1.

Presentation Outline

1. Nursing care missed
2. Reasons for missed nursing care
3. Staffing and missed nursing care
4. Staff outcomes
5. Patient outcomes
6. Strategies

HOSPITALS MAY BE HAZARDOUS TO YOUR HEALTH
### Errors of Commission versus Omission

<table>
<thead>
<tr>
<th>Commission</th>
<th>Omission</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Doing something wrong”</td>
<td>“Failing to do the right thing”</td>
</tr>
<tr>
<td>- Wrong site surgery</td>
<td>- Missed Care</td>
</tr>
<tr>
<td>- Giving a patient a medication they are allergic to</td>
<td>- Failure to respond to an urgent situation</td>
</tr>
<tr>
<td>- Giving a patient the wrong dosage of medication</td>
<td>- Delay in treatment</td>
</tr>
</tbody>
</table>

### MISSED NURSING CARE

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

### ERRORS OF OMISSION

### What we DON’T know

<table>
<thead>
<tr>
<th>Nurse Staffing</th>
<th>Patient Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Diagram" /></td>
<td><img src="image.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

```plaintext
These are the details of the table above.
```
CONCEPTUAL FRAMEWORK

THE MISSED NURSING CARE MODEL

HOSPITAL CHARACTERISTICS
- Size
- Teaching intensity
- Magnet

UNIT CHARACTERISTICS
- Case mix
- Nurse staffing (HPPD, RN, IPPD, and so on)
- Type of nurse staffing
- Education, experience
- Absenteeism
- Work schedules

MISSED NURSING CARE

TEAMWORK

STAFF OUTCOMES
- e.g. Satisfaction, turnover, intent to leave

PATIENT OUTCOMES
- e.g. Falls, infections, pressure ulcers, readmissions etc.

MISSED NURSING CARE STAFF OUTCOMES
- e.g. Satisfaction, turnover, intent to leave

What nursing care is being missed?
Missed Care: A Qualitative Study

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

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

Missed Care and Reasons: 3 Hospital Study

- 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

**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?

**Variations of Missed Care and Reasons across 11 Hospitals**

**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 5yrs): 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

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

5 Most Often Missed Nursing Care

- Ambulation: 76%
- Interdisciplinary rounds: 66%
- Mouth care: 64%
- Medications administered on time: 60%
- Feeding patient when the food is still warm: 57%
Most Least Missed Nursing Care

- Patient assessment
- Glucose monitoring
- Discharge plan
- Vital sign
- Focused reassessment


- 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 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 (36.8%)
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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Nurse Perception</th>
<th>Patient Perception</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Teaching</td>
<td>2.17</td>
<td>2.17</td>
</tr>
<tr>
<td>FBS/MDA</td>
<td>2.09</td>
<td>2.09</td>
</tr>
<tr>
<td>Cell Light Response</td>
<td>1.91</td>
<td>1.91</td>
</tr>
<tr>
<td>IV Check</td>
<td>1.35</td>
<td>1.35</td>
</tr>
<tr>
<td>Patient Mouth Care</td>
<td>1.88</td>
<td>1.88</td>
</tr>
<tr>
<td>Patient Bathing/ADL Support</td>
<td>2.53</td>
<td>2.53</td>
</tr>
<tr>
<td>Patient Education</td>
<td>1.55</td>
<td>1.55</td>
</tr>
<tr>
<td>Patient Emotional Support</td>
<td>1.44</td>
<td>1.44</td>
</tr>
<tr>
<td>Patient Bathing/Skin Care</td>
<td>1.82</td>
<td>1.82</td>
</tr>
<tr>
<td>IV Check</td>
<td>1.54</td>
<td>1.54</td>
</tr>
<tr>
<td>PRN Medication Response</td>
<td>2.19</td>
<td>2.19</td>
</tr>
<tr>
<td>Patient Toileting Assistance</td>
<td>1.80</td>
<td>1.80</td>
</tr>
<tr>
<td>Patient Emotional Support</td>
<td>1.71</td>
<td>1.71</td>
</tr>
</tbody>
</table>

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

### Does missed care vary across hospitals?
5 MOST OFTEN MISSED

Variation

• The solid bars represent the means across all hospitals, and the range-lines indicate the standard deviations.
How are staff characteristics associated with missed nursing care?

- Gender and education: No difference
- Age: Under 35 reported less missed care than those over 35
- 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

What are the reasons for missed nursing care?

Overall Reasons for Missed Care

- Labor issues: 40.1%
- Material issues: 24.5%
- Communication/ teamwork: 35.4%
Reasons For Missed Care

<table>
<thead>
<tr>
<th>LABOR RESOURCES - OVERALL</th>
<th>92.8</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>


- 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 ($R^2 = 0.294$).

Reasons for Missed Care (continued)

<table>
<thead>
<tr>
<th>MATERIAL RESOURCES – OVERALL</th>
<th>89.6</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>81.8</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>


- Qualitative study
  - 5 units with the most missed care
  - 5 units with the least missed care
- Key primary difference was 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.
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>94%</td>
<td>95%</td>
<td></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>78%</td>
<td>84%</td>
<td>83%</td>
<td>82%</td>
</tr>
</tbody>
</table>

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 impact staff outcomes?


The more missed nursing care, the higher the dissatisfaction with their current position ($p < 0.001$) and with their occupation ($\text{OR} = 0.57$, 95% CI = 0.41 – 0.80).

- Males less satisfied ($\text{OR} = 0.69$, 95% CI = 0.53 - 0.90)
- NAs less satisfied than RNs ($\text{OR} = 0.28$, 95% CI = 0.20 - 0.40).
- ADN nurses more satisfied than BSN nurses ($\text{OR} = 1.12$, 95% CI = 0.12 – 0.90).


Units with higher missed care ($\beta = 0.302$, $p < 0.0001$) and greater absenteeism ($\beta = 0.247$, $p = 0.034$) had more plans to leave.

- However, units with nursing staff who worked overtime ($\beta = 0.283$, $p = 0.001$) and were older than 35 years ($\beta = -0.270$, $p = 0.050$) 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 job satisfaction &/or occupation satisfaction?

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?

Equation 1
\[ R^2 = 9.6\% \]
\[ \beta = -0.31 \] (p < .001)

Equation 2
\[ R^2 = 13.0\% \]
\[ \beta = -0.36 \] (p < .001)

Equation 3
\[ R^2 = 8.7\% \]
\[ \beta = -0.20 \] (p = .030)

Equation 4
\[ R^2 = 7.8\% \]
\[ \beta = -0.29 \] (p = .001)
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
  - Venous stasis
  - Pressure ulcers
  - Increased LOS
  - Muscle wasting and discomfort
  - Physical disability

- **Failure to do mouth care**
  - Reluctance to eat
  - Pressure ulcers
  - Infections
  - Ventilated patients

- **Failure to turn**
  - Pressure ulcers
  - Pneumonia
  - Venous stasis
  - Thrombosis
  - Atelectasis
  - Bone demineralization
  - Amelioration

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

- **Failure to teach**
  - Adverse events
  - Readmission

- **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**
  - Higher nursing home use
  - Infections
  - Increased LOS
  - Higher costs

- **Failure to provide emotional support**
  - Feelings of not being safe
  - Lack of hope
  - 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

How does missed nursing care vary across countries?
How does missed nursing care in the USA compare with other countries?

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...

- 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

In summary...

- Higher staffing and teamwork results in less missed nursing care
- More missed care and lower teamwork leads to less satisfaction and more intent to leave

STRATEGIES TO REDUCE MISSED NURSING CARE
Strategies

- Staffing
- Culture and leadership
- Teamwork
- Patient engagement
- Technology
- Systems approach
- Measurement
- Unit design

The End

QUESTIONS?