



# **C A P T U R E**

Collaboration and Proactive Teamwork Used to Reduce

# **Falls**

## **Best Practices in Using Data to Reduce Fall Risk**

**January 14, 2014 10:00 – 11:00 a.m. CST**

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# Acknowledgement



This project is supported by grant number R18HS021429 from the Agency for Healthcare Research and Quality. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Agency for Healthcare Research and Quality.

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**Falls**

[http://unmc.edu/patient-safety/capture\\_falls.htm](http://unmc.edu/patient-safety/capture_falls.htm)



# Learning Objectives

1. Identify the characteristics of effective event reporting systems
2. Explain how CAPTURE Falls project addresses weaknesses in CAH fall event reporting identified in results from 2011 baseline survey
3. Identify multiple sources of data that may lead to information and knowledge about your fall risk reduction program
4. Explain how to transform data and information about fall events into wisdom that enables you to continuously decrease the risk of falls



## Part I

# Effective Reporting Systems Baseline Data

Lesson Learned: “Our goal is to decrease injurious falls, but first we had to define and communicate to our staff what an injurious fall is.”



# Effective Voluntary Reporting Systems

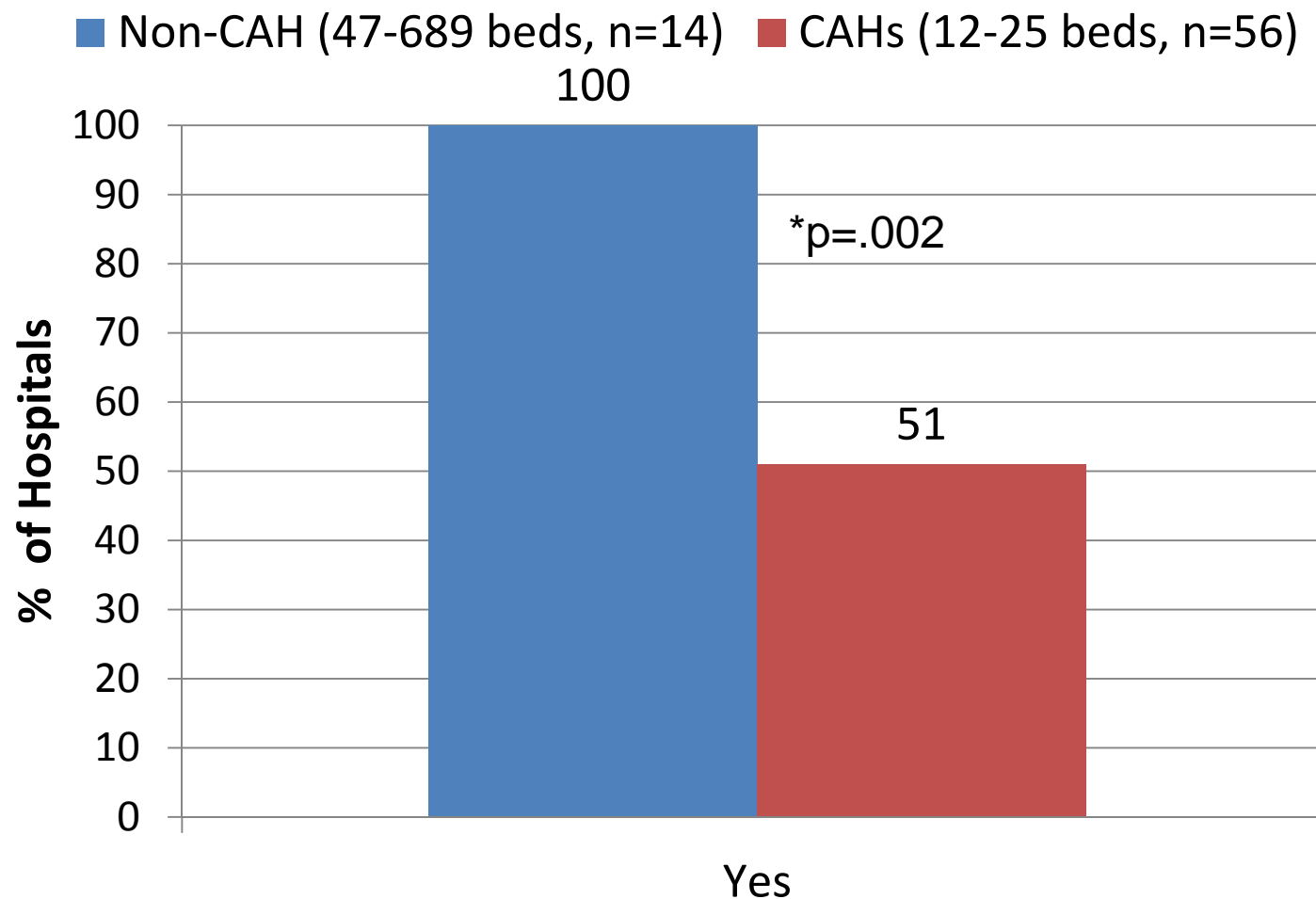
- Purpose—improve patient safety by sharing information
- Require standardized definitions and data elements that support
  - Internal data collection, aggregation, and learning
  - External benchmarking
- Definition of fall: For the purposes of patient safety, a fall is a sudden, unintended, uncontrolled downward displacement of a patient's body to the ground or other object.<sup>1</sup> This definition includes unassisted falls and assisted falls (i.e., when a patient begins to fall and is assisted to the ground by another person).





# 2011 Baseline Survey: Structures<sup>2</sup>

Do you use a specific definition of a fall?



\*Chi-Square Test  
With Continuity Correction



## 2011 Baseline Survey: Structure<sup>2</sup>

Elements Consistent with AHRQ Common Format Fall Event Form	% Non-CAH (n=9)	% CAH (n=36)
Definition of fall on form	0	14
Was the fall unassisted or assisted?	44	14
Fall observed?	100	81
Observed by whom?	78	76
Patient sustain injury?	89	78
Type of injury?	67	70
Patient activity prior to fall?	44	97
Risk assessment performed prior to fall?	56	27
Patient determined to be at risk for a fall?	67	51
Identify protocols interventions being used	89	73
On medication(s) known to increase risk for a fall?	56	68
Did medication contribute to fall?	11	14



# 2011 Baseline Survey: Benchmarking<sup>2</sup>

	Falls per 1000 Patient Days	p value	Injurious Falls per 1000 Patient Days	p value
<b>NE Hospitals 2010</b>		<b>.025</b>		<b>.029</b>
Non-CAHs (n = 14)	4.2		0.9	
CAHs (n = 56)	6.3		1.8	

Risk of falls may be greater in CAHs than non-CAHs

1. CAHs care for a higher proportion of older adults
2. CAHs provide skilled nursing care with goal of rehabilitation to a higher functional status
3. CAHS have limited resources to devote to quality improvement
4. CAHs are less likely to externally benchmark fall rates
5. CAHs continue to receive payment for healthcare acquired conditions including falls with injury





# Effective Reporting Systems<sup>3</sup>

- General characteristics of effective event reporting systems

1. Nonpunitive...reporters do not fear retaliation
2. Confidential...identities of patient, reporter, organization protected and never revealed to 3<sup>rd</sup> party
3. Independent...those receiving reports have no power to discipline
4. Expert Analysis...those evaluating reports have expert systems and clinical knowledge
5. Timely...evaluation of reports is timely
6. Systems oriented...focus on processes not people
7. Responsive...those receiving reports provide feedback to those reporting...closed loop communication

} Hospital Culture

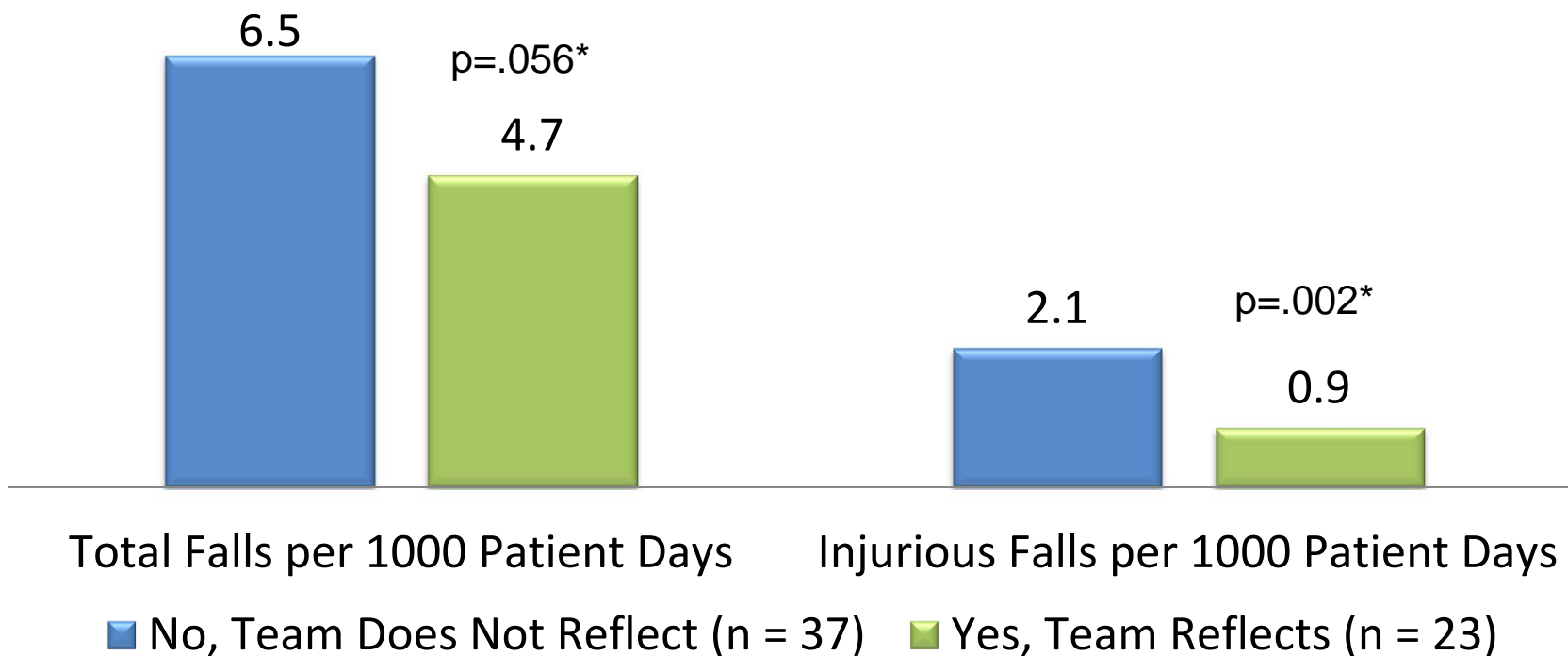
} Sensemaking  
Support  
from Project



# 2011 Baseline Survey: Reflection/Sensemaking

## Does your fall risk reduction team...

1. Collect and analyze data regarding fall risk reduction program outcomes?
2. Modify fall risk reduction policies and procedures based on outcome data?
3. Conduct root cause analyses of injurious falls?



\*Negative binomial model



# Have we supported your sensemaking?

## CAPTURE Falls Event Report Summary

Month	Total Falls	Assisted	Non-Assisted	Injurious	Non-Injurious
Aug 2012	5	4	1	1	4
Sep 2012	1	1	0	0	1
Oct 2012	3	3	0	0	3
Nov 2012	3	3	0	0	3
Dec 2012	1	0	1	1	0
Jan 2013	4	1	3	1	3
Feb 2013	3	1	2	1	2
Apr 2013	4	1	3	1	3
May 2013	1	1	0	0	1
Jun 2013	1	0	1	0	1
Aug 2013	1	1	0	0	1
Sep 2013	1	1	0	0	1
Oct 2013	3	2	1	0	3
<b>Total</b>	<b>31</b>	<b>19</b>	<b>12</b>	<b>5</b>	<b>26</b>

### Error Type

Task

☐

Judgment

☒

Care Coordination

☐

### UNMC Response

Patient left unattended on bedside commode. Is a policy in place to not leave patients at risk of falling unattended while toileting?

## Aggregate Data Summaries

March 26, 2013 - Initial Lessons Learned from Event Reports

May 28, 2013 - Update on Post-Fall Huddles

June 25, 2013 - More Lessons Learned from Event Reports

October 22, 2013 - Second Update on Post-Fall Huddles



# Feedback During Upcoming Call

- Progress report prior to final quarterly call
  - Compare priorities from initial action plan to changes made in your fall risk reduction program
  - Summarize information from your reported fall event data
  - Discuss your ideas for continued improvement and sustainment during the call





## Part II

# Multiple Sources of Data

[http://www.unmc.edu/patient-safety/cf\\_tool\\_inventory.htm](http://www.unmc.edu/patient-safety/cf_tool_inventory.htm)

Lesson Learned: “It’s more than just the numbers of falls.”



# Multiple Sources of Data

Source	Purpose	Who	When
Capture Falls Gap Analysis Score Card	Identify gap between your current structures and processes and best evidence to develop an action plan	Fall Risk Reduction Team (FRRT)	Annually
Fall Event Report	Data Collection	Core Team	After each fall
Post-Fall Huddle	Immediate learning and action planning	Core Team	After each fall
Prospective Audit of Interventions	Determine reliability of interventions... close the loop with core team	FRRT	Regularly (2x/week; weekly, monthly)



# Multiple Sources of Data

Source	Purpose	Who	When
TPQ	Does teamwork support fall risk reduction	FRRT	Every 18 – 24 mos.
Conversations about data and processes	Ongoing learning and improvement	FRRT	Monthly
Individual RCA	Learn from an injurious fall	Those involved in the fall	Each fall > minimal physical injury
Aggregate RCA	Learn from multiple non-injurious falls (minimum of 5, maximum of 20)	FRRT & Core Team	Regularly depending upon volume
Benchmarking	Reveal scope of risk and supports prioritization of resources.	FRRT	Annually



# Gap Analysis Scorecard<sup>4</sup>

- Context of Fall Risk Reduction
- Structure of Fall Risk Reduction
  - Accountability structure
  - Risk and performance assessment tools
- Process of fall risk reduction
  - Frequency of risk assessment
  - Fall risk reduction team processes
  - Core team processes: Universal and Targeted Interventions
- Outcomes of Fall Risk Reduction





# Fall Event Reporting Form<sup>4</sup>

- Patient demographics, dates, location, description
- Impact of event on patient
- Context of event
  - Activity at time of fall
  - Interventions in place
- Cause of event including contributing factors
  - Patient level
  - Organizational level
- Methods to prevent and/or mitigate a future occurrence



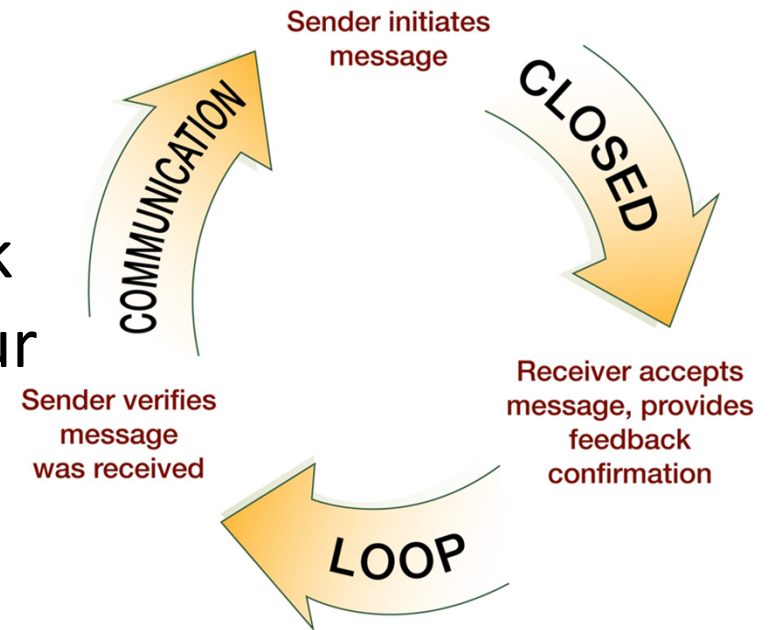
## Post-Fall Huddle<sup>4</sup>

- Purpose: Immediate learning by core team
- How could the fall have been prevented?
- Who was in the huddle?
- What was discussed?
  - Task errors... “Bed alarm was not turned on.”
  - Judgment errors... “Patient was not deemed a fall risk although he was a 2-assist to get to the bathroom. A bedside commode likely would have been safer.”
  - Care coordination errors... “Need to communicate fall risk across shifts.”
  - Need for consults? (PT/OT, pharmacy?)
- Actions to be taken



# Prospective Process Audit<sup>4</sup>

- Purpose: Determine reliability of interventions...closed loop communication with core team
- Conducted by members of fall risk reduction team...customize to your context
  - Risk assessment completed
  - Interventions documented
  - Patient/family education documented
  - Signage...signs, wrist band
  - If high risk...bed and chair alarm in place
  - Environment
  - Gait belt





## Part III: The DIKW Hierarchy<sup>5</sup>

**Collecting, interpreting, and learning from data is the foundation of quality improvement and patient safety**

Lesson learned: “...Our processes cannot just be reacting to a fall. It has to begin with data from audits so we know if we are creating an environment that decreases task errors, reports assisted falls and decreases injury.”



# Data...What we observe

1. Patient Medical Record Number: \_\_\_\_\_ 2. Patient Admission date: \_\_\_\_\_
3. Patient Age (if older than 90 indicate >90): \_\_\_\_\_ 4. Patient Gender: ☐ Male ☐ Female
5. Patient's principal admitting diagnosis: \_\_\_\_\_
6. Date of Fall: \_\_\_\_\_ 7. Time of Fall: \_\_\_\_\_ 8. Prior to fall, when was the last time patient was visually assessed?  
☐ < 1 hr ☐ 1-2 hrs ☐ > 2 hrs
9. Where did the fall occur? *CHECK ONE*
- |  |  |
|--|--|
| <input type="checkbox"/> Inpatient care area: Please specify (e.g. bedside, bathroom, etc.): _____ | <input type="checkbox"/> Lab, including pathology and blood bank       |
| <input type="checkbox"/> Special care area (e.g. ICU, CCU, NICU)                                   | <input type="checkbox"/> Emergency department                          |
| <input type="checkbox"/> Labor and delivery area   | <input type="checkbox"/> Therapy area (PT, OT, ST)                     |
| <input type="checkbox"/> Operating room or procedure area  | <input type="checkbox"/> Outside area (i.e., grounds of this facility) |
| <input type="checkbox"/> Radiology/imaging area, including mobile                                  | <input type="checkbox"/> Other: Please specify _____                   |
| <input type="checkbox"/> Pharmacy  |  |
10. Was the fall unassisted or assisted? ☐ Assisted ☐ Unassisted ☐ Unknown
11. Was the fall observed? ☐ Yes ☐ No ☐ Unknown
12. Who observed the fall?  
☐ Staff  
☐ Visitor, family or another patient, but not staff

13. DESCRIBE THE FALL, how it occurred, where in detail it occurred, how it was discovered (a narrative may be attached):

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# Access Data Entry Form

CAPTURE Falls Event Reporting - Copy: Database (Access 2007 - 2010) - Microsoft Access

File Home Create External Data Database Tools

View Paste Cut Copy Filter Ascending Descending Selection Advanced Refresh Save Delete More Find Replace Go To Select Text Formatting

Custom CAPTURE Falls Home Events by CAP ID

## CAPTURE Falls Event Reporting Form

Event ID  ☐ LTC ☐ Outpatient  Verification Date:

Hospital:  Report Date:  Completed by:

1. Patient MRN:  2. Patient Admit Date:  3. Patient Age:

4. Patient Gender:  5. Principal admitting diagnosis

6. Date of Fall:  7. Time of Fall:

Page 1 Page 2 Page 3 Page 4 Questions

8. When was the last time the patient was visually assessed?

9. Where did the fall occur?  If Inpatient care area, specify:  If Other area, specify:

10. Was the fall assisted or unassisted?  11. Was the fall observed?  If, Yes ---> 12. Who observed the fall?

☐ Staff  
☐ Visitor, family, other patient  
☐ Missing

13. Describe the fall.

Record: 387 of 387 No Filter Search



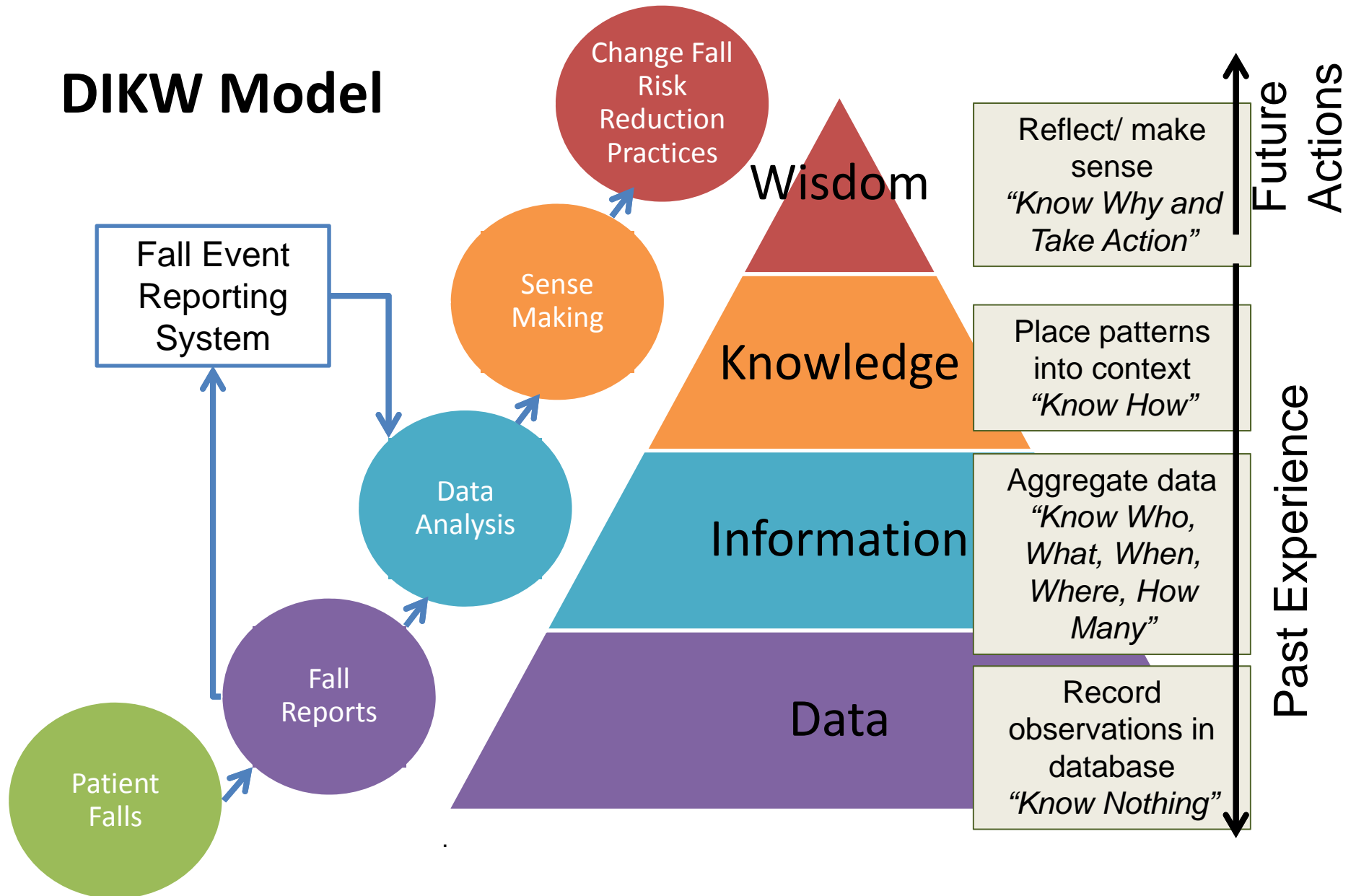
# Access Data Table

CAPTURE Falls Home Event Reporting								
Event_ID	Report_Date	Report_Indv	Pt_MRN	Pt_AdmDt	Pt_Age	Pt_Age_gt90	Pt_Gen	Princ_Diag
23162	2/13/2013		62826	1/7/2013	99	0	1	Congestive heart failure
31130	1/18/2013	SM	31130	1/7/2013	79	0	1	fall, dehydration
73193	3/26/2013	AB	2876	3/26/2013	64	0	2	Chest pain
68207	8/21/2012		1000028	8/19/2012	25	0	2	Term OB- vaginal
21194	3/13/2013	KB	000066168	3/8/2013	79	0	2	Rehab status post left shoulder arthop
31213	3/13/2013	SM	908445	3/8/2013	65	0	1	accidental falls, recurrent
68211	2/15/2013		17276	2/13/2013	65	0	2	R CVA with left hemiparesis
68210	3/20/2013		342168	3/19/2013	84	0	2	Mastectomy
68208	9/29/2012		7186	8/30/2012	99	0	2	Cerebrovascular accident
68209	1/12/2013		5488	1/4/2013	83	0	2	Right hip
37133	1/30/2013	K Christian	20535		38	0	1	Cellulitis bilat, feet, IV antibiotics, Parap
37190	3/13/2013	S Banks	22128	3/12/2013	90	0	2	CHF, Hyponatremia
23214	3/28/2013	MKL	62918	3/27/2013	99	0	2	Cellulitis rt arm
78163	3/4/2013	D. Soflin	004068522	6/19/2012	99	0	2	CHF, Renal Failure, DMZ, Rehab Ther
78166	3/4/2013	DS	004073149	8/24/2012	24	0	1	Rectal abscess
23161	2/13/2013		30072		83	0	1	
23160	2/13/2013		42777		90	0	2	
23159	2/13/2013		66574		70	0	2	
23158	2/13/2013		66574		70	0	2	
18148	2/20/2013	AH	42888-520417	2/16/2013	82	0	2	viral upper respiratory infection
64132	1/16/2013	KP	3476	1/8/2013	88	0	2	pneumonia, congestive heart failure
64128	11/20/2012	KP	17600	8/16/2012	62	0	1	Hypertension, diabetes, congestive he
64127	11/22/2012	KP	753754	11/20/2012	67	0	2	Hospice respite- breast cancer
64126	11/20/2012	KP	14051	10/19/2012	66	0	1	Metastatic renal cell cancer, anemia, fa
43134	2/4/2013	ES	34469	1/21/2013	79	0	1	Fever, influenza A, right sided weaknes
19100	12/18/2012	AH	27604	12/14/2012	64	0	1	head injury



# DIKW Knowledge Hierarchy<sup>5-7</sup>

## DIKW Model







# DIKW Knowledge Hierarchy<sup>5-7</sup>

- Data-Symbols that represent objects, events, and their environment; what we observe
- Information-Data that are connected and reduced into patterns to answer questions...who, what, when, where, how many
- Knowledge-How a system works; the ability to control a system and give instructions in its use
- Wisdom-Answers “WHY?” The ability to use judgment to implement the most appropriate behaviors and systems to prevent problems



# Puzzle Analogy

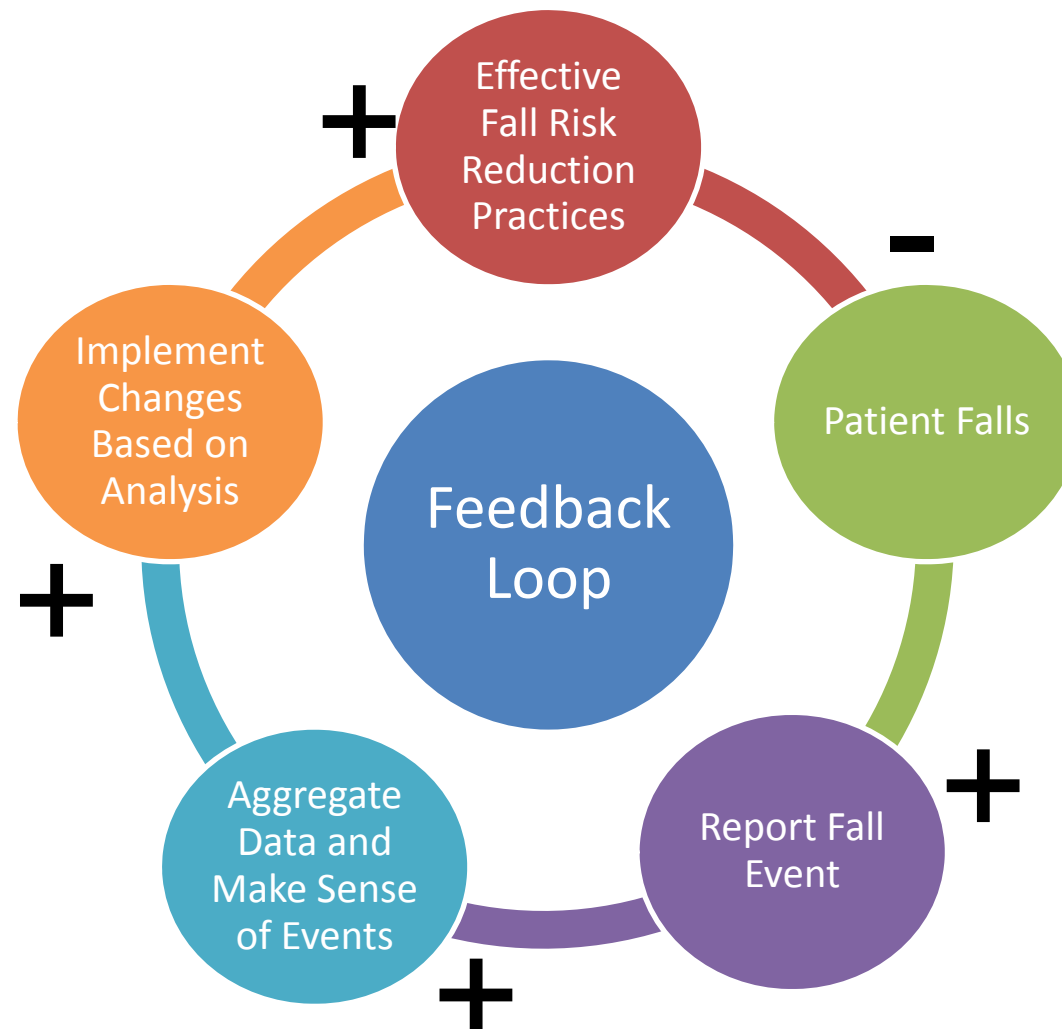
- Each piece of information can be thought of as one puzzle piece
- The pieces have to be brought together to create the whole...knowledge





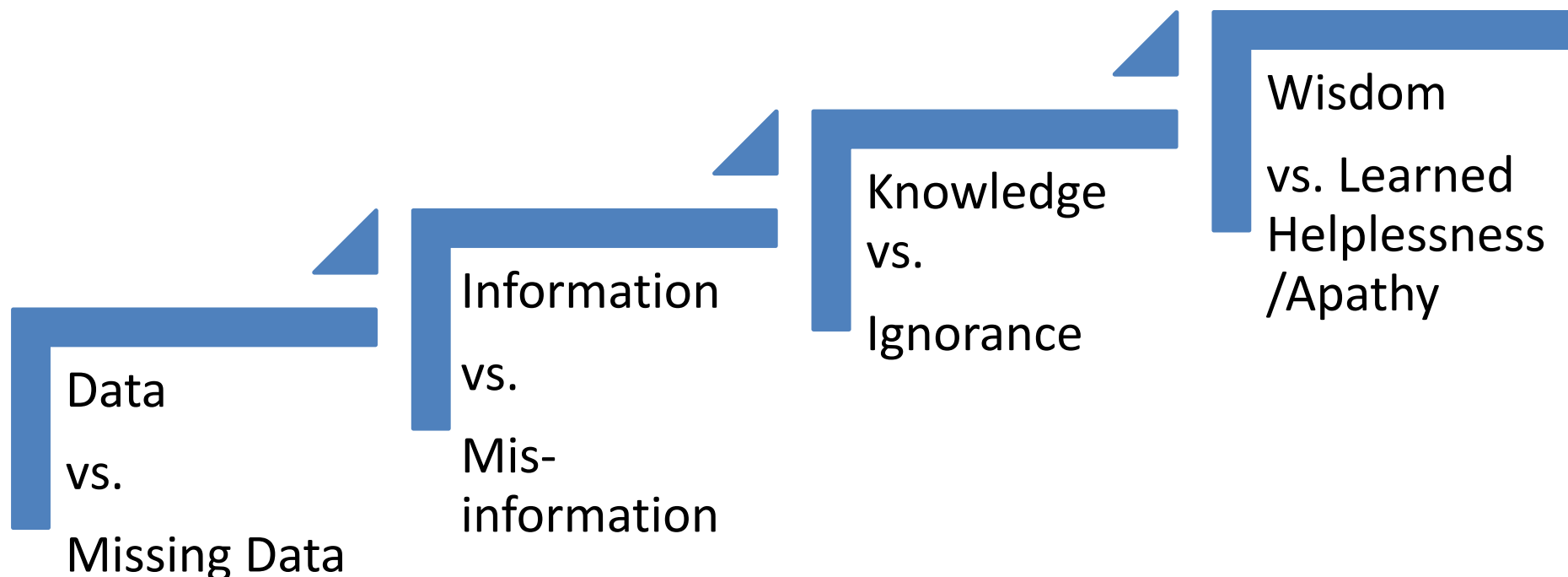
# It's a System

## Systems dynamics model for fall risk reduction





# What is the Opposite of Wisdom?<sup>8</sup>



Successful fall risk reduction programs change the attitude that little can be done to prevent falls.<sup>9</sup>



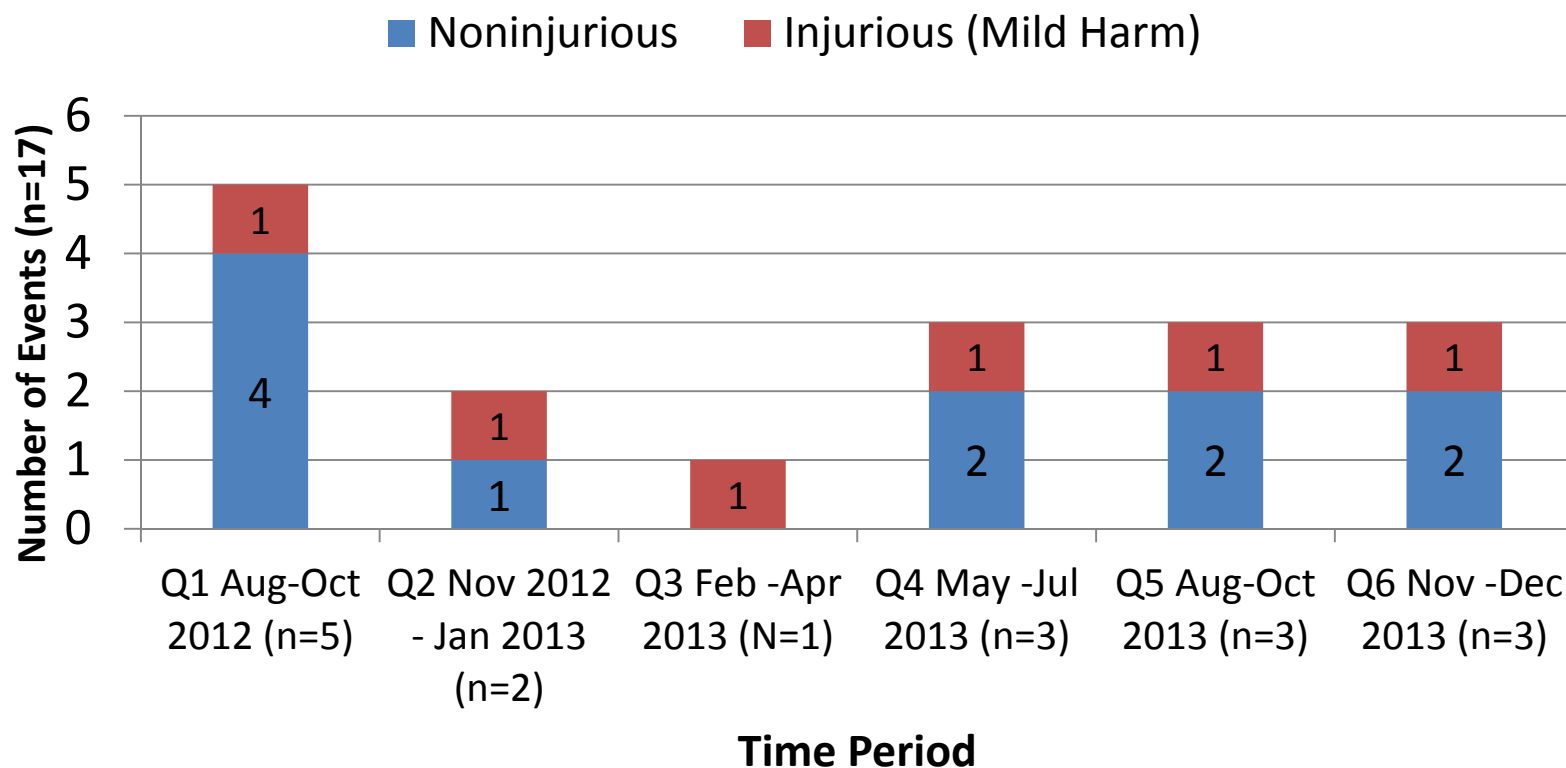
# One Hospital's Gap Analysis 2011

- Context of fall risk reduction
  - 22.5% of county pop  $\geq$  65 years
- Structure of fall risk reduction
  - Nobody accountable for fall risk reduction
  - No definition of a fall
  - Using Morse Risk Assessment & Clinical judgment
- Process of fall risk reduction
  - Assess risk on admission only
  - Do not modify program based on data
  - No purposeful rounding
  - Lack of interdisciplinary input
- Outcomes...total and injurious fall rates significantly > CAH benchmarks



# One Hospital's Current Information

## How Many Falls and Were They Injurious or Not?



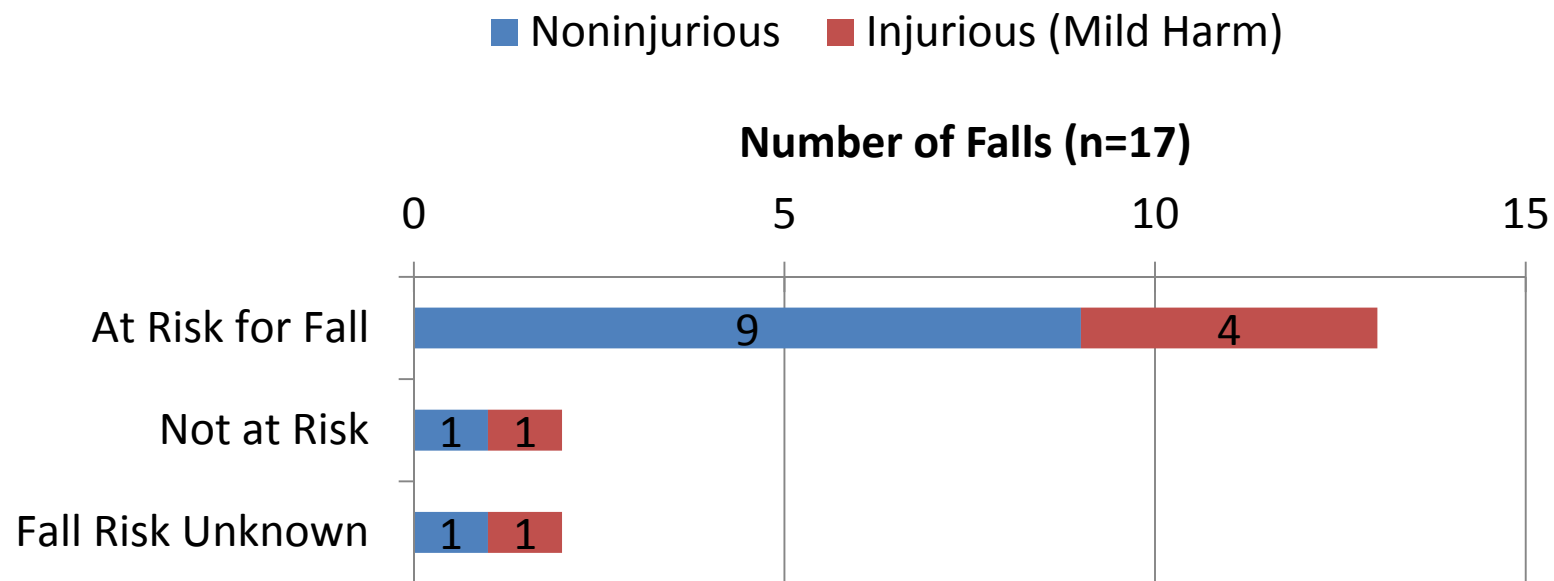
What does this information tell you about the hospital's processes to decrease fall risk?



# One Hospital's Current Information

## Was the patient known to be at risk?

### Association Between Fall Risk Assessment and Injury



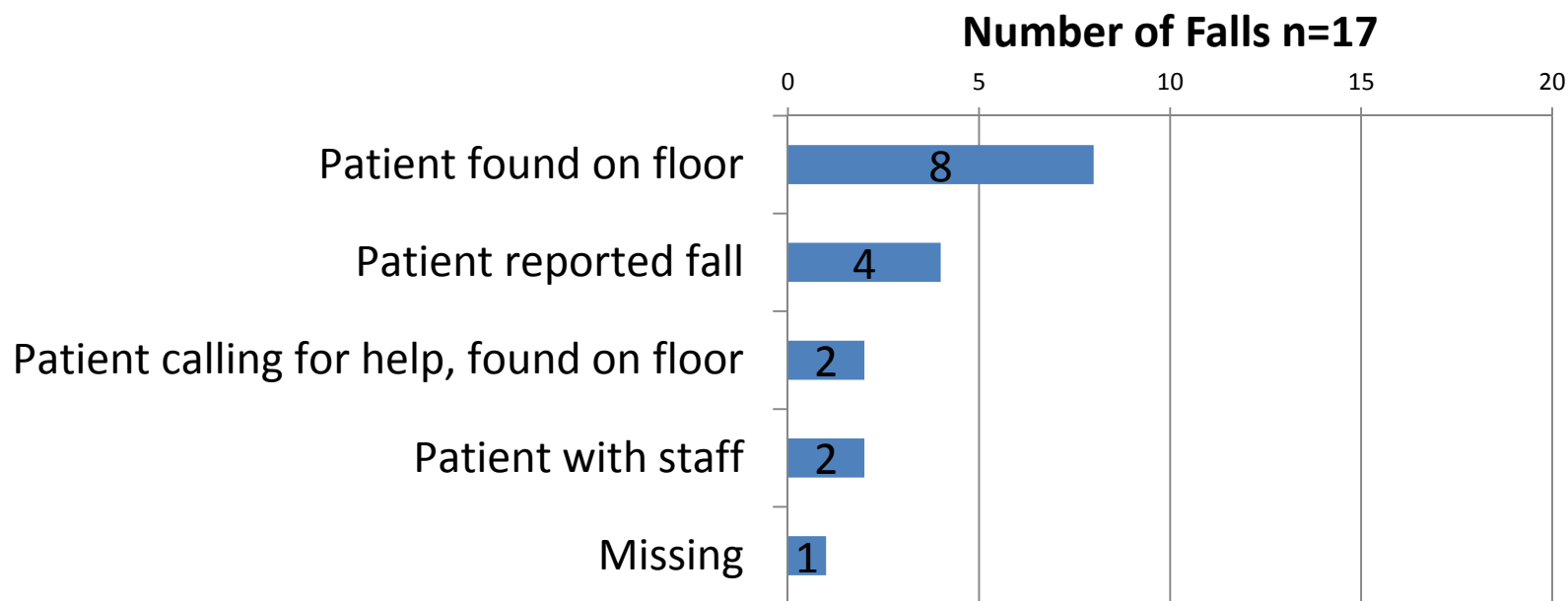
What does this information tell you about the hospital's processes to decrease fall risk?



# One Hospital's Current Information

## What happened?

### Description of the Fall



What does this information tell you about the hospital's processes to decrease fall risk?

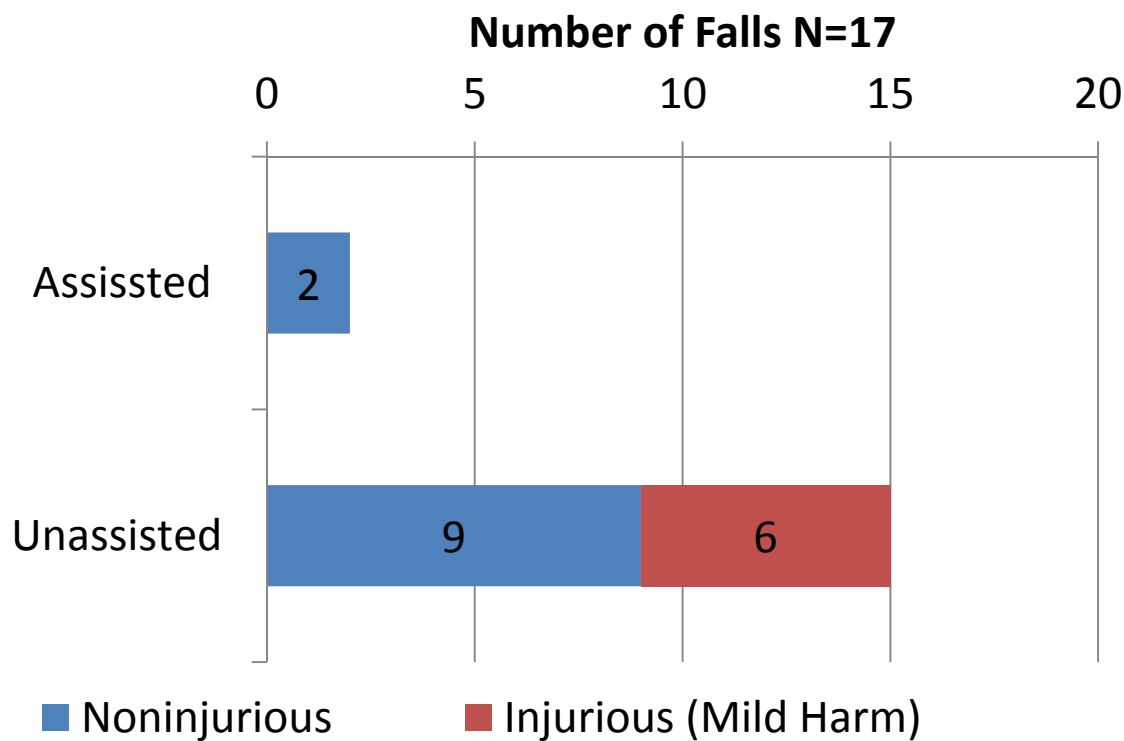




# One Hospital's Current Information

## What happened?

### Association between Assisted Falls and Injury



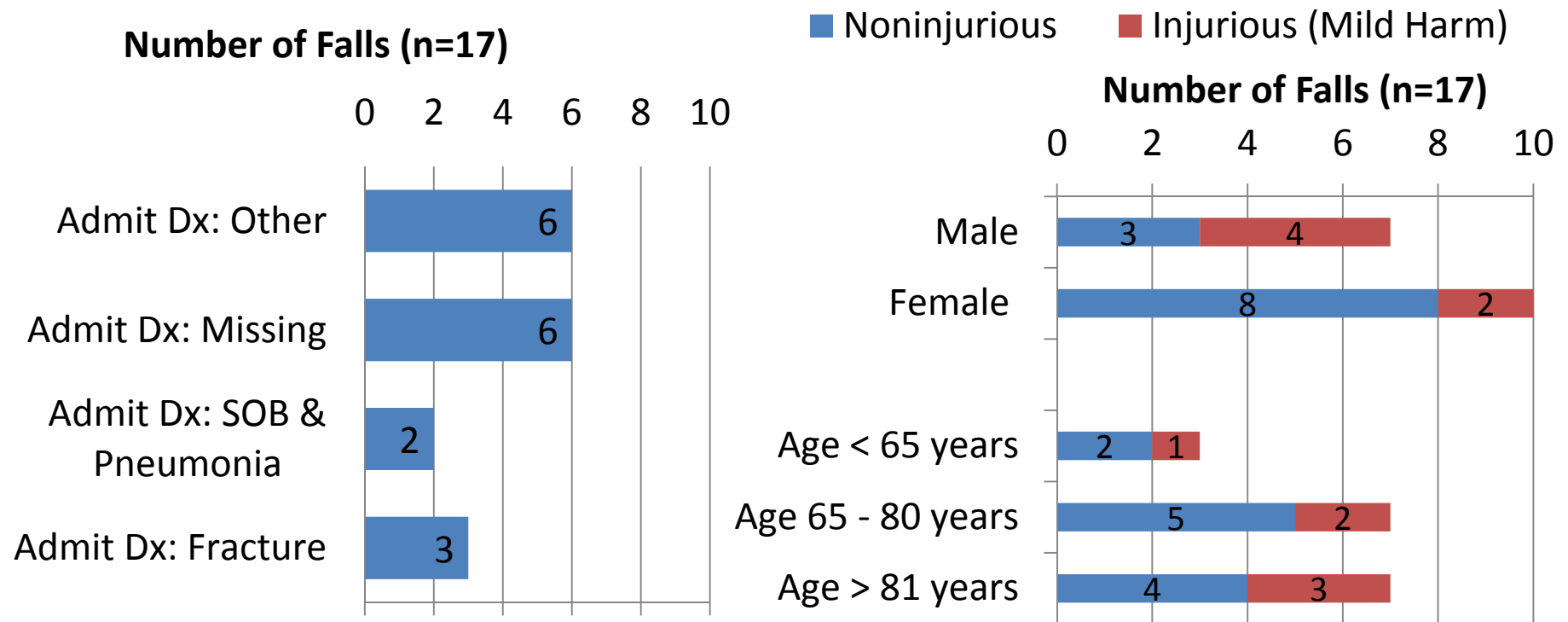
What does this information tell you about the hospital's processes to decrease fall risk?



# One Hospital's Current Information

## Who fell?

### Characteristics of Patients who Fell

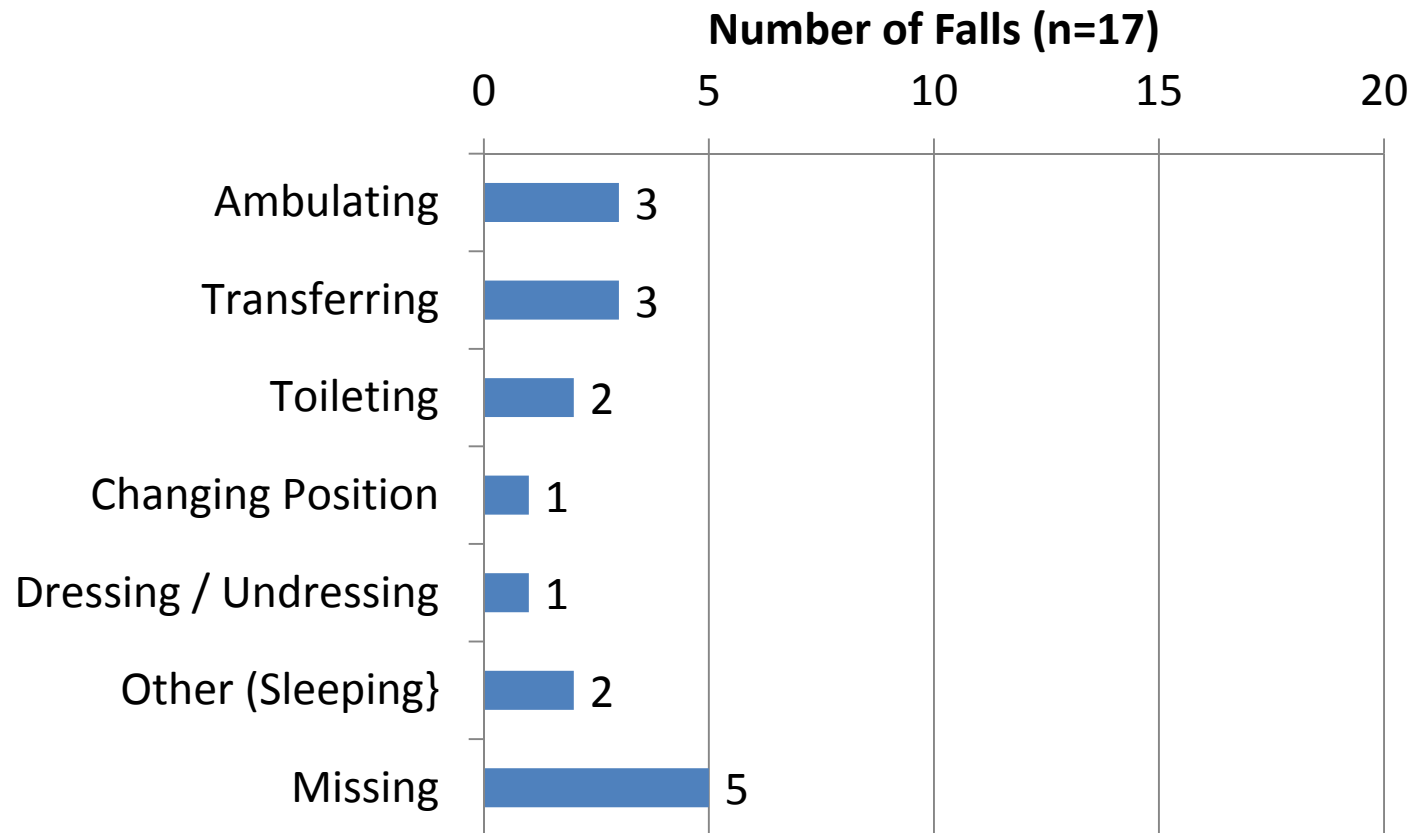


What does this information tell you about the hospital's processes for fall risk reduction?



# One Hospital's Current Information

## What was the patient trying to do?

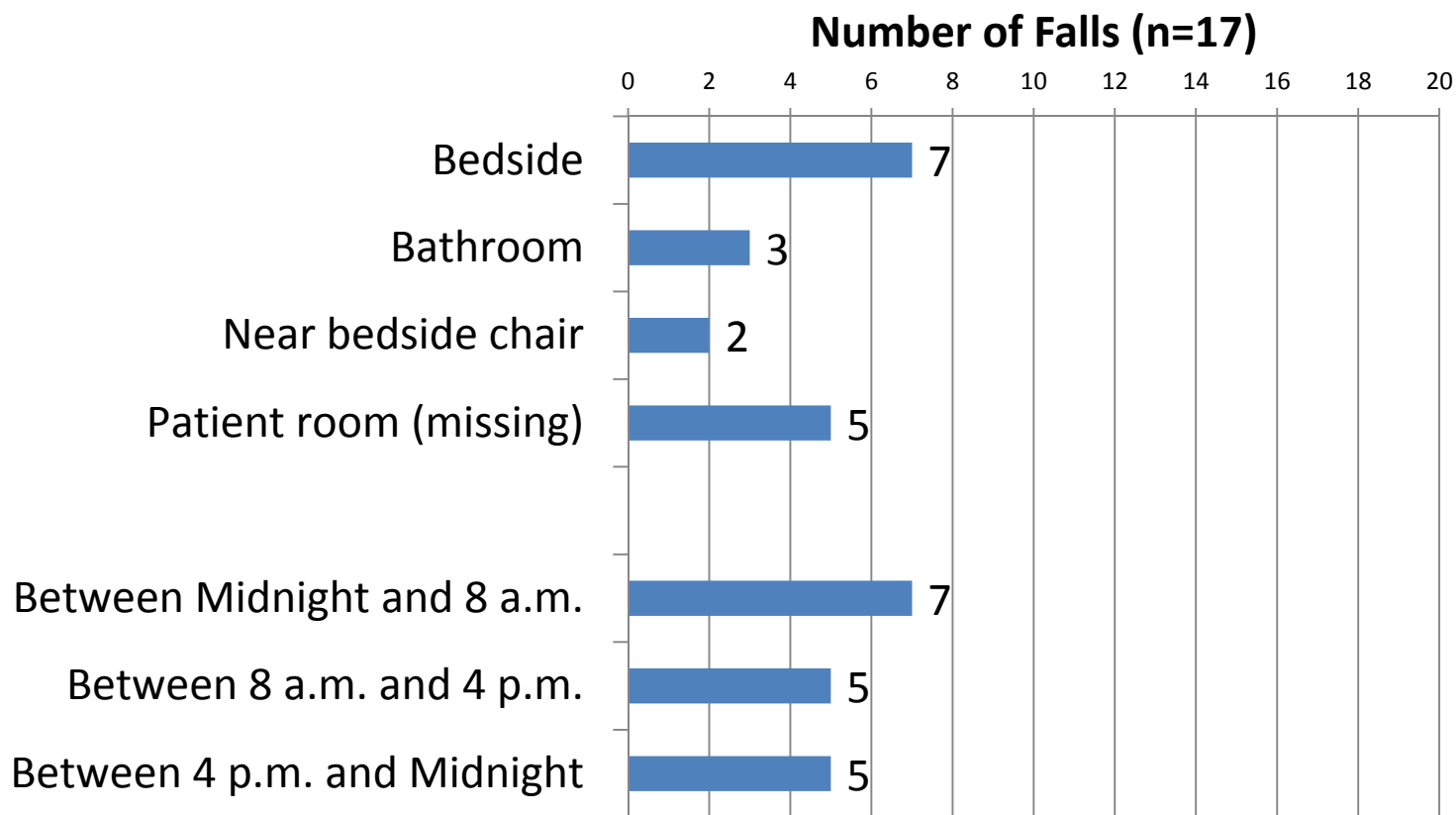


What does this information tell you about the hospital's processes for fall risk reduction?



# One Hospital's Current Information

## Where and when did the fall occur?

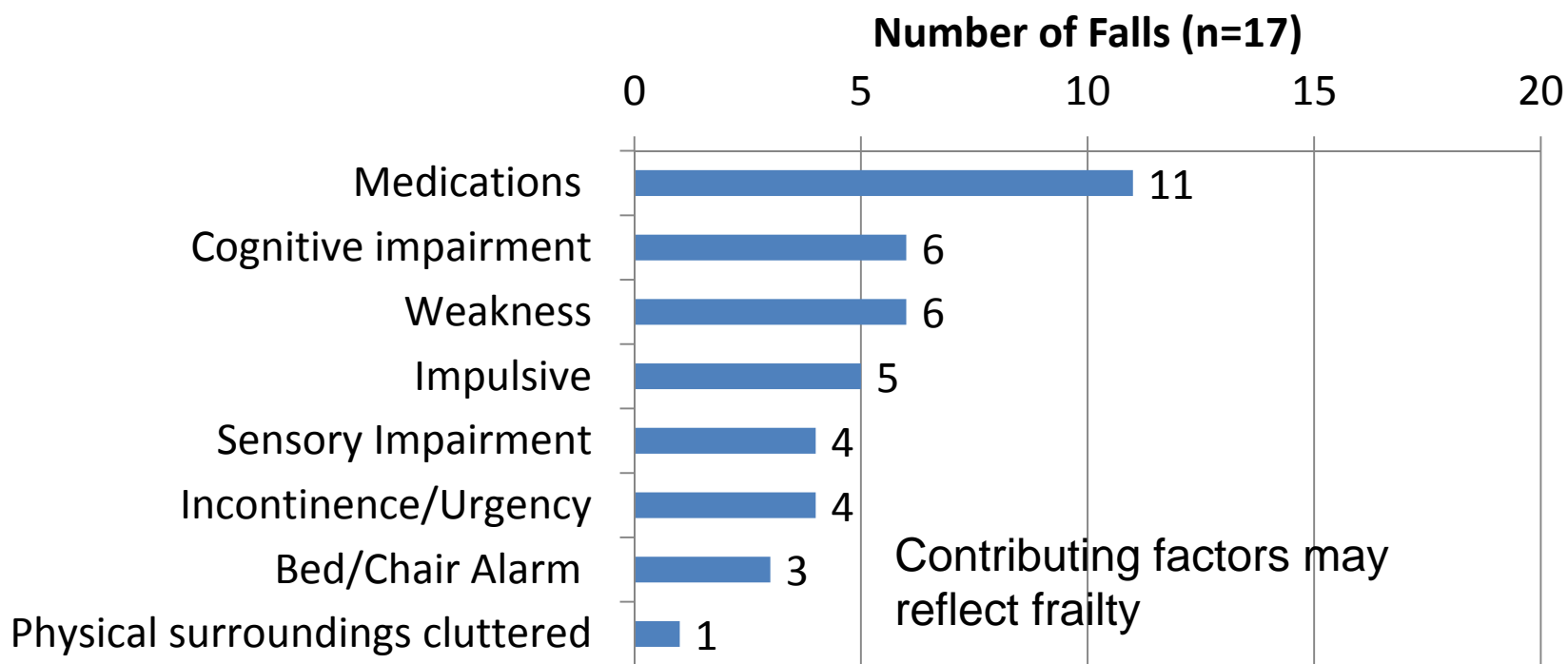


What does this information tell you about the hospital's system for fall risk reduction?



# One Hospital's Current Information

## How did the fall occur? (Patient-Level Contributing Factors)

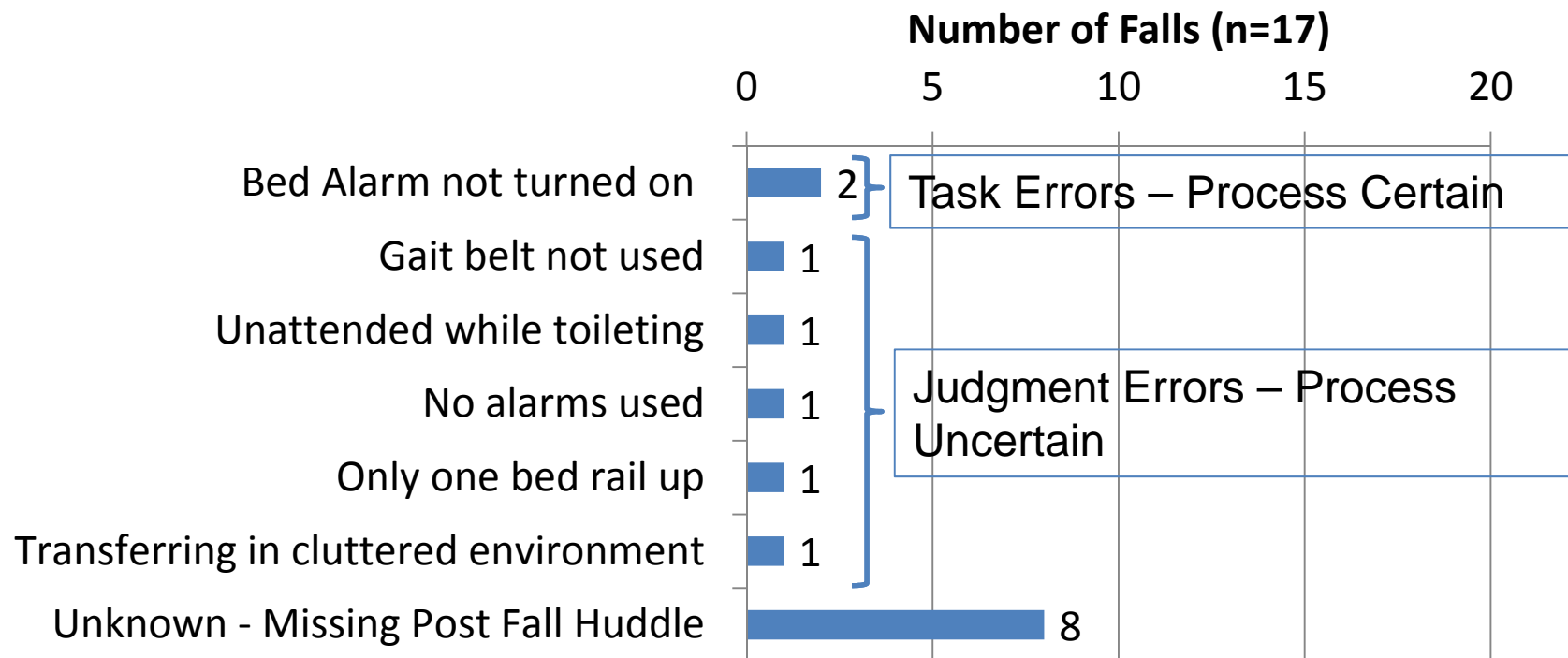


What does this information tell you about the hospital's system for fall risk reduction?



# One Hospital's Current Information

## How did the fall occur? (Organizational-Level Contributing Factors identified in Post-fall Huddle)

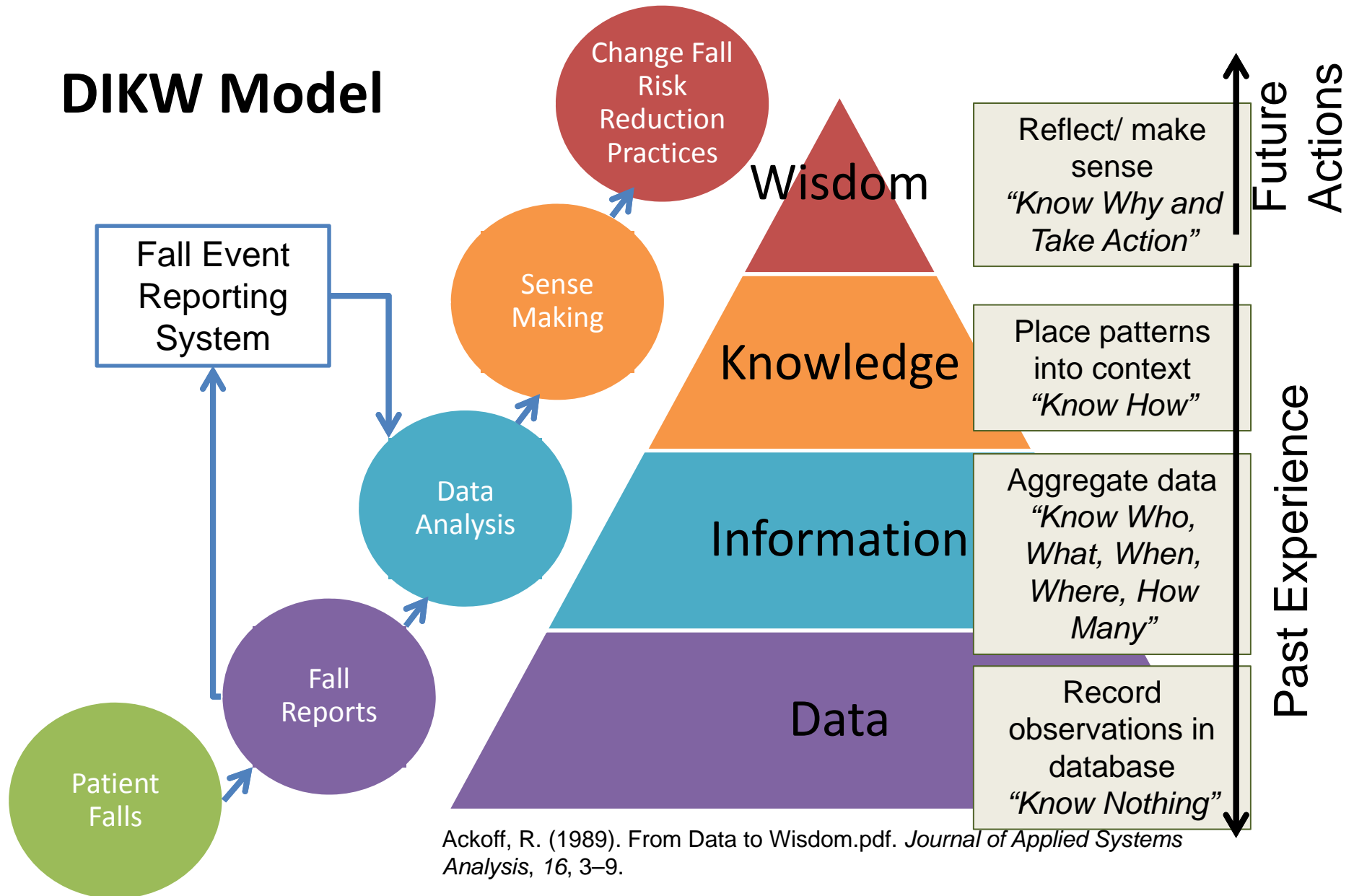


What does this information tell you about the hospital's system for fall risk reduction?



# DIKW Knowledge Hierarchy

## DIKW Model





# One Hospital's Current Knowledge

- How are patients falling?...Summary

Older adults who are cognitively impaired, impulsive, on multiple medications, and are weak fall when staff are unaware they are moving.

- Where are our gaps? What have we done/not done??

- Changes focused on structures...risk assessment
- Interventions not yet linked to risk factors (no hourly rounding, no prospective audits of processes, little integration of pharmacy and rehab therapies)

- What should we do next?

Recognize cognitive impairment , review medications, anticipate patient needs (hourly rounding), be aware when patient's are mobile without assistance (family/sitters/alarms). link risk factors with interventions and proactively assess reliability



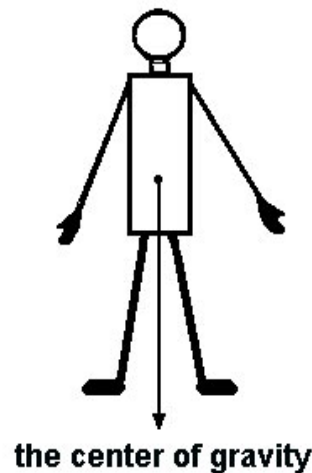


# Universal Fall Risk Wisdom

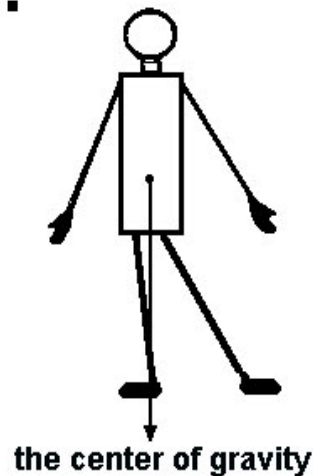
Why did this patient fall?

- Because their center of mass was outside their base of support

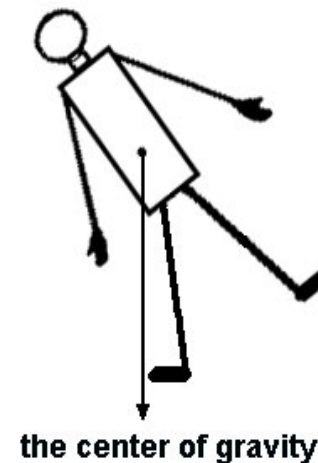
**a.**



**b.**



**c.**



- Why was their center of mass outside their base of support?
  - Sensory impairment (vision, vestibular, somatosensation)
  - Motor impairment (weakness, coordination, motor planning)
- AND....how could we have structured the environment to account for these impairments?



# Universal Fall Risk Wisdom

Alarms alert us to patient movement...We need to assess how reliably we use bed and chair alarms on patients with cognitive impairment or who may overestimate their abilities.

Purposeful hourly rounding allows us to anticipate patient needs...We need to assess how reliably we use purposeful hourly rounding, especially during afternoons and nights when staff are less likely to be in patient rooms.

“A clever person solves a problem. A wise person avoids it.”  
– Albert Einstein



# Universal Fall Risk Wisdom

Fall risk reduction team holds core team accountable for reliably using universal and targeted interventions for patients who have difficulty maintaining their center of mass inside their base of support ...

- Hourly rounding
- Low bed
- Nonskid footwear
- Patient/family education
- Top bed rails up
- Signage
- Alarm usage
- Gait belt
- Assisted transfers
- Assisted ambulation
- Supervised toileting
- Sitters
- Medication Review
- PT/OT evaluation



# Summary and Next Steps

- Your hospital's culture and project activities are intended to create an effective fall event reporting system
- Baseline data from our 2011 survey revealed that small rural hospitals in NE can benefit from support to create an effective fall event reporting system
- There is a random component to falls, so we must consider multiple sources of data (structure, processes, and outcomes) to assess the quality of a hospital's fall risk reduction program



# Summary and Next Steps

- Having the wisdom to improve your fall risk reduction program requires
  - Asking questions to guide your aggregation of data into information
  - Team sensemaking and a gap analysis to transform information into knowledge that answers: How do falls happen in our system?
  - The wisdom/will to take action
- Next Steps beginning with evaluation of webinar
  - Understand your DIKW needs
  - Determine essential data elements needed to collect on reporting form to create information
  - Measure your desire to sustain and expand a fall event reporting system for small rural hospitals in Nebraska



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Please complete the webinar  
evaluation by clicking on the link  
below:

<https://www.research.net/s/capturefalls-eval9>

**We value your input!**





University of Nebraska Medical Center

# CAPTURE Falls

Collaboration and Proactive Teamwork Used to Reduce

[http://unmc.edu/patient-safety/capture\\_falls.htm](http://unmc.edu/patient-safety/capture_falls.htm)

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Medical Center