Working Together to Improve Patient Safety……Innovations in Fall Prevention

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My Hope:
- Change practice beyond usual care of prevention and protection
- Generate Confidence in Change
- Embrace Innovation
- Inspire Successful Implementation

My Goals
- Challenge and Inspire you to add precision through the use of AvaSys to your patient safety practices and redesign fall prevention clinical practices to protect patients from Injurious Falls as your organization’s Primary Outcome

Challenges
What are the challenges for inpatient facilities
Patient Harm... remember the news?

- 48,000 perhaps as much as 95,000 die each year in hospitals as a result of medical errors that could be prevent

Dr. J. James 2013 Update

- Provided updated estimate of patient harm
- Examined studies 2008-2011
- MDs had to concur on final adverse events then classify the severity of harm
- True number of premature deaths associated with preventable harm estimated at more than 400,000/year
- Serious harm 10-20 fold more common than lethal harm


Conclusions

- Epidemic of patient harm in hospitals must be taken serious if to be curtailed
- Fully engage patient and their advocates during hospital care
- Systematically seek the patient voice in identifying harms
- Transparent accountability for harm
- Intentional correction of root causes of harm

Do you agree?

- The action and progress in patient safety is frustratingly slow
- These estimates cause outcry for overdue changes and vigilance
- We can do better
Falls: The Big Picture

- > 1 million patient falls occur annually
- 20% of all hospital inpatients in US fall at least 1X during hospital stay
- 30% result in injury
- 10% result in serious injury—fracture, head trauma
- Over 95% of hip fractures are caused by falls
- Patients > 75 years now comprise 22% of hospital admissions

Aging Hospital Population: 2010

- 45% of the inpatient hospital population in the US was 65 years of age and older
- among whom 19% were ages 75-84, and
- 9% 85 and older

Final 2014 AHRQ National Scorecard Data on HACs

- 2.4% decrease in falls but more work to do
- 2,750 lives saved but we can save more

Where are we?
Change in HACs, 2011-2015 (Total = 3,097,400)

Targeted Interventions
Prevention + Protection + Surveillance

- Prevention
  - The act of preventing, forestalling, or hindering
- Plus Protection
  - Shield from exposure, injury or destruction (death)
  - Mitigate or make less severe the exposure, injury or destruction
- Plus Surveillance
  - Detection

5 Essentials to Protect from FRI

- Change in assessment structures: add risk for FRI and Hx of FRI
- Change in interventions: Environmental Redesign
- Assess to protective interventions
- Organization Support
2007 JCAHO Standard: Fall Prevention Program

- Establish a Fall Prevention Program
- Evaluation
- Interventions
- Educate Staff
- Educate Patients and Families
- Program Evaluation
- Sept 28, 2015: TJC Sentinel Alert: Preventing Falls and Fall Injuries

Suggestions from TJC

- Lead efforts to raise awareness of the need to prevent falls resulting in injury
- Establish an interdisciplinary falls injury prevention team or evaluate the membership of the team in place
- Use a standardized, validated tool to identify risk factors for falls
- Develop an individualized plan of care based on identified fall and injury risks, and implement interventions specific to a patient, population or setting

Suggestions con’t

- Standardize and apply practices and interventions demonstrated to be effective, including:
  - A standardized hand-off communication process
  - One-to-one education of each patient at the bedside
  - Conduct post-fall management, which includes: a post-fall huddle; a system of honest, transparent reporting; trending and analysis of falls which can inform improvement efforts; and reassert the patient
  - Conduct a post-fall huddle
  - Report, aggregate and analyze the contributing factors on an ongoing basis to inform improvement efforts.

Shifting

- From Reducing Falls to Protecting from Fall Related Injury
- Integrate Injury Risk/History on Admission
- Implement Universal Injury Reduction Strategies
- Implement Population-Specific Fall Injury Reduction Interventions

- 30% to 51% of falls result in some injury
- 80% - 90% are un witnessed
- 50% - 70% occur from bed, bedside chair (suboptimal height) or transferring between the two; whereas in mental health units, falls occur while walking
- Risk Factors: Recent fall, muscle weakness, behavioral disturbance, agitation, confusion, urinary incontinence and frequency; prescription of “culprit drugs”; postural hypotension or syncope

### Most Effective Fall Prevention Interventions

- Best Practice Approach in Hospitals:
  - Implementation of safer environment of care for the whole patient cohort (flooring, lighting, observation, threats to mobilizing, signposting, personal aids and possessions, furniture, footwear)
  - Identification of specific modifiable fall risk factors
  - Implementation of interventions targeting those risk factors so as to prevent falls
  - Interventions to reduce risk of injury to those people who do fall

  (Oliver, et al., 2010, p. 685)

### Interventions: Fall and Injury Prevention Program

- Fall risk Management Program
- Falls Coordinator
- Goal Setting
- Evidence-based risk assessment tool and detailed management strategies
- Tailored Care Plan based on assessment and PT, OT, Medical and Specialist Referrals
- Redesigned use of signage
- Fall and Injury Risk Reduction

### Limits to Science

- Failure to Differentiate Type of Fall
  - Accidental
  - Anticipated Physiological
  - Unanticipated Physiological (Morse 1997)
- Failure to Link Assessment with Intervention
What can we change to move faster?

- Current situation:
  - Over-reliance on Fall Risk Screening
  - Insufficient Risk Assessment
  - Lack of Differential Diagnosis: Pathophysiology Underlying Fall Risk Factors
  - Undetermined Range of Severity – Don’t know vulnerability – Level of Risk

- Understand that just about everyone is at risk for a fall
- Let’s STEP UP our game!
- Set and be accountable for achieving bold goals.
  - In our care:
    - No one dies from a fall
    - No one breaks a hip
  - Mitigate or eliminate patients’ modifiable fall risk factors

Current Interventions are Not Working

- Prevention
  - Patients are still falling
  - Universal fall precautions are insufficient
- Plus Protection
  - Patients are still getting injured
  - Staff are reluctant to adopt fall injury interventions
- Plus Surveillance
  - Most Falls are still Unwitnessed
  - Over-reliance on bed alarms

PROTECTION: Protect from Injury

Protecting Patients from Harm – Our Moral Imperative

Biomechanics of Fall-Related Injuries

Understanding the “rate of splat” and its impact on injury
Falls from High Bed: Foot First

Falls from Low Bed: Foot First

Bedside Mats – Fall Cushions

Summary of Results

Feet First Fall from Bed

No Floor Mat fall over top of bedrails: ~40% chance of severe head injury

No Floor Mat, low bed (No Bedrails): ~25% chance of severe head injury

Low bed with a Floor Mat: ~ 1% chance of severe head injury
Technology Resource Guide: Bedside Floor Mats

- Bedside floor mats protect patients from injuries associated with bed-related falls.
- Targeted for VA providers, this web-based guidebook will include: searchable inventory, evaluation of selected features, and cost.

Hip Protectors

Hip Protector Toolkit

- This web-based toolkit will include:
  - prescribing guidelines
  - standardized CPRS orders
  - selection of brands and models
  - sizing guidelines
  - protocol for replacement
  - policy template
  - laundering procedure
  - stocking procedure
  - monitoring tools
  - patient education materials
  - provider education materials

Hip Protectors – Examples
Moderate to Serious Injury: A, B, C, S
- Those that limit function, independence, survival
- Age
- Bones (fractures)
- Bleeds / AntiCoagulation (hemorrhagic injury)
- Surgery (post operative)

Universal Injury Prevention
- Educates patients / families / staff
  - Remember 60% of falls happen at home, 30% in the community, and 10% as inpts.
  - Take opportunity to teach
- Remove sources of potential laceration
  - Sharp edges (furniture)
- Reduce potential trauma impact
  - Use protective barriers (hip protectors, floor mats)
- Use multifactorial approach: COMBINE Interventions
  - Hourly Patient Rounds (comfort, safety, pain)
  - Examine Environment (safe exit side)

Age: > 85 years old
- Education: Teach Back Strategies
- Assistive Devices within reach
- Hip Protectors
- Floor Mats
- Height Adjustable Beds (low when resting only, raise up bed for transfer)
- Safe Exit Side
- Medication Review
Bones

- Hip Protectors
- Height Adjustable Beds (low when resting only, raise up bed for transfer)
- Floor Mats
- Evaluation of Osteoporosis

Bleeds/AntiCoagulation

- Evaluate Use of Anticoagulation: Risk for DVT/Embolic Stroke or Fall-related Hemorrhage
- Patient Education
- TBI and Anticoagulation: Helmets
- Wheelchair Users: Anti-tippers

Surgical Patients

- Pre-op Education:
  - Call, Don't Fall
  - Call Lights
- Post-op Education
- Pain Medication:
  - Offer elimination prior to pain medication
  - Increase Frequency of Rounds

It is time to Think out of the Box
Use of Video Surveillance – Patient Engagement

- Fail Teach Back
- Able to get out of bed
- Cognitively Impaired
- Impulsive
- Assisted Toileting
- Over estimate abilities
- (NOT At Risk for Falls)

Where Surveillance is Needed

- Patient Room
- Hallways
- Dining Rooms

Shifting: All National Guidelines

- From Reducing Falls to Protecting from Fall Related Injury.
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- Implement Population-Specific Fall Injury Reduction Interventions.

Rehabilitation Nursing Article

- Sequential Cohort Study
- 15 video monitoring units on high risk units - 115 bed inpatient rehab hospital – 12 months
- Outcome reduced average hospital rate of falls 6.34 / 1000 hospital patient days to 5.099 ($t$(31) = 2.034, $p=.0496$)
- Brain Injury Unit: 10.26 falls / 1000 hospital patient days to 6.87 falls/1000 pt days ($t$(18)=2.647, $p=0.16$)

**Other Findings**

- 95 interventions every 24 hours
- 28 falls by patients on video monitoring over total of 3,641 patient-days
- 37 falls for non-monitored patients over 5,788 patient days
- Note: did not limit falls to those under surveillance

**Nursing Economic$ Article**

**Prospective Descriptive Study**

During the intervention phase, video monitoring was implemented on three nursing units. Ten to twelve patient were monitored each day based on nursing assessment of high fall risk combined with some level of confusion. Fall Reduction Results: Statistically significant decrease in falls by 35% (p<0.0001, 9% CI)

<table>
<thead>
<tr>
<th></th>
<th>Baseline (9 months)</th>
<th>Intervention (9 months)</th>
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<tbody>
<tr>
<td>Falls</td>
<td>85</td>
<td>53</td>
</tr>
<tr>
<td>Total Pt Discharges</td>
<td>5,109</td>
<td>5,041</td>
</tr>
<tr>
<td>Fall/Pt discharge</td>
<td>1.7%</td>
<td>1.1%</td>
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**Process Outcomes**

- Telesitters redirected patients 5,413 times (avg 10xs / shift)
- 828 patients monitored – 13 had a fall (avg monitor 2.5 days)
- 4,213 patients not-monitored – 40 falls
- Annualized avoidance of 37 falls / year for the 3 intervention units
- Avoided $52,000-$87,000 fall cost
- Combined with reduced sitter use, saved $77,200-$112,000 / year

**Patient Outcomes**

- Reduced Falls (True Positive)
- Reduced Falls with Injury
- Reduced Sitter Usage
- Elimination of Alarms
Additional Outcomes

- Shift in Nursing Beliefs: Nursing culture can shift and trust and use new technology to improve patient safety and outcomes
- Real-time Surveillance decreases noise, stimulation and alarms, and increases rest and sleep
- Real-time Surveillance provides better focus for nursing practices as the observers are more fully present
- Falls can be prevented beyond the bedroom, such as to the day room, the hallway

The Benefits of Video Monitoring Data:

- Motivates staff towards results
- Utilization data at your fingertips to help with change management
- Informs clinical decision-making
- Optimizes operational management of video monitoring program
- Event investigations
- Staff responsiveness (response times, alarm fatigue data)
- Begins to provide insight into what causes falls and other adverse events

Solutions are not always obvious

Push the Easy Button for Getting Support and Buy-In
We are all here to help...... And if I can help you more, I’m only an email away

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Questions and Comments?

SNAPSHOTS by Jason Loo

Discussion

- I hope this helps!

THANK YOU