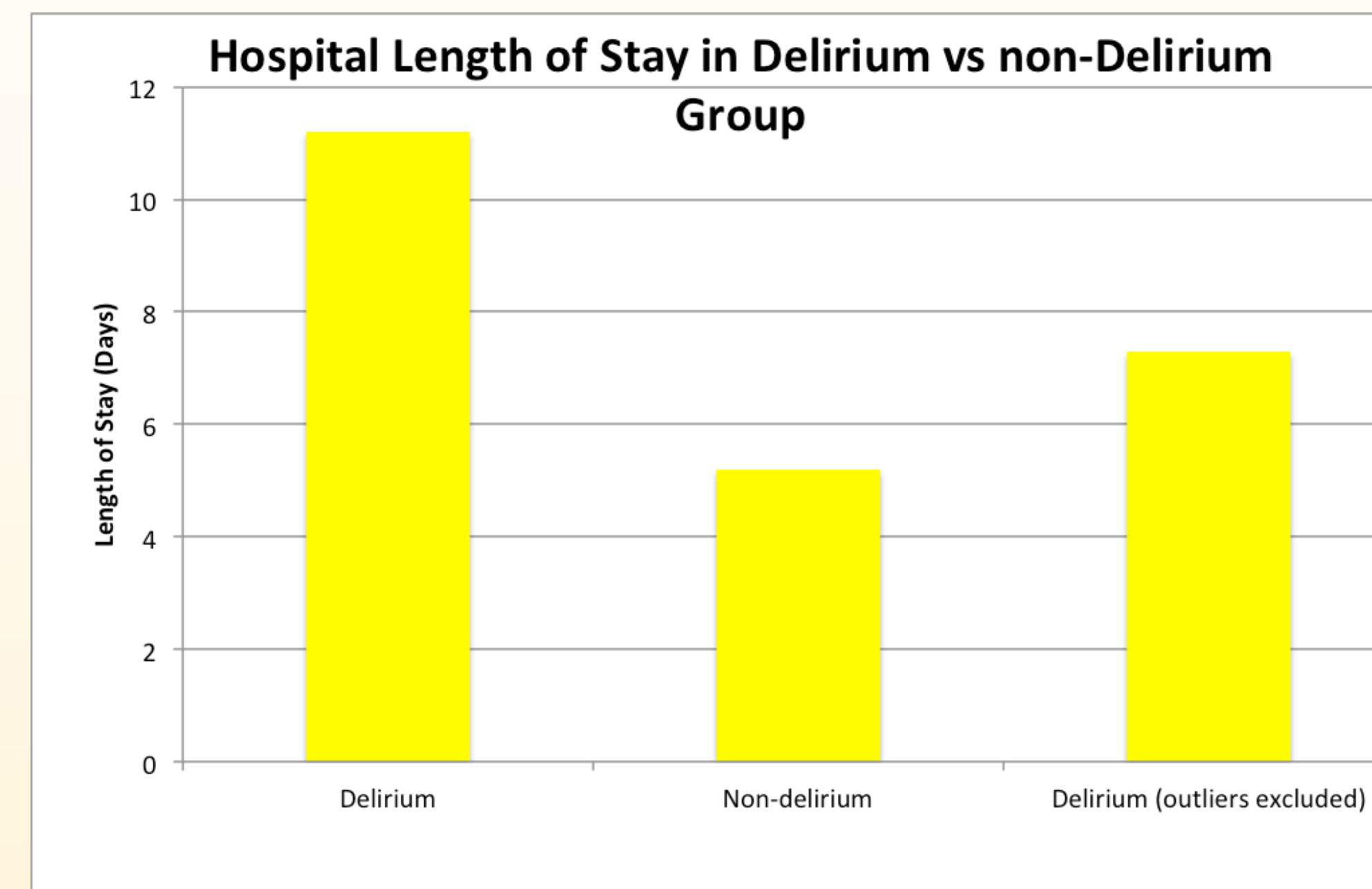
Introduction

- Acute delirium is associated with adverse outcomes in elderly hospitalized patients.
- Approximately 29-31% of patients ages 70+ admitted without delirium develop delirium during hospitalizations
- Health care costs attributable to delirium range up to \$152 billion dollars yearly.
- Precipitating risk factors include older age, recent surgery, infection, medications, severe illness, and environment
- We investigated whether a redesigned whiteboard would aid in patient orientation and reduce the incidence of delirium in hospitalized patients over a one-month period.

Methods

- Multidisciplinary team of resident/staff physicians, physical and occupational therapists (PT/OT), speech pathologists (SLP), nurses (RN), social workers, redesigned a whiteboard.
- Data was collected from patients hospitalized one month prior to (n=12) and in the month following (n=11) implementation of the whiteboard protocol
- Data of interest included: patient's age, gender, mental status on admission, admitting diagnosis, incidence of delirium, medical factors (infection, hyponatremia, etc.), history of dementia or delirium, use of narcotics/sedative, and length of hospitalization
- Data was collected for one continuous month.

Figures



Results

- Rates of delirium were similar for the pre- (n=2) and post-(n=3) intervention groups.
- In delirious patients, 80% (4/5) had received a narcotic or sedating medication.
- Other potential contributing factors included infection (2/5), electrolyte imbalance (1/5), and cerebrovascular accident (1/5).
- Mean age of patients that developed delirium = 76 (age range 63-90).
- Mean length of stay(LOS) for our patients that developed delirium was 11.2 days vs 5.2 days in the patients that did not develop delirium.

Conclusion

- Whiteboard changes did not decrease the incidence of delirium in our patient population (3 vs 2)
- The largest risk factor was treatment with opioids/sedatives, with 80% of delirium patients receiving this intervention.
- While narcotics and sedatives play an integral role in care, use in the elderly can precipitate delirium and should be used with caution.
- The length of stay for the delirium group is likely skewed as one patient stayed 32 days, and another died on hospital day 2.
- Excluding these outliers, mean LOS was 7.3 for the delirium group, still 2 days longer.
- An extra 2 days in the hospital costs approximately \$6,000, which is a large burden on healthcare systems.

New Whiteboard Left Side

Attending Physician	
Consultants	
Resident	
When am I going home?	
What needs to happen so I can go home	

New Whiteboard Right Side

Room #	
Today's date	
Nurse	Nurse #
Family/Friend	Phone #
Diet	
PT/OT	
Spiritual Care	
Case Management	

Old Whiteboard Right Side

Today's Date	Fall Risk Y or N
Target Discharge Date	
Primary Nurse	
Today's Nurse	Phone #
Nurse Assistant	Phone #
Attending Physician	
Resident	
Responsible Learner	
Diet	
Activity	
Today's Goals	

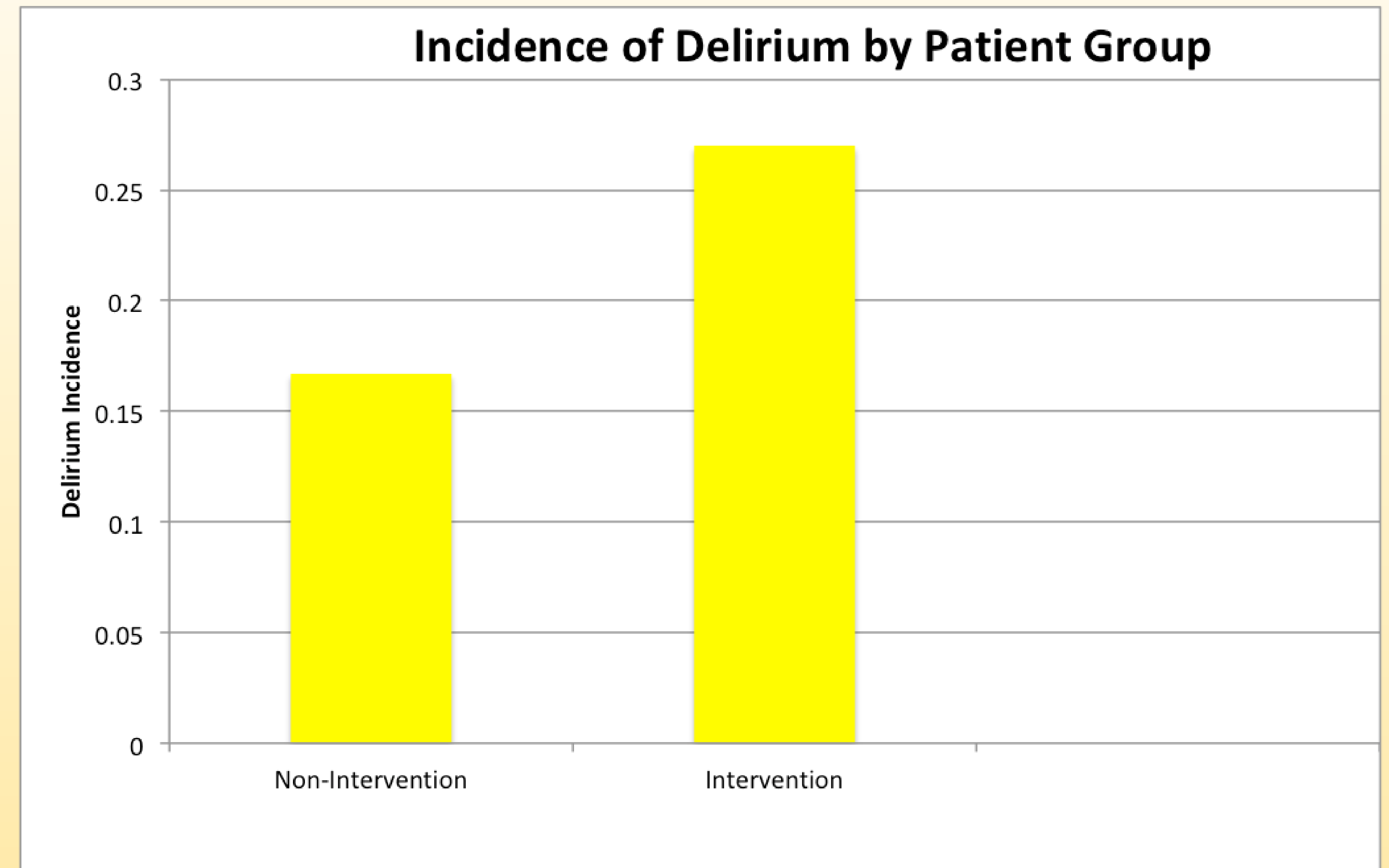
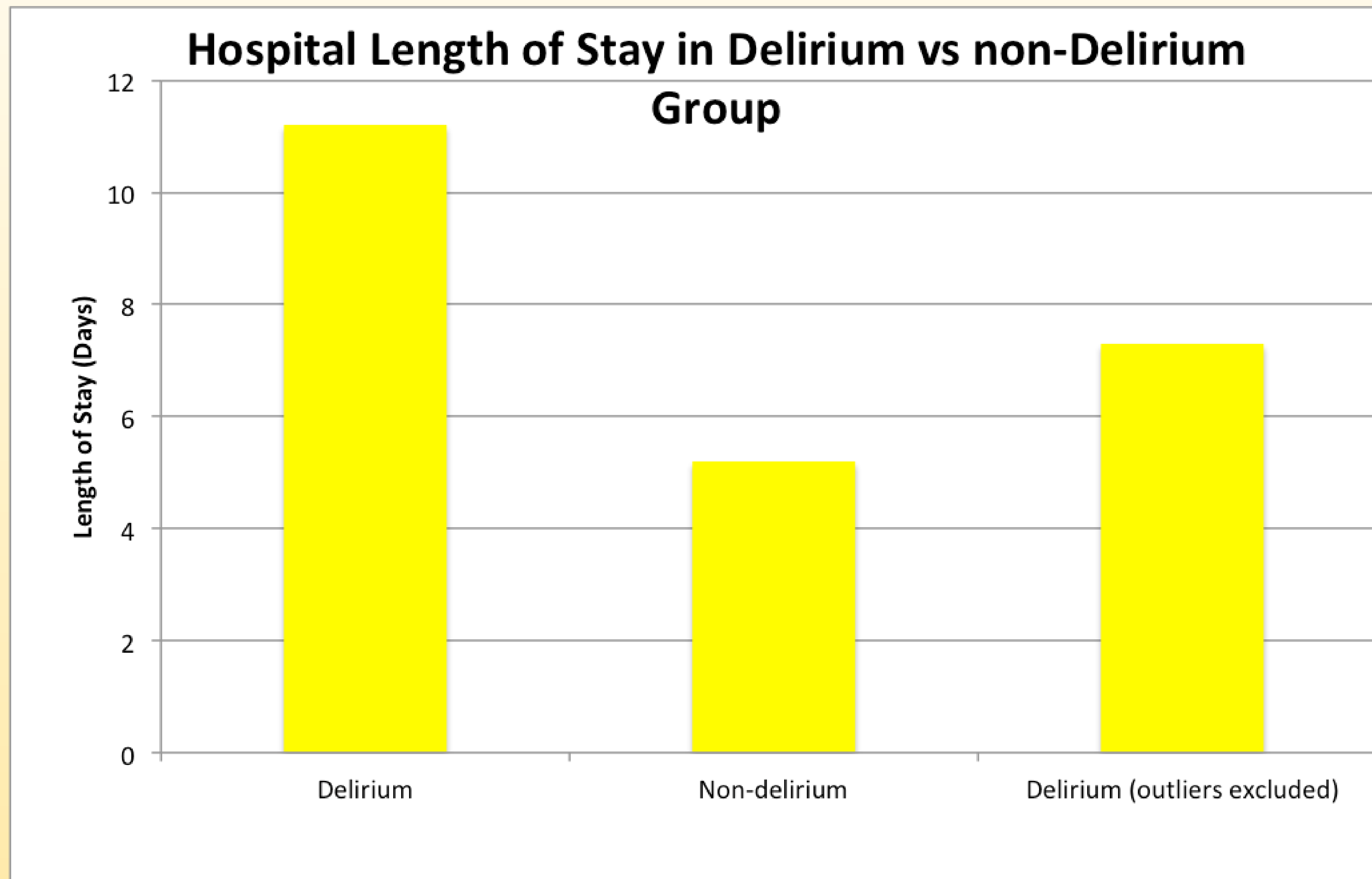
Introduction

- Acute delirium is associated with adverse outcomes in elderly hospitalized patients.
- Approximately 29-31% of patients ages 70+ admitted without delirium develop delirium during hospitalizations
- Health care costs attributable to delirium range up to \$152 billion dollars yearly.
- Precipitating risk factors include older age, recent surgery, infection, medications, severe illness, and environment
- We investigated whether a redesigned whiteboard would aid in patient orientation and reduce the incidence of delirium in hospitalized patients over a one-month period.

Methods

- Multidisciplinary team of resident/staff physicians, physical and occupational therapists (PT/OT), speech pathologists (SLP), nurses (RN), social workers, redesigned a whiteboard.
- Data was collected from patients hospitalized one month prior to (n=12) and in the month following (n=11) implementation of the whiteboard protocol
- Data of interest included: patient's age, gender, mental status on admission, admitting diagnosis, incidence of delirium, medical factors (infection, hyponatremia, etc.), history of dementia or delirium, use of narcotics/sedative, and length of hospitalization
- Data was collected for one continuous month.

Figures



New Whiteboard Left Side

New Whiteboard Right Side

Old Whiteboard Right Side

Attending Physician	
Consultants	
Resident	
When am I going home?	
What needs to happen so I can go home	

Room #	
Today's date	
Nurse	Nurse #
Family/Friend	Phone #
Diet	
PT/OT	
Spiritual Care	
Case Management	

Today's Date	Fall Risk Y or N
Target Discharge Date	
Primary Nurse	
Today's Nurse	Phone #
Nurse Assistant	Phone #
Attending Physician	
Resident	
Responsible Learner	
Diet	
Activity	
Today's Goals	

Results

- Rates of delirium were similar for the pre- (n=2) and post-(n=3) intervention groups.
- In delirious patients, 80% (4/5) had received a narcotic or sedating medication.
- Other potential contributing factors included infection (2/5), electrolyte imbalance (1/5), and cerebrovascular accident (1/5).
- Mean age of patients that developed delirium = 76 (age range 63-90).
- Mean length of stay(LOS) for our patients that developed delirium was 11.2 days vs 5.2 days in the patients that did not develop delirium.

Conclusion

- Whiteboard changes did not decrease the incidence of delirium in our patient population (3 vs 2)
- The largest risk factor was treatment with opioids/sedatives, with 80% of delirium patients receiving this intervention.
- While narcotics and sedatives play an integral role in care, use in the elderly can precipitate delirium and should be used with caution.
- The length of stay for the delirium group is likely skewed as one patient stayed 32 days, and another died on hospital day 2.
- Excluding these outliers, mean LOS was 7.3 for the delirium group, still 2 days longer.
- An extra 2 days in the hospital costs approximately \$6,000, which is a large burden on healthcare systems.



The Impact of a Redesigned Patient Whiteboard on the Incidence of Delirium in Hospitalized Patients

Bennett Osantowski MD, Subha Hanif MD, Steven Townsend MD, Andrew Yan MD, Pierre Morris MD, Elizabeth Towner PhD, Deborah King RN

Wayne State University Transitional Year Residency and Ascension Providence Rochester Hospital



WAYNE STATE
UNIVERSITY

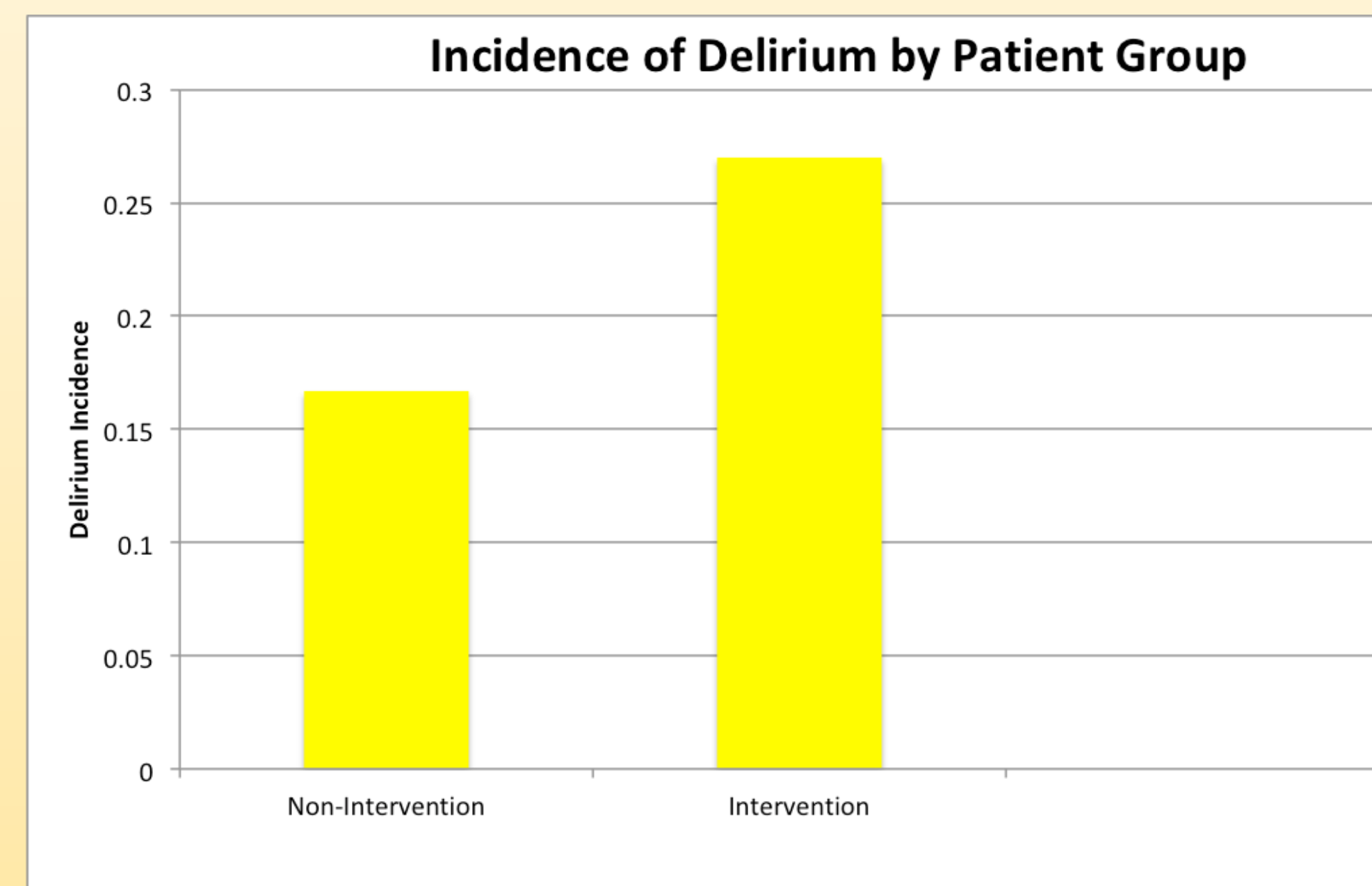
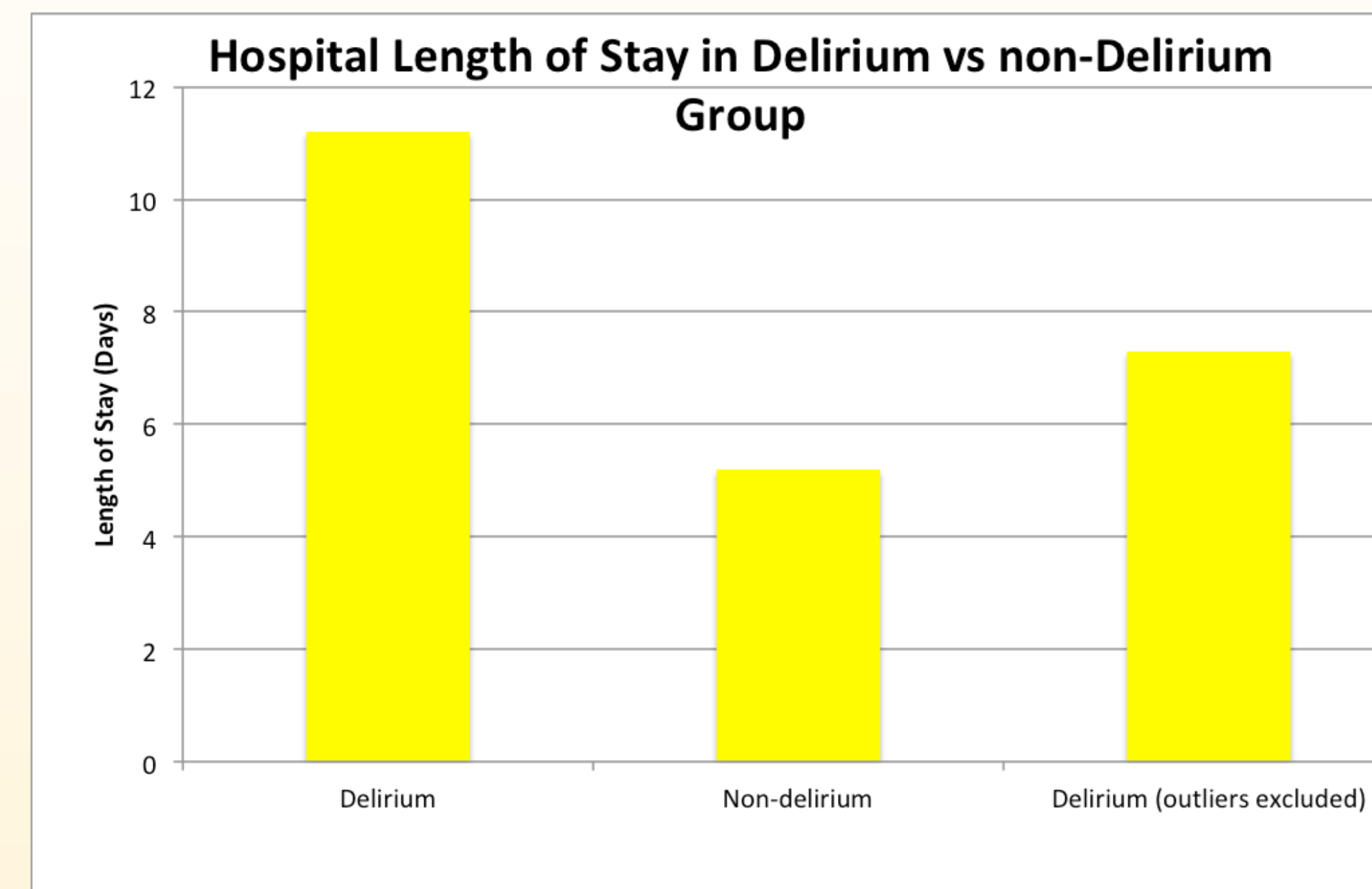
Introduction

- Acute delirium is associated with adverse outcomes in elderly hospitalized patients.
- Approximately 29-31% of patients ages 70+ admitted without delirium develop delirium during hospitalizations
- Health care costs attributable to delirium range up to \$152 billion dollars yearly.
- Precipitating risk factors include older age, recent surgery, infection, medications, severe illness, and environment
- We investigated whether a redesigned whiteboard would aid in patient orientation and reduce the incidence of delirium in hospitalized patients over a one-month period.

Methods

- Multidisciplinary team of resident/staff physicians, physical and occupational therapists (PT/OT), speech pathologists (SLP), nurses (RN), social workers, redesigned a whiteboard.
- Data was collected from patients hospitalized one month prior to (n=12) and in the month following (n=11) implementation of the whiteboard protocol
- Data of interest included: patient's age, gender, mental status on admission, admitting diagnosis, incidence of delirium, medical factors (infection, hyponatremia, etc.), history of dementia or delirium, use of narcotics/sedative, and length of hospitalization
- Data was collected for one continuous month.

Figures



Results

- Rates of delirium were similar for the pre- (n=2) and post-(n=3) intervention groups.
- In delirious patients, 80% (4/5) had received a narcotic or sedating medication.
- Other potential contributing factors included infection (2/5), electrolyte imbalance (1/5), and cerebrovascular accident (1/5).
- Mean age of patients that developed delirium = 76 (age range 63-90).
- Mean length of stay(LOS) for our patients that developed delirium was 11.2 days vs 5.2 days in the patients that did not develop delirium.

Conclusion

- Whiteboard changes did not decrease the incidence of delirium in our patient population (3 vs 2)
- The largest risk factor was treatment with opioids/sedatives, with 80% of delirium patients receiving this intervention.
- While narcotics and sedatives play an integral role in care, use in the elderly can precipitate delirium and should be used with caution.
- The length of stay for the delirium group is likely skewed as one patient stayed 32 days, and another died on hospital day 2.
- Excluding these outliers, mean LOS was 7.3 for the delirium group, still 2 days longer.
- An extra 2 days in the hospital costs approximately \$6,000, which is a large burden on healthcare systems.

New Whiteboard Left Side

Attending Physician	
Consultants	
Resident	
When am I going home?	
What needs to happen so I can go home	

New Whiteboard Right Side

Room #	
Today's date	
Nurse	Nurse #
Family/Friend	Phone #
Diet	
PT/OT	
Spiritual Care	
Case Management	

Old Whiteboard Right Side

Today's Date	Fall Risk Y or N
Target Discharge Date	
Primary Nurse	
Today's Nurse	Phone #
Nurse Assistant	Phone #
Attending Physician	
Resident	
Responsible Learner	
Diet	
Activity	
Today's Goals	