Errors of Commission versus Omission

**Commission**
- “Doing something wrong”
  - Wrong site surgery
  - Giving a patient a medication they are allergic to
  - Giving a patient the wrong dosage of medication

**Omission**
- “Failing to do the right thing”
  - Missed Care
  - Failure to respond to an urgent situation
  - Delay in treatment

MISSED NURSING CARE

...Any aspect of required patient care omitted or delayed

ERRORS OF OMISSION
What we DON’T know

Presentation Outline

1. Missed nursing care and reasons
2. Consequences/ outcomes
3. Solutions
   1. Staffing
   2. Leadership and culture
   3. Teamwork
   4. Patient engagement
   5. Technology
   6. Systems approach
   7. Measurement
   8. Unit design
THE MISSED NURSING CARE MODEL

HOSPITAL CHARACTERISTICS
- Size
- Teaching intensity
- Magnet

UNIT CHARACTERISTICS
- Case mix index
- Nurse staffing (HPPD, RN HPPD, skill mix)
- Type of nurse staffing (education, experience)
- Work schedules

TEAMWORK

NURSING CARE

STAFF OUTCOMES
- Eg: Absenteeism, Turnover, Intent to leave

PATIENT OUTCOMES
- Eg: Falls, infections, pressure ulcers, readmissions etc.

9 areas of missed care
- Ambulation
- Turning
- Delayed or missed feedings
- Patient education
- Discharge planning
- Emotional support
- Hygiene
- Intake and output documentation
- Surveillance


How much nursing care is being missed?
The Development & Psychometric Testing of the MISSCARE Survey

- Acceptability
- Validity
  - Content validity
  - Construct validity (EFA and CFA)
- Reliability
  - Consistency: Cronbach's alphas 0.88 to 0.64
  - Test-retest: 0.87

Research questions
- What nursing care is missed?
- What are the reasons for missing care?

Methods
- 3 hospitals in same system (459 RNs), 35 patient units
- MISSCARE Survey—response rate 57%

Findings
- Large amount of missed care
- Reasons – labor, material and communication

Variations of Missed Care and Reasons across 11 Hospitals

Research Questions
- To what extent is nursing care missed?
- How does missed nursing care vary across hospitals?
- What are the reasons for missed nursing care?
- Do reasons for missed care vary across hospitals?
- Does missed nursing care vary by staff characteristics?
Study Sample

- Nursing staff on 124 adult patient care units in 11 hospitals.
- 4,412 nursing staff (3,349 RNs, 83 LPNs and 980 NAs)
- Return rate 57.3%
- Hospitals ranged from 60 to 913 beds

- Age (over 35 yrs) 55%
- Gender (female): 90%
- Nursing education (BSN or higher): 49%
- Experience (greater than Sysa): 54%
- Occupation (RN): 73%
- Employment status (more than 30 hrs/wk): 82%
- Shift worked (day or rotating shift): 58%

Measures

- The MISSCARE Survey
- Nursing Teamwork Survey (NTS)
- MISSCARE Survey-Patients

From hospital administrative data (unit level variables)
- Actual turnover
- HPPD, RN HPPD, skill mix
- Unit Case Mix Index (CMI)
- Average daily census
- Fall rates

To what extent is nursing care missed?
Missed Nursing Care

Elements of Nursing Care | % missed
---|---
Ambulation three times per day or as ordered | 76%
Interdisciplinary rounds | 66%
Mouth care | 64%
Medications administered on time | 60%
Feeding patient when the food is still warm | 57%
Patient teaching | 55%
Response to call light within 5 minutes | 50%
Patient bathing/skin care | 45%
Emotional support to patient and/or family | 42%

5 Most Often Missed Nursing Care

5 Most Least Missed Nursing Care

- Sample: 38 patients
- Method: In depth, semi-structured interviews
- Fully reportable (e.g. bathing, mouth care, pain medication)
- Partially reportable (e.g. hand washing, vital signs, patient education)
- Not reportable (e.g. nursing assessment, skin assessment, intravenous site care)


What can patients report about nursing care that is missed?

What nursing care do patients report as missed?

2 hospitals, 729 patients

Most and Least Missed

**Most Missed**

1. Mouth care (50.3%)
2. Ambulation (41.3%)
3. Getting out of bed into a chair (38.8%)
4. Providing information about tests/procedures (27%)
5. Bathing (26.4%)

**Least Missed**

1. Not listening to patients’ questions and concerns (7.8%)
2. Not answering call lights (8.6%)
3. Not responding to beeping monitor (8.8%)
4. Requests not fulfilled (10.3%)
5. Not being helped to the bathroom (10.9%)
Comparison of Identified Missed Nursing Care: Nursing Staff vs. Patients

Note: 1 = Rarely or never missed, 2 = Occasionally missed, 3 = Frequently missed, 4 = Always missed

2.17 2.17 2.09 1.91 1.35 1.88 2.53 2.04 1.55 1.44 1.82 1.54

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0

Ambulation

Does missed care vary across hospitals?

5 MOST OFTEN MISSED
5 LEAST MISSED CARE

- Patient assessment questions
- Bedside glucose monitoring
- Patient resting comfortably
- Ultrasound evaluation
- Patient data gathered and tracking
- Turning patient every 3 hours
- Medication administered every 2 hours
- Medication documented as administered
- Wound care
- Bed sharing

Mean ± SD Percent Reported as Missed Always, Frequently, or Occasionally

- The solid bars represent the means across all hospitals, and the range-lines indicate the standard deviations.

What are the reasons for missed nursing care?
Overall Reasons for Missed Care

![Bar chart showing percentage of missed care reasons]

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate number of staff</td>
<td>91</td>
</tr>
<tr>
<td>Urgent patient situations (e.g., a patient’s condition worsening)</td>
<td>92</td>
</tr>
<tr>
<td>Unexpected rise in patient volume and/or acuity on the unit</td>
<td>95</td>
</tr>
<tr>
<td>Inadequate number of assistive personnel (e.g., nursing assistants, techs, unit secretaries etc.)</td>
<td>94</td>
</tr>
<tr>
<td>Heavy admission and discharge activity</td>
<td>93</td>
</tr>
</tbody>
</table>

Material Reasons - Overall 89.6

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medications were not available when needed</td>
<td>95</td>
</tr>
<tr>
<td>Supplies/equipment not available when needed</td>
<td>90</td>
</tr>
<tr>
<td>Supplies/equipment not functioning properly when needed</td>
<td>84</td>
</tr>
</tbody>
</table>
Reasons For Missed Care
(continued)

<table>
<thead>
<tr>
<th>COMMUNICATION/TEAMWORK - OVERALL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbalanced patient assignments</td>
<td>91</td>
</tr>
<tr>
<td>Inadequate hand-off from previous shift or sending unit</td>
<td>88</td>
</tr>
<tr>
<td>Other departments did not provide the care needed (e.g. physical therapy did not ambulate)</td>
<td>85</td>
</tr>
<tr>
<td>Lack of back up support from team members</td>
<td>80</td>
</tr>
<tr>
<td>Tension or communication breakdowns with other ancillary/support departments</td>
<td>80</td>
</tr>
<tr>
<td>Tension or communication breakdowns within the nursing team</td>
<td>76</td>
</tr>
<tr>
<td>Tension or communication breakdowns with the medical staff</td>
<td>82</td>
</tr>
<tr>
<td>Nursing assistant did not communicate that care was not done</td>
<td>85</td>
</tr>
<tr>
<td>Caregiver off unit or unavailable</td>
<td>70</td>
</tr>
</tbody>
</table>

Other Reasons

FATIGUE
- Long work hours
- Mandated overtime
- Rotating shifts
- Lack of breaks
- Multiple jobs
- Moral distress
- Burnout
- Compassion fatigue

Other Reasons (continued)

- Interruptions, multitasking and task switching
- Cognitive biases
  - Omission bias, bandwagon effect, status-quo bias
- Complacency and habit: mind not on task
How do reasons for missed care vary across hospitals?

Reasons for Missed Care across 11 Hospitals

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Resources (Total: 93%)</td>
<td>92%</td>
<td>96%</td>
<td>87%</td>
<td>92%</td>
<td>92%</td>
<td>94%</td>
<td>96%</td>
<td>96%</td>
<td>96%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>Material Resources (Total: 90%)</td>
<td>84%</td>
<td>91%</td>
<td>88%</td>
<td>88%</td>
<td>90%</td>
<td>91%</td>
<td>94%</td>
<td>93%</td>
<td>89%</td>
<td>92%</td>
<td></td>
</tr>
<tr>
<td>Communication (Total: 82%)</td>
<td>79%</td>
<td>75%</td>
<td>80%</td>
<td>79%</td>
<td>80%</td>
<td>83%</td>
<td>84%</td>
<td>84%</td>
<td>83%</td>
<td>82%</td>
<td></td>
</tr>
</tbody>
</table>

- Gender and education: No difference
- Age: Under 35 reported less missed care than those over 36
- Experience: less than 6 months reported the least
- Work schedules:
  - Night shifts less
  - Less than 12 hour shift less missed care
- Absenteeism: Staff missing more shifts, more missed care
Do RNs and NAs (nursing assistants) have the same assessment of missed nursing care?

- RNs reported significantly more missed care than NAs
- RNs reported more missed care on elements of care typically completed by NAs

Is there a difference in missed nursing care in Magnet vs. non-Magnet hospitals?

- Magnet hospitals had significantly less missed care.
- Magnet hospital staff reported less staffing and communication problems.
- There is no difference in staffing levels and type

Does missed nursing care predict job satisfaction &/or occupation satisfaction?

The more missed nursing care, the higher the dissatisfaction with their current position ($p < 0.05$) and with their occupation.

- Males less satisfied ($p = 0.06$, $95\%$ CI = 0.43 – 0.89).
- NAs less satisfied than RNs ($p = 0.05$).
- ADN nurses more satisfied than BSN nurses ($p = 0.04$, $95\%$ CI = 0.12 – 0.90).

- Units with higher missed care ($β = .302, p< .0001$) and greater absenteeism ($β = .247, p= .034$) had more plans to leave.
- However, units with nursing staff who worked overtime ($β =-.283, p= .001$) and were older than 35 years ($β =-.270, p= .050$) less likely to leave.
- Model accounted for 58.4% of the variation in intent to leave
- Turnover not related to missed nursing care.

Does missed nursing care predict intent to leave and/or turnover?

Relational Job Theory (Grant)

People more motivated when they witness a positive impact of their actions on their beneficiaries
Nurses have direct knowledge
Describe their work as protecting the welfare of others

"Benevolent employees" motivated to give more to others than they get back

When nurses cannot or do not provide acceptable care, they are more dissatisfied with their jobs than would be true for employees who do not have these values and service orientation.

Does missed nursing care impact patient outcomes?
Does missed nursing care mediate the relationship between staffing and patient falls?

Equation 1
\[ R^2 = 9.6\% \]
\[ \beta = -.31 \]
\[ p < .001 \]

Equation 2
\[ R^2 = 13.0\% \]
\[ \beta = -.36 \]
\[ p < .001 \]

Equation 3
\[ R^2 = 8.7\% \]
\[ \beta = -.20 \]
\[ p = .030 \]

Patient reported missed nursing care and adverse events

The higher the patient reported missed nursing care, the more adverse events
- Skin breakdown/pressure ulcers
- Medication errors
- New infections
- Falls
- IVs running dry
- IVs leaking

What difference does it make?

- Failure to ambulate
  - New onset delirium
  - Pneumonia
  - Delayed wound healing
  - Pressure ulcers
  - Increased LOS
  - Increased pain and discomfort
  - Muscle wasting and fatigue
  - Physical disability

- Failure to do mouth care
  - Reluctance to eat
  - Pressure ulcers
  - Bed sores
  - New infections, particularly in ventilated patients

- Failure to turn
  - Pressure ulcers
  - Pneumonia
  - Venous stasis
  - Thrombosis
  - Stone formation
  - UTI
  - Muscle wasting
  - Bones demineralization
  - Atelectasis

- Failure to administer medications
  - Example: Clostridium difficile to missing the first dose of vancomycin—increased LOS

- Failure to teach
  - Adverse events
  - Readmission

Patient 2006, more than 500,000 hospital stays with pressure ulcer
1993: 280,000 (80% increase)
- Increased LOS
- Increased pain and discomfort
- Muscle wasting and fatigue
- Physical disability

- Failure to do mouth care
  - Reluctance to eat
  - Pressure ulcers
  - Bed sores
  - New infections, particularly in ventilated patients
What difference does it make?

- **Failure to sleep**
  - Mental impairment
  - Susceptible to infections
  - Slows recovery, longer LOS

- **Failure to wash hands**
  - HAIs (CAUTIs, CLABSIs, etc.)

- **Failure to answer call lights**
  - Death, adverse events
  - Falls
  - Increased LOS
  - Increased pain & discomfort

- **Failure to eat**
  - Greater mortality
  - Higher nursing home use
  - Infections
  - Increased LOS
  - Higher costs

- **Failure to provide emotional support**
  - Feelings of not being safe
  - Distressed, agitated
  - Inability to cope

- **Failure to do interdisciplinary rounds**
  - Adverse events
  - Catheters in too long
  - Higher mortality

---

Post Hospital Syndrome

During hospitalization, patients are commonly deprived of sleep, experience disruption of normal circadian rhythms, are nourished poorly, have pain and discomfort, confront a baffling array of mentally challenging situations, receive medications that can alter cognition and physical function, and become deconditioned by bed rest or inactivity. Each of these trepidations can adversely affect health and contribute to substantial impairments during the early recovery period, an inability to fend off disease, and susceptibility to mental error (Krumholz, NEJM, 2013).

---

Post Hospital Syndrome (continued)

- Hospitalization sentinel event often precipitates disability
  - Inability to live independently--basic ADLs

- Hospitalization-associated disability -- one-third of patients 70 years of age and over

- 20% readmitted; $26 billion annually
  - More than $17 billion of it pays for unnecessary readmissions

- Hospitalization-associated disability -- one-third of patients 70 years of age and over

- 20% readmitted; $26 billion annually
  - More than $17 billion of it pays for unnecessary readmissions
How does missed nursing care vary across countries?

- More missed care in Italy and USA; least Iceland and Lebanon
- More reasons for missing care in Turkey and Lebanon
- Family members in hospital

Mean number of patients cared for admissions, and discharges during last shift: A comparison across countries

<table>
<thead>
<tr>
<th></th>
<th>USA</th>
<th>Iceland</th>
<th>Australia</th>
<th>Lebanon</th>
<th>Korea</th>
<th>Italy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients cared</td>
<td>4.10±1.74</td>
<td>5.81±3.01</td>
<td>5.31±3.01</td>
<td>4.12±2.60</td>
<td>9.87±7.30</td>
<td>13.25±4.88</td>
</tr>
<tr>
<td>Admissions</td>
<td>1.09±1.00</td>
<td>1.00±1.00</td>
<td>2.03±2.03</td>
<td>1.57±2.38</td>
<td>2.38±3.40</td>
<td>3.49±2.83</td>
</tr>
<tr>
<td>Discharges</td>
<td>0.83±0.95</td>
<td>1.67±1.34</td>
<td>2.10±2.10</td>
<td>1.93±1.93</td>
<td>2.10±2.10</td>
<td>3.03±2.10</td>
</tr>
</tbody>
</table>

SD, standard deviation.

Note: Means that do not share subscripts differ at p<.05 using the Bonferroni correction.
STRATEGIES TO REDUCE MISSED NURSING CARE

- Staffing
- Culture and leadership
- Teamwork
- Patient engagement
- Technology
- Systems approach
- Measurement
- Unit design
**Do nurse staffing levels predict missed care?**

- **Bivariate analyses**
  - Higher Hours Per Patient Day (HPPD) associated with less missed care ($r=-0.32, p<0.01$)
  - Higher RN Hours Per Patient Day associated with less missed care ($r=-0.27, p<0.01$)
  - Skill mix no significant relationship

- **Multivariate analysis**
  - The higher the HPPD, the lower the level of missed nursing care ($\beta=-0.45, p=0.002$).
  - Other variables not significant predictors of missed nursing care.
  - Overall model accounted for 29.4% of the variation in missed nursing care ($p<0.001$).

---

**Do nurse staffing levels predict teamwork?**

- Nurses taking care of fewer patients rated teamwork higher
- The more staff perceived their staffing as adequate, the higher teamwork
- HPPD and skill mix significantly associated with teamwork
- After controlling for CMI and bed size, the higher the HPPD, the higher the teamwork ($\beta=0.417, p=0.033$)
- The higher the skill mix, the higher the teamwork ($\beta=0.436, p=0.009$)
- Overall model accounted for 33.1% of the variation in teamwork ($p=0.001$).

---

**Staffing (continued)**

- Essential but not everything
- Making the case for adequate staffing: tie into patient and nursing staff outcomes and cost
**Culture and leadership solutions**

"Culture is everything"

- Focus on prevention, not punishment
  - Build a culture of safety and move beyond the culture of blame
  - Acknowledge that missed care occur
- Focus on team culture
- Need open dialogue supported by management
- Support of safe practices such as structured protocols (do not interrupt med administration; standardized communication processes, etc.)

**Culture and leadership solutions (continued)**

- Conduct strategic planning to create a safe, quality culture
- Transformational leadership (vs. transactional)

**TEAMWORK**

Controlling for occupation of staff members (e.g., RN/LPN, NA) and staff characteristics (e.g., education, shift worked, experience, etc), teamwork alone accounted for about 11% of missed nursing care.

Device: Does teamwork predict missed nursing care?

Teamwork ..... 

- increase in patient safety
- higher level of job staff satisfaction
- higher quality of care
- greater patient satisfaction with their care
- more productivity
- decreased stress level


- 34 focus groups
- Substantiated that the Salas model of teamwork applies to inpatient nursing teams
Salas Model: 8 behaviors

1. Team leadership
2. Team orientation
3. Mutual performance monitoring
4. Back up
5. Adaptability
6. Closed loop communication
7. Shared mental model
8. Mutual trust

Team Leadership

- Team leadership refers to the structure, direction and support provided by both the formal leader and/or on the part of team members.
- Everyone should act as a leader at some point.

Team Orientation

- Team’s awareness of itself as a team
- Team’s success takes precedence over individual performance
  - Do not view themselves as isolated individuals
  - Team members first
- Team members see that part of their job is to ensure that everyone on the team can and do get their work done in a quality way.
Team Orientation (continued)

Example comments when not *PRESENT*:

- Counting the number of patients assigned
- "Days left baths for me."
- RN looking for a nursing assistant to put patient on a bedpan.

---

Mutual Performance Monitoring

- The observation and awareness of team members of one another.

- Effective team members keep track of fellow team members’ work while completing their own work.

---

Mutual Performance Monitoring (continued)

- Could be interpreted in negative terms (e.g. spying, trying to find problems etc.)

- But it is accepted as part of a "psychological contract/agreement" among the team members.
  - They agree that it is appropriate to watch one another in order to maximize the overall performance of the team.
Mutual Performance
Monitoring (continued)

- EXAMPLES:
  - A nurse watching another nurse to ensure they are following procedures
    - Hand washing, medication administration
  - The nursing assistant observing the behavior of the nurse
    - Example: a nurse leaves a medication at the patient’s bedside

Back-Up

- Team members help one another with their tasks and responsibilities.
- Unable to perform tasks or carry out responsibilities and another team member steps in.
- Can be a physical act or feedback.

Back-Up (continued)

- Back-up is critical for teamwork for it means that the team is more than the sum of its parts.
- Requires willingness to provide and seek assistance.
  - Willingness to jump in and help and accept help without fear of being perceived as weak.
Back-Up (continued)

Example comments when NOT present:

- RN: Sometimes I feel bad asking for help. It looks like I am just not able to handle my job, that I am not a good nurse. And there are times when you have asked for help and you don’t get help.
- CNA: I just don’t like it when a nurse walks by my blinking light, and I am in the room with a patient doing something and she walks by twice and doesn’t bother to stop by and say ‘May I help you.’

Adaptability

- Ability to adjust strategies and resource allocation on the basis of the information gathered from the environment.
- Example when present
  - Nursing Assistant: Some units really watch out for their NAs and make sure they are not being given too much work.
- Example when NOT present
  - RN: We have staff on both 8- and 12-hour shifts and instead of reassigning patients so the nurse coming on doesn’t have patients on all three wings, we let the rumor.

Closed Loop Communication

- The active exchange of information between two or more team members where both parties have the same understanding of what was communicated (closed loop).
- Essential:
  - Individually team members may have an understanding of a situation, work they need to do . . .
  - But for a team to act in concert to achieve common goals, the team must have shared information.
Closed Loop Communication (continued)

- Important issues are brought before the team and not ignored.
- Constructive conflict is inevitable.
  - Without it, no way to sense the need to change or draw attention to problems.
  - Need to be able to deal with it in a positive manner.

Closed Loop Communication (continued)

Example when NOT present:

- Not giving nursing assistants report until 2 hours into the shift.
- Nursing assistant goes on break and does not tell other staff.

Shared Mental Models

What people use to organize information about the environment, the team purpose and team interdependencies.

Example when NOT present:

- RN: A nurse floated to our unit and did things the way they do on her floor. This created a safety problem because she thought the other staff members would give her patients their medications when she took a break. She found out several hours later this was not the case.
Mutual Trust

- Shared perception that members will perform actions necessary to reach interdependent goals and act in the interest of the team.
- Trust occurs when the individual has the expectation that their teammates will take actions that will most benefit the team.
- Example when NOT present:
  - RN: If I work with certain people, I know a good job is being done.
  - RN: I would like to believe the aide when she tells me she ambulated the patient, but I am not sure.


Type of unit
- Highest: psychiatric, perioperative
- Next: ICU, pediatric, maternity units next;
- Lowest: Medical-surgical, intermediate, rehab, ED

Shifts
- Full time less teamwork than part time.
- Nights more teamwork than days, evenings

Teamwork Solutions

- Training (e.g. simulation, Crew Resource Management (CRM), TeamSTEPPS, nursing teamwork, other training, etc.),
- Tools to enhance teamwork (e.g. checklists, goal sheets, case analysis, etc.)
- Systems interventions (e.g. workflow assessment and redesign, reconstruction of care teams, resizing teams etc.)
Does nursing teamwork predict job satisfaction & occupation satisfaction?

Satisfaction with position
- The more satisfied with current position, the higher the teamwork score (F[4, 212.727] = 113.256, p < 0.001)

Satisfaction with occupation
- The more satisfied with being nurse (or attendant), the higher the teamwork score (F[4, 3699] = 30.709, p < 0.001)

Planning to leave position
- The more likely to leave, the lower the teamwork score (F[2, 541.891] = 25.475, p < 0.001)

How do patient care units with high vs. low levels of missed nursing care differ?

- Qualitative study
  - 5 units with the most missed care
  - 5 units with the least missed care
- Key primary difference was teamwork

Is an intervention to increase nursing teamwork & engagement effective?

- 41 bed medical unit, 55 staff
- Measures
  - rate of patient falls
  - the staff's assessment of level of teamwork on their unit
  - vacancy and turnover rates
Can virtual simulation be used to increase nursing teamwork and decrease missed nursing care?

- Medical unit
- 1 hour
- Second life
- Significant increase in nursing teamwork
- Missed care did not decrease significantly

A train-the-trainer intervention to increase teamwork and decrease missed nursing care

- Train the trainer (staff nurses 3 from each unit serve as trainers)
  - Each staff member received 3 one hour sessions during work hours on their units
- Role play scenarios typical of teamwork problems
  - Patient needs bedpan, asks RN, searches for nursing assistant
  - Day shift does not do the patient’s bath and night shift staff resents it
- Debriefing
  - 8 elements of teamwork
  - What care is missed because of teamwork problems

Teamwork solutions (continued)

Does a train-the-trainer intervention increase nursing teamwork and decrease missed nursing care?
Patient and family engagement solutions

- There has been significant interest internationally in involving patients in efforts to improve patient safety
  - Example: Nurse administering drugs in hospitals could enable patients to be involved in the final check that takes place at the point of care
    - Communicates respect
    - Educates patients; reinforces patients’ understanding of what drugs being given and why
    - Opportunity for questions and to express concerns
    - Chance for patient to check that appropriate steps being taken

Liberal visitation
- Interdisciplinary rounds at the bedside
- Including family members in rounds
- Permitting patients’ to read and write on their own healthcare record
- Change of shift report at the patients’ bedside
- Putting patient advocate on the care team
- Patient councils and committee memberships

Technology solutions

- Electronic Health Record
  - work lists or queues, dashboards
- Electronic reminders
- Phones, pagers, nurse call systems and other communication devices
- Barcoding
- Tracking devices (e.g. hand washing)
- Mobile technology
Humans are viewed as fallible and errors can occur, even in good organizations (Reason, 2000).

- Ask: “Why did it happen”

Systems solutions (continued)

Use Human Factors Principles
Avoid reliance on memory
Simplify
Standardize
Use constraints and forcing functions
Use protocols and checklists

- Target and eliminate systems vulnerabilities
  - We’ll never eliminate all individual errors
  - The goal is to design systems that are “fault tolerant,” so that when an individual error occurs, it does not result in harm to a patient.
  - Look for ways to break that link in the chain of events that can create a recurring problem
  - Learn from close calls (“near misses”)
  - Focus everyone’s efforts on continually identifying potential problems and fixing them.
Measurement

You get what you measure!

You cannot use information you do not have.

Measure attitudes

- The Safety Organizing Scale
- Hospital Survey on Patient Safety Culture
- The Safety Attitudes Questionnaire
  Etc.

Measure processes

- Hand washing
- Time to resuscitate
- Documentation
- Missed nursing care
  Etc.
Measure outcomes

- Falls
- Pressure ulcers
- Infection rates
  - Urinary catheter-associated urinary tract infections
  - Central line catheter-associated blood stream infection rates
  - VAP
- Hospital length of stay
- Readmission rates
- Mortality
- Restraint prevalence
- Etc.

Unit Design

- Smaller units

Decrease the size of nursing teams
The bigger the team the more transactions

Group Complexity

<table>
<thead>
<tr>
<th>Size of Group</th>
<th>Number of Sub-groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>8</td>
<td>247</td>
</tr>
<tr>
<td>16</td>
<td>65,519</td>
</tr>
<tr>
<td>24</td>
<td>16,777,191</td>
</tr>
</tbody>
</table>
How does nursing teamwork vary with the size of patient units?

- n=2,265; 53 units 4 hospitals
- The larger the unit, the less the nursing teamwork

In summary...

- An extensive amount of nursing care is missed
- The reasons for missed care are inadequate labor and material resources and communication/teamwork plus cognitive processes
- Both amount and type of missed nursing care and reasons are similar across hospitals

In summary...

- Higher teamwork results in less missed nursing care
- The higher the staffing levels, the less the missed nursing care and the higher the teamwork
- More missed care and lower teamwork leads to less satisfaction and more intent to leave

In summary...

- Missed nursing care leads to negative patient outcomes
- Patient can report on whether or not specific aspects of their nursing care have been completed and has the potential of adding an important measure of the quality of nursing care

The End

Questions?
Comments?

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