# The Geriatric Trauma Institute (GTI) – The Efficacy of a Dedicated Geriatric Trauma Service: A Pilot Study

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# An aging population

- As the world population continues to age, geriatric trauma becomes an ever increasing burden on the trauma and health care systems.
- Increased 65+ trauma patients 3-5% annually
- By 2030, 20% of the US population will be 65+

# Geriatric Trauma

- No. 5 cause of death for age $\geq$ 65
- Mortality in most series averages 15 to 30%.
  - 4 to 5 X mortality of younger patients.
- Mortality start to increase at age 45 for males.

# The impact on Trauma

- In 2010, 2.3 million nonfatal fall injuries  alone among geriatrics were treated in emergency departments resulting in more than 662,000 hospitalizations
- In 2010, the direct medical costs of falls, adjusted for inflation, were $30.0 billion

# The Bottom Line

- >65 use 33% of all health care dollars and 25% of all trauma care money.
- Medicare - DRG based- grossly underpays hospital costs for trauma, esp. in the elderly
  - Avg. reimbursement 40 to 65% of total hospital costs.
    - Increased age and ISS - worse reimbursement.

# Resource Allocation

- In an already strained health care system, increasing costs of health care in all trauma patients, but especially in the geriatric population, requires a careful evaluation of resource allocation

- With increased hospital length of stay associated in this cohort, protocols and clinical pathways must be created to reduce the overall cost and effectively treat these patients.

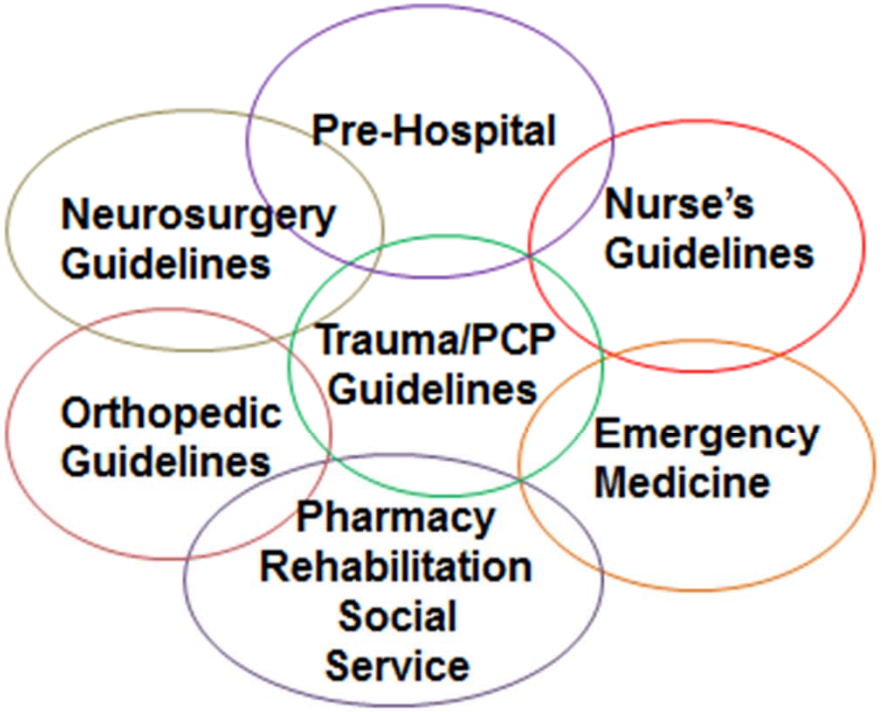
# Purpose

- This study was designed to assess the impact of a dedicated geriatric trauma institute when compared to traditional primary care management.
- We hypothesized that a dedicated geriatric trauma service results in reduce length of stays, mortality and overall cost of the care in these patients.

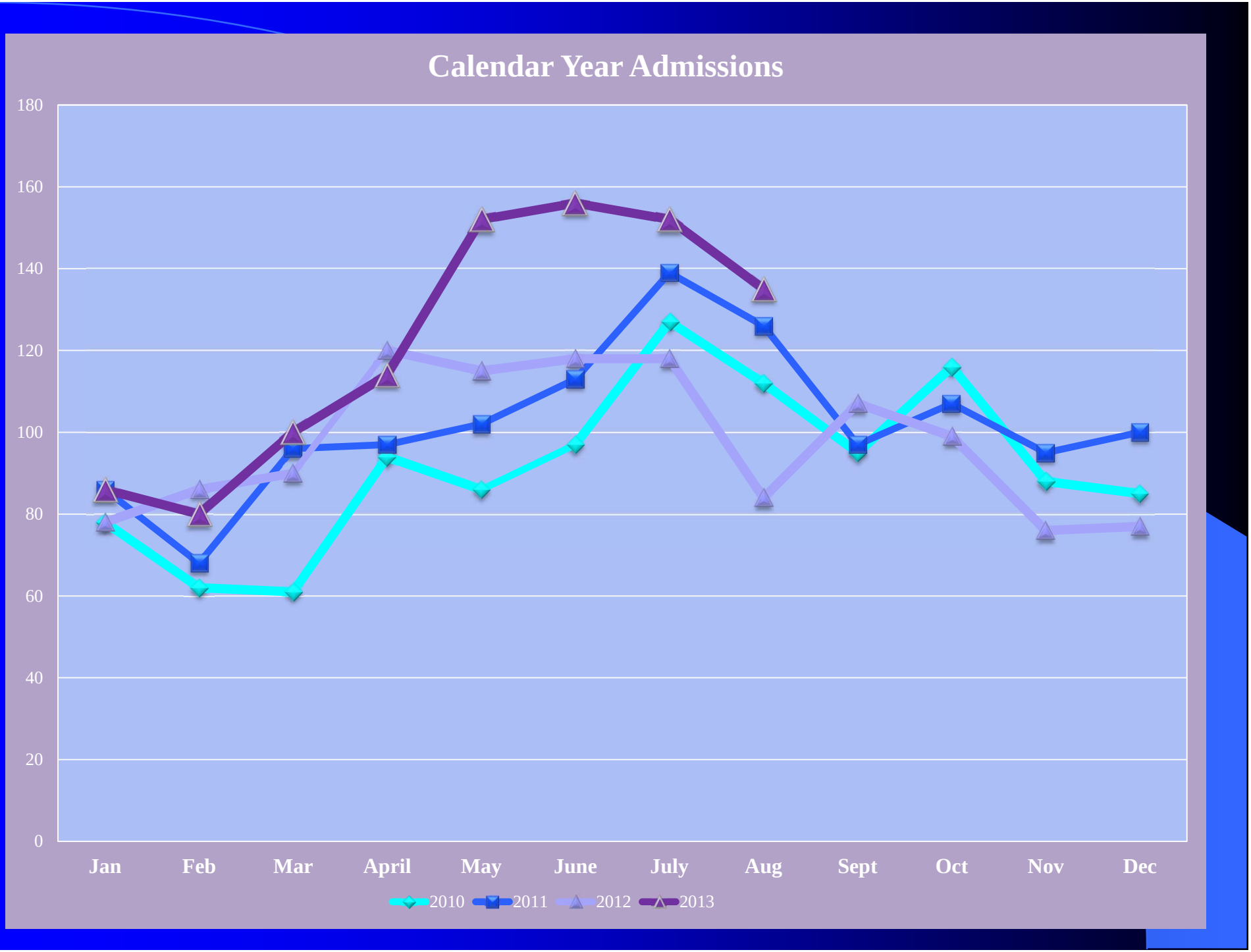
# Methods

- A retrospective analysis was performed on all trauma patients age 65 or older who presented to our Level I trauma center over the last year, excluding isolated hip fractures.
- Demographic variables, ISS, and admitting service were recorded. A dedicated geriatric trauma service was initiated in May 2013 to standardize patient care and expedite surgical procedures and compared to the prior 6 months data.
- Length of stay and associated hospital floor or ICU room charges were used as a proxy measure to assess the impact and efficacy of a dedicated geriatric trauma service.

# Coordinated Care



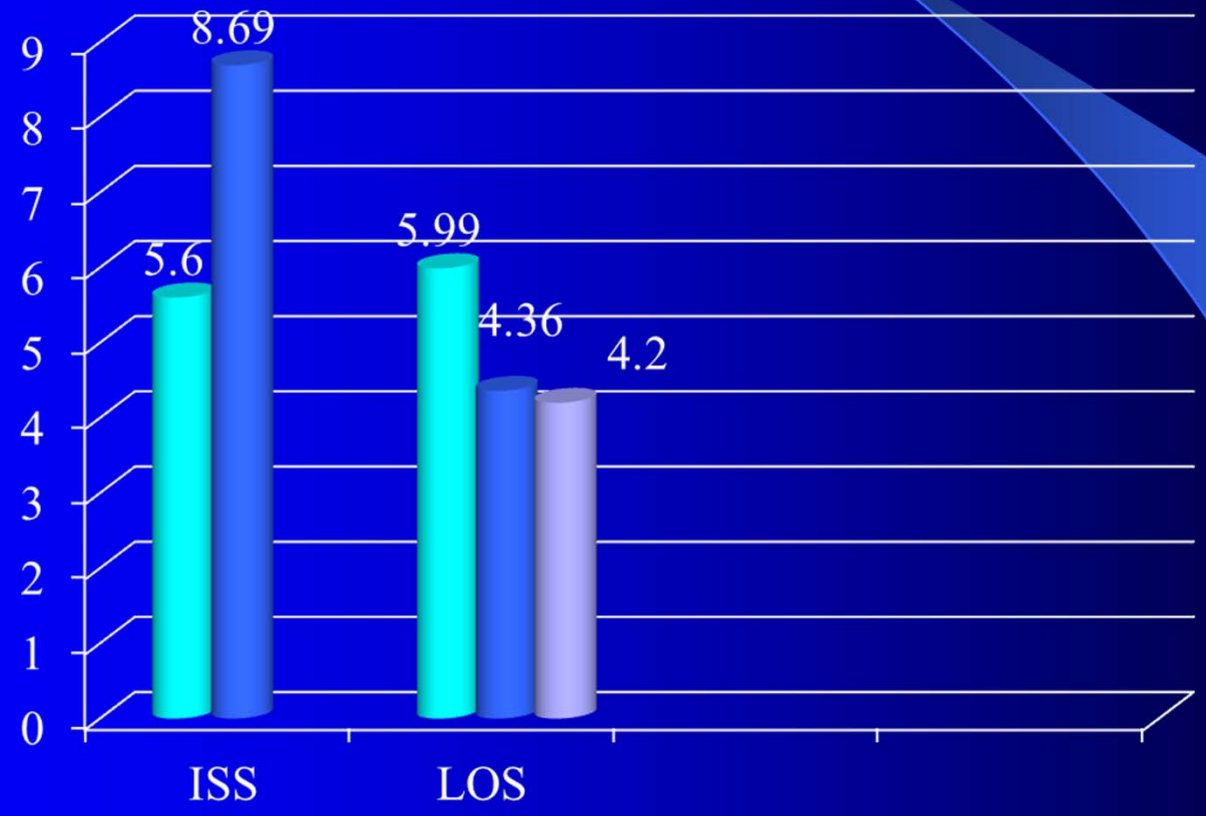

GTI Central PA


Calendar Year Admissions
180
160
140
120
100
80
60
40
20
0
Jan
Feb
Mar
April
May
June
July
Aug
Sept
Oct
Nov
Dec
2010
2011
2012
2013

# Results

- Results 490 geriatric patients were treated during the study period. 228 patients were treated since the initiation of a dedicated geriatric trauma service.
- GTI saw a higher average Injury Severity Score (5.6 vs 8.69) when compared to a non-trauma admitting service.
- Despite this discrepancy, patient length of stay was lower when a dedicated geriatric trauma service facilitated patient care (5.99 vs 4.6). When excluding isolated hip fractures, the LOS was 4.2.
- No statistical difference in morbidity or mortality was seen.

# ISS and LOS



# Additional GTI benefits

- Total of 299 patients admitted through GTI from May – August 2013 (157 patients > = 65 previous year)
- Only 9 patients admitted to PCP – none had surgery
- Decreased ED to OR time from average of 3 days to 1.3 days
- Increased discharge to home by 3%
- Decreased discharge to SNF by 2%
- Increased discharge to rehab by 5%

# The Financial Impact

- In just over 5 months since the service implementation, a reduction in geriatric trauma care charges of greater than $775,200 has been seen based on length of stay alone.
- Additionally, females saw an even greater reduction in overall length of stay resulting in an estimated reduction of $595,000 in charges.
- With the current data trends, an estimated hospital charge reduction of over 1 million dollars is excepted in just 6 months.

# Conclusion

- These findings suggest that the initiation of a dedicated geriatric trauma service as part of the geriatric trauma institute provides a cost effective means to geriatric trauma care.
- With the growing geriatric population, hospitals should consider a dedicated geriatric trauma service model to reduce overall costs of care, improve care, and provide age targeted total trauma care.

# Questions?

# REFERENCES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