Missed Nursing Care: Errors of Omission

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Presentation Outline

- Previous Studies
- Conceptual Framework
- Study Questions
- Study Methods
- Findings
  - *Missed nursing care: 11 hospitals*
  - *Missed nursing care and staffing levels*
  - *Missed nursing care and satisfaction*
  - *Missed nursing care and intent to leave and turnover*
  - *Missed nursing care and teamwork*
  - *Missed nursing care and patient falls*
- Implications

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What we DON'T know
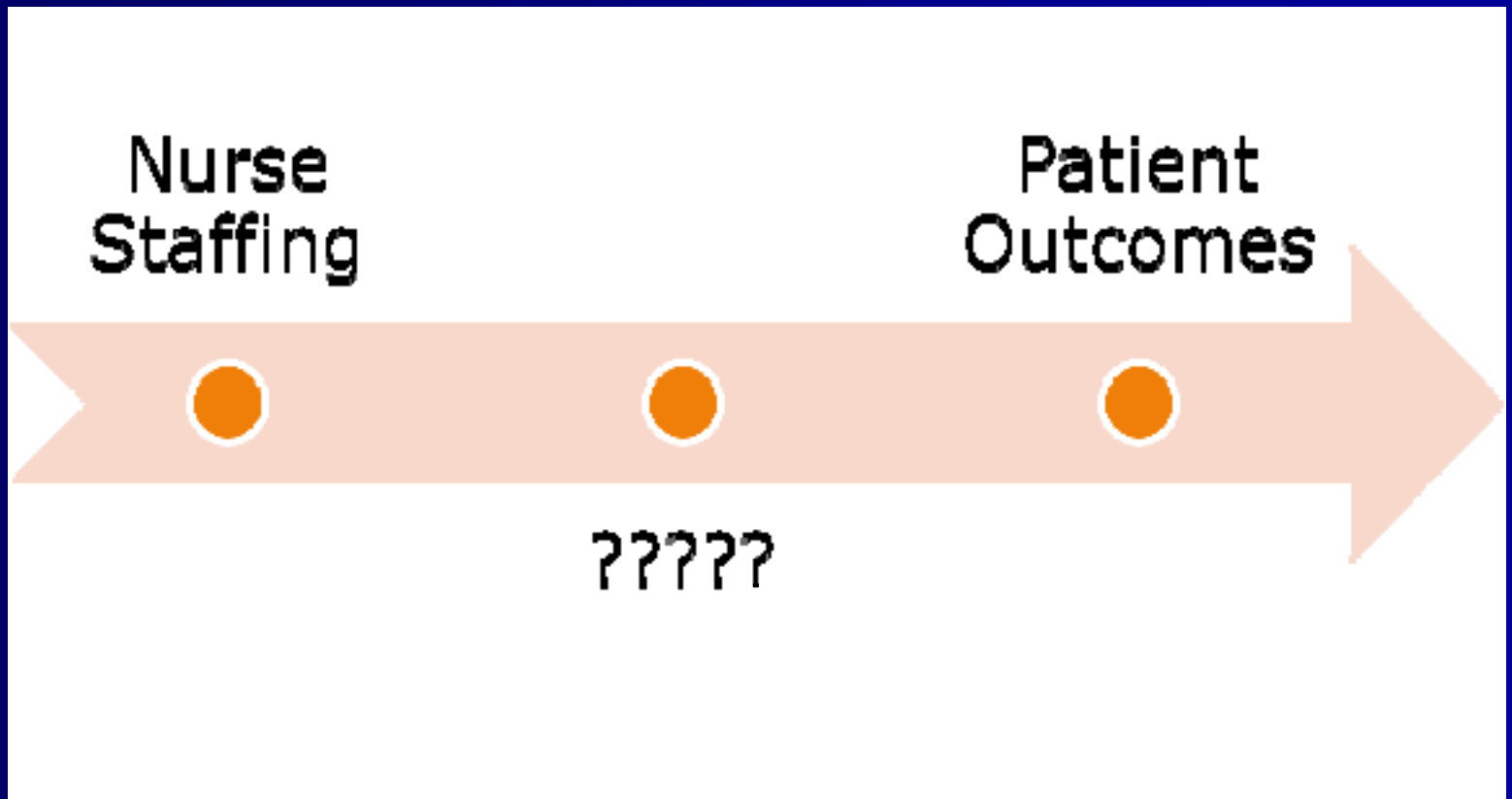
MISSED NURSING CARE

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

ERRORS OF OMISSION

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PREVIOUS STUDIES

STUDY 1

Missed Care:
A Qualitative Study

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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

7 themes for reasons for missed care
- Too few staff
- Time required for a nursing intervention
- Poor use of existing staff resources
- "It's not my job syndrome"
- Ineffective delegation
- Habit
- Denial

STUDY 2

A Concept Analysis

B. Kalisch, G. Landstrom, & A. Hinshaw, (2009) "Missed Nursing Care: A Concept Analysis," *Journal of Advanced Nursing,* 65(7), 1509-1517.

STUDY 3

MISSCARE Survey Development & Psychometric Testing

STUDY 4

Missed Care and Reasons: 3 hospital study

Kalisch B, G. Landstrom & R. Williams, (2009) . Missed Nursing Care: Errors of Omission, *Nursing Outlook*, 57(1), 3-9.

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Missed Care and Reasons: 3 hospital study

- **Research questions**
  - What and how much nursing care is missed?
  - What are the reasons for missing care?
- **Methods**
  - 3 hospitals (459 RNs), 35 patient units
  - MISSCARE Survey, response rate 57%
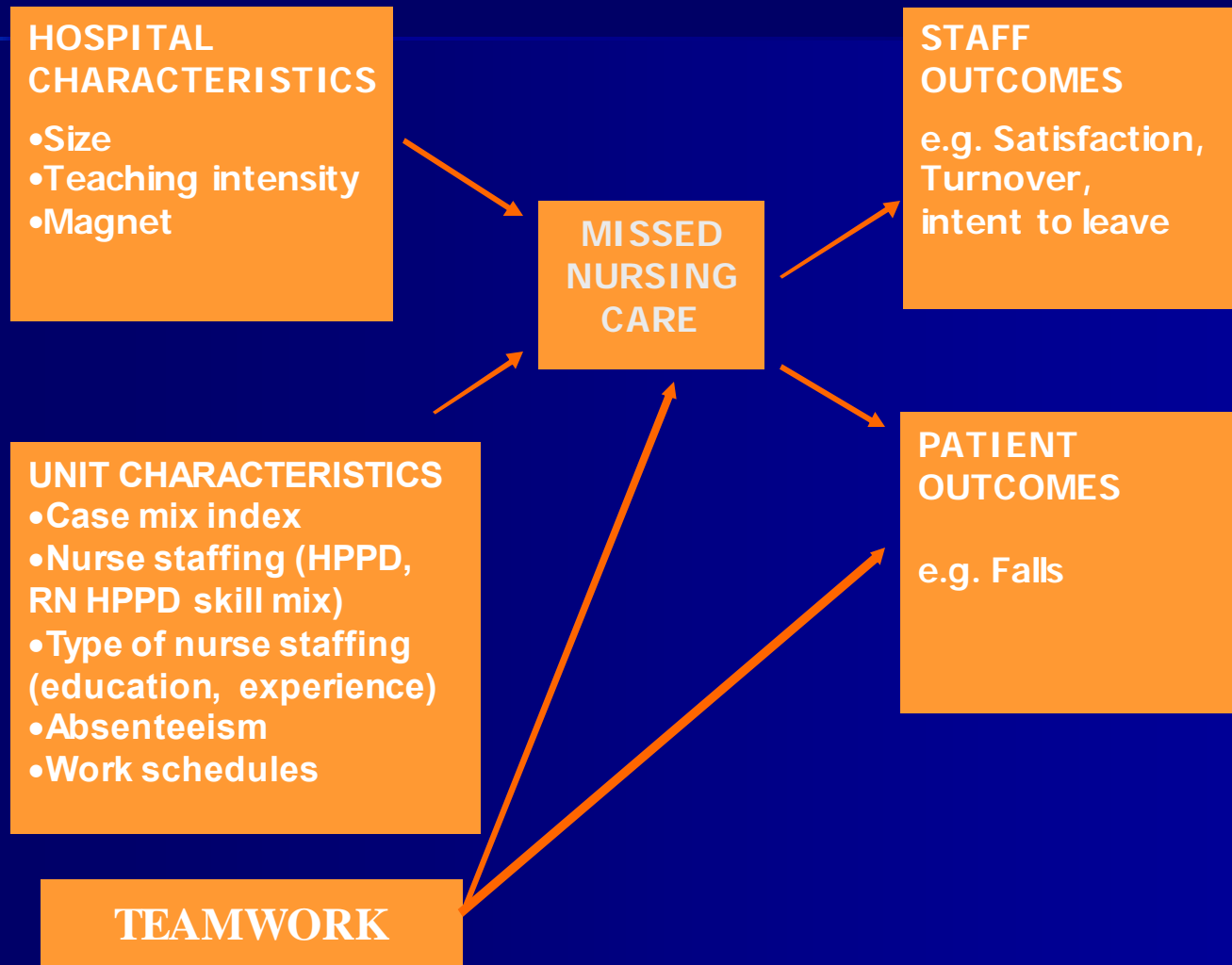- **Findings**
  - Significant amount of missed care
  - Consistency across the 3 hospital sample in amount and specific elements of care as well as reasons

MISSED NURSING CARE: 11 HOSPITAL STUDY

CONCEPTUAL FRAMEWORK

THE MISSED NURSING CARE MODEL

RESEARCH QUESTIONS

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?
- Do nurse **staffing levels** predict missed care?

Research Questions (continued)

- Does missed nursing care predict **job satisfaction**?
- Does missed nursing care predict **intent to leave and/or turnover**?
- Does **teamwork** predict missed nursing care?
- Does missed nursing care mediate the relationship between staffing levels and **patient falls**?

STUDY METHODS

Study Sample

- Nursing staff on 124 adult patient care units (medical-surgical, rehabilitation, intermediate and intensive care units) in 11 hospitals.

- 4,412 nursing staff (3,349 RNs, 83 LPNs and 980 NAs)

- Return rate 57.3% (61.7% for RNs & LPNs, 53.4% for NAs)

Study Sample (continued)

	Hosp 1	Hosp 2	Hosp 3	Hosp 4	Hosp 5	Hosp 6	Hosp 7	Hosp 8	Hosp 9	Hosp 10	Hosp 11
Bed size	347	60	760	317	304	411	880	433	479	913	330
Units in study	5	2	15	11	6	8	22	9	14	18	14

Total number of patient care units= 124

Study Sample (continued)

- Predominantly female (90.0%)
- Over 35 years of age (53.5%)
- Working full time (81.0%)
- RNs baccalaureate degree (53.9%)
- RNs more than 10 years of experience (35.1%)

Measures

- *The MISSCARE Survey*

- *Nursing Teamwork Survey (NTS)*
  - Kalisch, B., Lee, H., & Salas, E. (2010). The development and testing of the nursing teamwork survey. *Nursing Research*, 59(1): 42-50.

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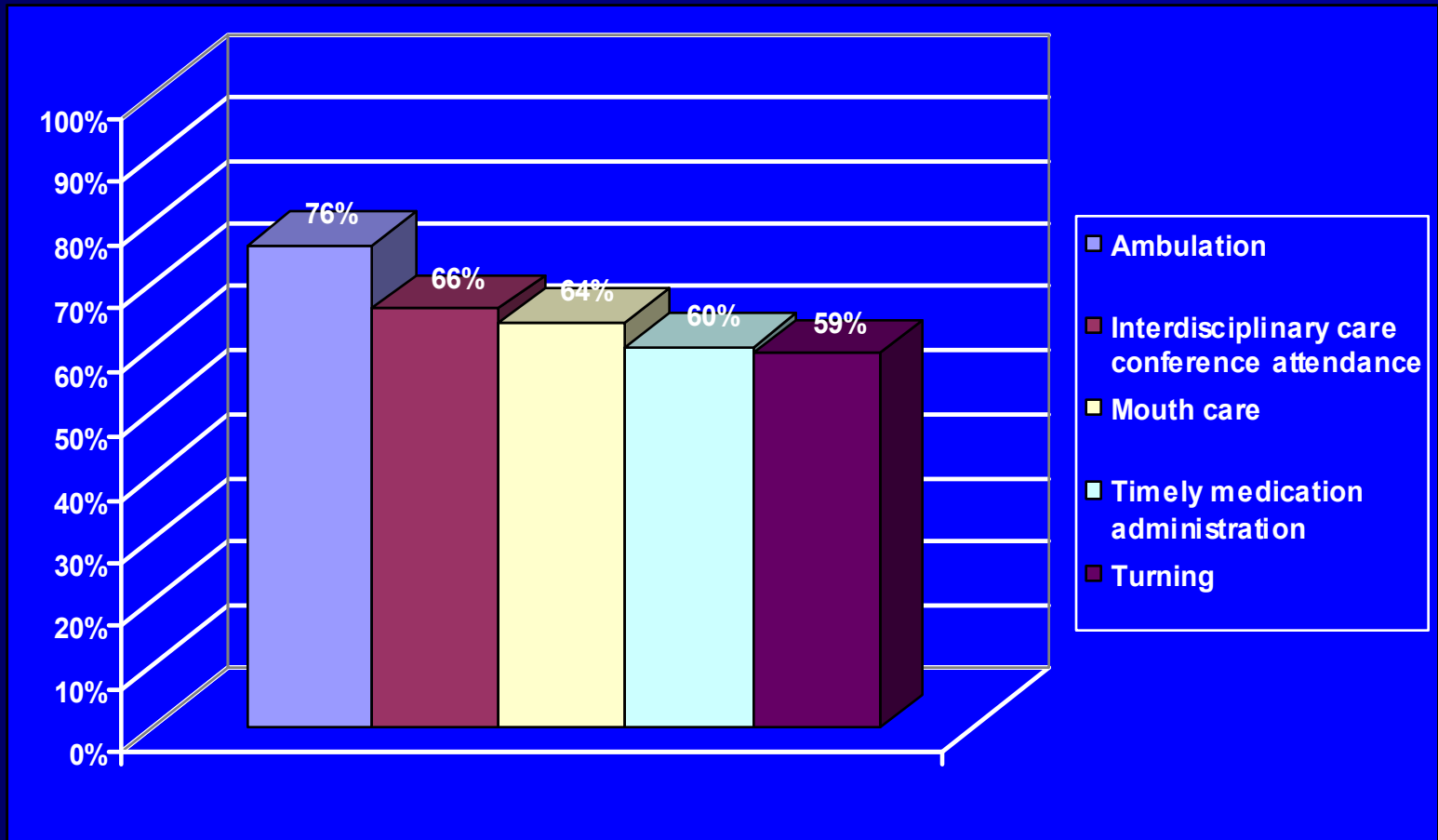 - Unit Case Mix Index (CMI)
  - Average daily census

STUDY FINDINGS

Research Question 1

To what extent is nursing care missed?
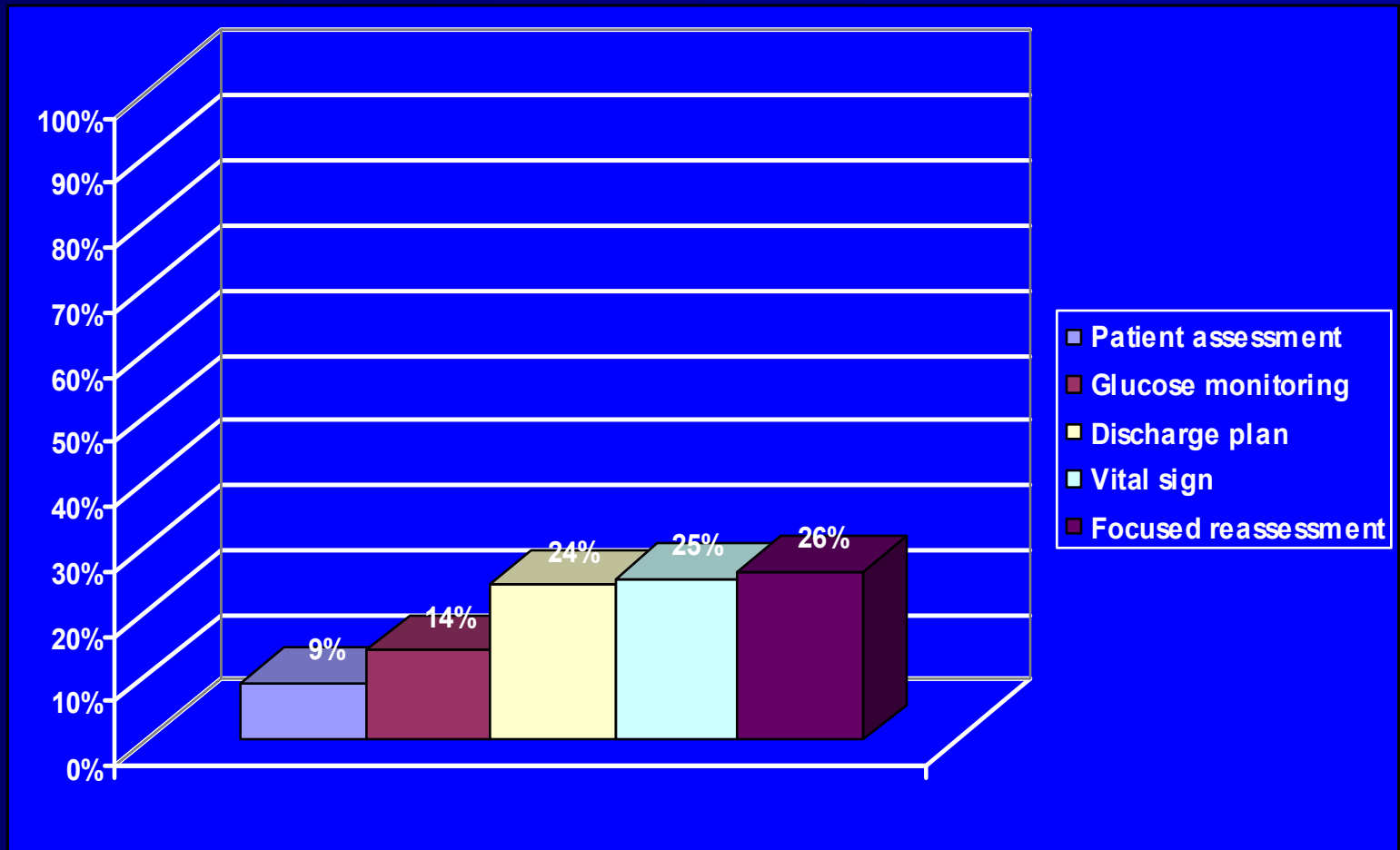
5 Most Often Missed Nursing Care

Legend:
- Ambulation
- Interdisciplinary care conference attendance
- Mouth care
- Timely medication administration
- Turning

Values: 76%, 66%, 64%, 60%, 59%

5 Most Least Missed Nursing Care

Extent of missed nursing care

Elements of Nursing Care	
Ambulation three times per day or as ordered	**76%**
Attend interdisciplinary care conference whenever held	**66%**
Mouth care	**64%**
Medications administered within 30 minutes before or after scheduled time	**60%**
Turning patient every 2 hours	**59%**
Feeding patient when the food is still warm	57%
Patient teaching about procedures, tests and other diagnostic studies	55%
Full documentation of all necessary data	54%

Extent of missed nursing care
(continued)

Elements of Nursing Care	%
Response to call light is initiated within 5 minutes	50%
Monitoring intake/output	49%
Assess effectiveness of medications	49%
Assist with toileting needs within 5 minutes of request	49%
Patient bathing/skin care	45%
PRN medication requests acted on within 15 minutes	43%
Emotional support to patient and/or family	42%
Setting up meals for patients who feed themselves	35%

Extent of missed nursing care
(continued)

| Elements of Nursing Care	%
IV/central line site care and assessments according to hospital policy	34%
Skin/wound care	32%
Hand washing	27%
Focused reassessments according to patient condition	26%
Vital signs assessed as ordered	25%
Teach patient about plans for their care after discharge and when to call after discharge	24%
Bedside glucose monitoring as ordered	14%
Patient assessments performed each shift	9%

Staff Characteristics by Missed Nursing Care

- Gender: No difference
- Age: **Under 35** reported less missed care than those over 36
- Education: No difference
- Experience: **less than 6 months** reported the least amount of missed care
- Work schedules:
  - **Night shifts** reported less missed
  - **Less than 12 hour shift** reported less missed care
- Absenteeism: Staff **missing more shifts**, reported more missed care

Research Question 2

Does missed care vary across hospitals?

Kalisch, B., Tschannen, D., Lee, H., & Friese, C. (in press). Hospital variation in missed nursing care. *American Journal of Medical Quality*.

Elements of Care Most- and Least- Frequently Missed
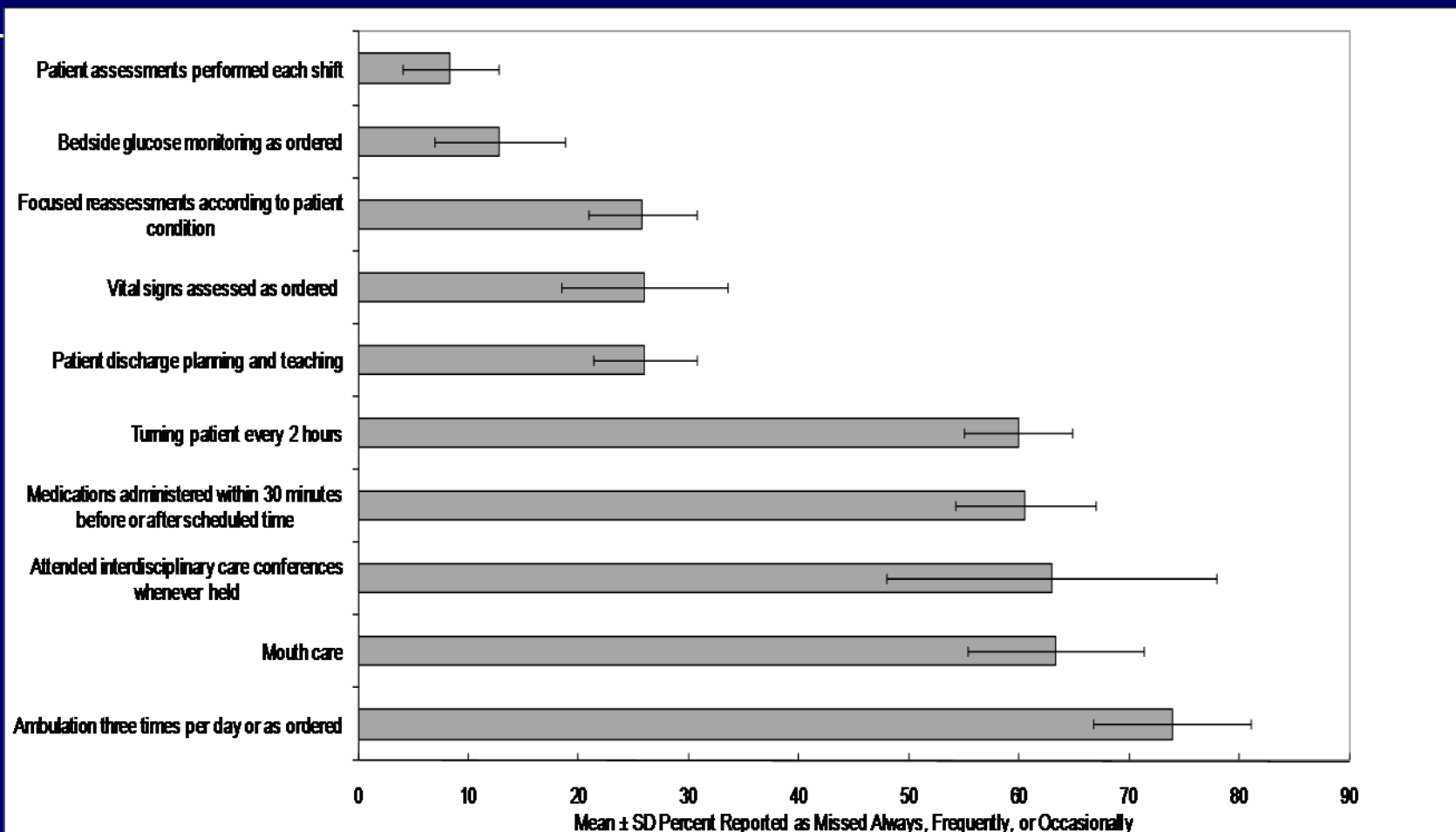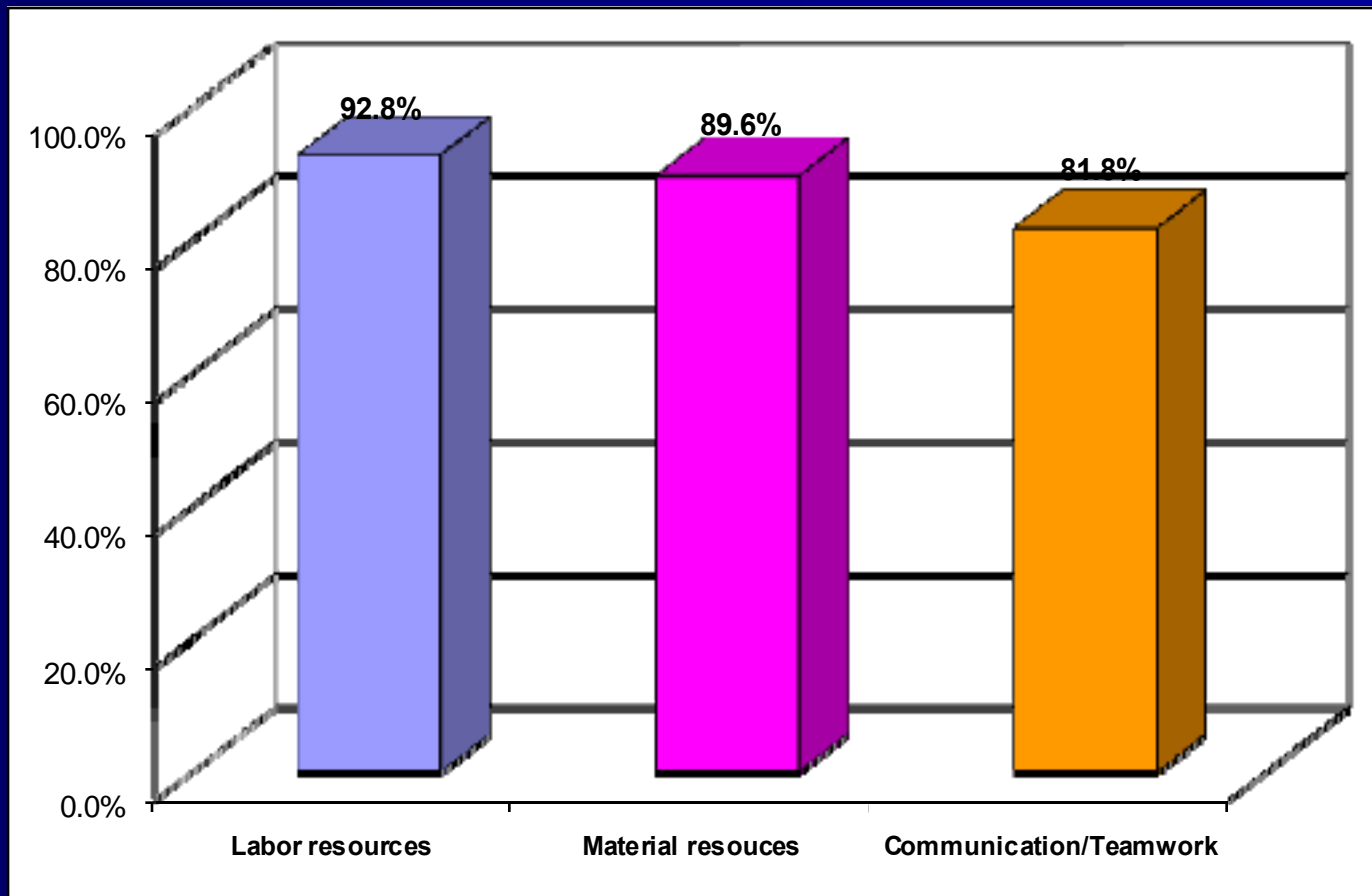

- The solid bars represent the means across all hospitals, and the range-lines indicate the standard deviations

Research Question 3:

What are the reasons for missed nursing care?

Overall Reasons for Missed Care

Reasons For Missed Care

Labor resources - Overall	92.8
(Level of staffing) Inadequate number of staff	91
Urgent patient situations (e.g. a patient's condition worsening)	92
Unexpected rise in patient volume and/or acuity on the unit	95
Inadequate number of assistive personnel (e.g. nursing assistants, techs, unit secretaries etc.)	94
Heavy admission and discharge activity	93

Reasons For Missed Care
(continued)

Material resources – Overall	89.6
Medications were not available when needed	95
Supplies/equipment not available when needed	90
Supplies/equipment not functioning properly when needed	84

Reasons For Missed Care
(continued)

Communication – Overall	81.8
(The method of making patient assignments) Unbalanced patient assignments	91
Inadequate hand-off from previous shift or sending unit	88
Other departments did not provide the care needed (e.g. physical therapy did not ambulate)	85
Lack of back up support from team members	80
Tension or communication breakdowns with other ancillary/support departments	80
Tension or communication breakdowns within the nursing team	76
Tension or communication breakdowns with the medical staff	82
Nursing assistant did not communicate that care was not done	85
Caregiver off unit or unavailable	70

Research Question 4

How do reasons for missed care vary across hospitals?

Reasons for Missed Care across 11 Hospitals

	1	2	3	4	5	6	7	8	9	10	11
Labor Resources (Total: 93%)	92%	96%	87%	92%	92%	94%	96%	94%	96%	94%	95%
Material Resources (Total: 90%)	84%	91%	88%	86%	88%	90%	91%	94%	93%	89%	92%
Communication (Total: 82%)	79%	75%	80%	79%	80%	83%	84%	78%	84%	83%	82%

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Research Question 5

Do nurse staffing levels predict missed care?

Kalisch B., Tschannen D., & Lee K. (under review). Does nurse staffing predict missed nursing care? *International Journal of Quality in Healthcare.*

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Actual Nurse Staffing and Missed Care

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

Actual Nurse Staffing and Missed Care (continued)

- **Multivariate analysis**
  - The overall model accounted for 29.4% of the variation in missed nursing care (p<.001).
  - **The higher the HPPD, the lower the level of missed nursing care** ($\beta = -.45$, $p = .002$).
  - Other variables in the model were not significant predictors of the dependent variable, missed nursing care.

Research Question 6

Does missed nursing care predict job satisfaction and occupation satisfaction?

Kalisch, B., Tschannen, D., & Lee, H., (in press). Does missed nursing care predict job satisfaction? *Journal of Healthcare Management*.

Missed nursing care and job satisfaction (continued)

- Satisfaction with current position
  - 4 independent variables were significantly related
    - Missed nursing care (r=-.32, p<.01)
    - Age (r=-.32, p<.05)
    - Perceptions of staffing adequacy (r=.33, p<.01)
    - Type of unit (F=15.462, p<.003)

Missed nursing care and job satisfaction (continued)

Predictors of Satisfaction with Current Position ($n = 4074$)

Independent Variables	Coefficient	Robust Std. Err.	P
Missed Care Overall mean	-0.483	0.061	**0.000**
Age			0.111
Staff Adequacy	0.326	0.194	**0.000**
Type of unit			**0.003**
Medical-Surgical (R)			
Intermediate	0.045	0.039	0.253
Intensive Care	0.099	0.042	0.021
Rehabilitation	-0.121	0.054	0.026
Hospital			**0.000**

Note: $R^2 = 0.224$, $F(18, 109) = 55.22$, $p < 0.001$. (R) is the reference variable.

Missed nursing care and job satisfaction (continued)

- The overall model accounted for 22.4% of the variation ($F[18, 109] = 55.22$, $p < 0.001$).
- 3 independent variables were significant predictors of satisfaction with current position
  - **The more missed nursing care, the higher the dissatisfaction level with their current position** ($p < 0.001$).
  - The more staff felt **staffing was inadequate, the higher the missed nursing care** ($p < 0.001$).
  - **The type of unit**:
    - ICUs: higher levels of satisfaction ($p < 0.05$)
    - Rehabilitation units: lowest levels of satisfaction ($p < 0.05$).

Missed nursing care and occupation satisfaction (continued)

- Satisfaction with occupation
  - Based on preliminary analysis, this model included 5 independent variables
    - Missed nursing care ($r=-.16$, $p<.01$)
    - Gender ($t=3.36$, $p<.01$)
    - Job title ($t=8.57$, $p<.01$)
    - Education ($F=5.42$, $p<.01$)
    - Perceptions of staffing adequacy ($r=.20$, $p<.01$)

Missed nursing care and occupation satisfaction (continued)

- The overall model accounted for 6.47% of the variation, based on the pseudo R^2 ($X^2[16] = 252.71$, $p < 0.001$).

- Staff who reported **less missed care** were **more satisfied** with occupation (OR = 0.57, 95% CI = 0.41 – 0.80).

- **When staffing perceived to be inadequate,** the higher the level of occupation dissatisfaction (OR = 1.49, 95% CI = 1.35 - 1.64).

- Males less satisfied (OR = 0.69, 95% CI = 0.53 - 0.90)

- NAs less satisfied than RNs (OR = 0.28, 95% CI = 0.20 - 0.40).

- ADN nurses more satisfied than BSN nurses (OR =1.12, 95% CI = 0.12 – 0.90).

Research Question 7

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

Tschannen, D., Kalisch, B., & Lee, K. (in press). Missed nursing care and nurse turnover and intent to leave *Canadian Journal of Nursing Research.*

Missed nursing care and turnover

- **Nurse turnover**
  - In bivariate analysis, 5 variables were significantly associated with turnover
    - Missed care (r=.23, $p<.05$)
    - Skill mix (r=.32, $p<.01$)
    - Gender (Female) (r=-.20, $p<.05$)
    - Absenteeism (r=.35, $p<.01$)
    - Intent to leave (r=.30, $p<.01$)

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Missed nursing care and turnover
(continued)

- Model accounted for 46.5% of the variation in nurse turnover $(p<.0001)$.

- A greater percentage of females on the unit associated with lower turnover rates $(\beta=-.235, p=.010)$.

- Missed care not significant

Missed nursing care and intent to leave

- **Intent to leave**
  - 8 variables significantly related to intent to leave in bivariate analysis
    - Missed care (r=.40, $p<.01$)
    - CMI (r=.22, $p<.05$)
    - Skill mix (r=.34, $p<.01$)
    - Education (BSN or higher) (r=.23, $p<.01$)
    - Age (above 35 years) (r=-.33, $p<.01$)
    - Experience (greater than 5 years) (r=-.35, $p<.01$)
    - Overtime (r=-.31, $p<.01$)
    - Absenteeism (r=.40, $p<.01$)

Missed nursing care and intent to leave (continued)

Predictors of Intent to leave

Variable	B	SE B	β	t	p
Missed care	.181	.048	.302	3.758	**.000**
CMI	.007	.009	.072	.784	.435
Skill mix	.043	.129	.055	.332	.741
Education (above BSN)	.050	.075	.069	.662	.510
Age (above 35 years)	-.175	.088	-.270	-1.985	**.050**
Experience (more than 5yrs)	.000	.078	-.001	-.009	.993
Overtime	-.215	.062	-.283	-3.479	**.001**
Absenteeism	.168	.078	.247	2.154	**.034**
R^2			$R^2 = .584$		
$F(p)$			7.284 (.000)		

Missed nursing care and intent to leave (continued)

- Model accounted for 58.4% of the variation in intent to leave $(p<.0001)$.

- Units with higher missed care $(\beta = .302, p< .0001)$ and greater absenteeism rates $(\beta = .247, p= .034)$ had more staff with plans to leave.

- However, units with nursing staff who worked overtime $(\beta =-.283, p= .001)$ and were older than 35 years $(\beta =-.270, p= .050)$ were less likely to have staff intending to leave their position.

Research Question 8

Does teamwork predict missed nursing care?

Kalisch, B. & Lee, K. (2010). The impact of the level of nursing teamwork on the amount of missed nursing care. *Nursing Outlook. 58*(5), 233-241.
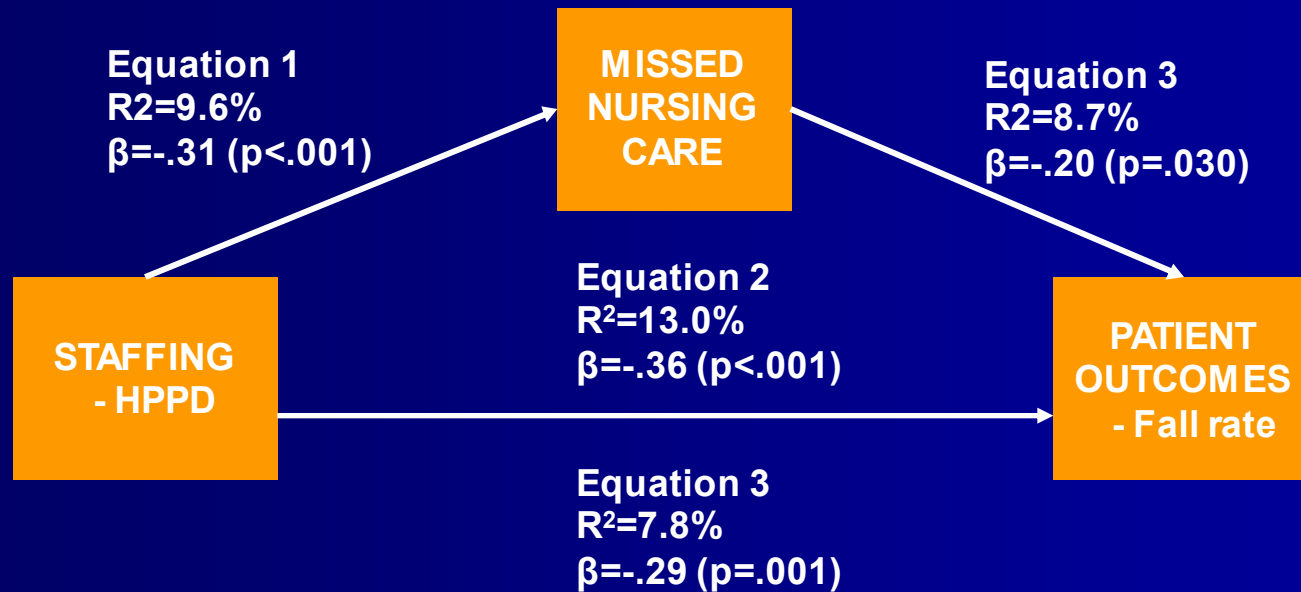
Teamwork and missed care

- A sample of 2 216 nursing staff members on 50 acute care patient care units in 4 hospitals completed the *Nursing Teamwork Survey* and the *MISSCARE Survey* (response rate was 59.7%).

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

Research Question 9

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

Missed Nursing Care and Patient Falls (continued)

Equation 1
R2=9.6%
β=-.31 (p<.001)

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Equation 3
R2=8.7%
β=-.20 (p=.030)

Equation 2
R^2=13.0%
β=-.36 (p<.001)

STAFFING - HPPD

PATIENT OUTCOMES - Fall rate

Equation 3
R^2=7.8%
β=-.29 (p=.001)

In summary…

- An extensive amount of nursing care is missed

- The reasons for missed care are inadequate labor and material resources and communication/teamwork

- Both amount and type of missed nursing care and reasons are similar across hospitals

In summary…

- The higher the staffing levels, the less the missed nursing care

- More missed care leads to less satisfaction and less intent to leave

- Higher teamwork results in less missed nursing care

- Missed nursing care mediates the relationship between staffing levels and patient falls

DISCUSSION

Discussion

- The amount of missed nursing care represents errors of omission; standard ; nursing care not being completed
- Leads to negative patient outcomes
  - Failure to do mouth care
    - Leads to a reluctance to eat that in turn impacts risk of pressure ulcer development and/or pneumonia, particularly in ventilated patients.
  - Failure to ambulate linked to:
    - New onset delirium
    - Pneumonia
    - Delayed wound healing
    - Pressure ulcers
    - increased length of stay and delayed discharge
    - increased pain and discomfort
    - muscle wasting and fatigue
    - Physical disability

Discussion (continued)

- The least missed elements of care
  - Obvious to others when missed
  - Routinely audited by nursing units
- The most frequently missed elements of care
  - Not routinely documented: i.e. ambulation of patients; less opportunity for others to notice
  - Ambulation and turning are often time-consuming; may require assistance from other providers
  - Possibly but not likely perceived as unimportant by nursing staff, despite their strong correlation with patient outcomes.

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Discussion (continued)

- **Consistent across hospitals**
  - Tells us that it is probably a system issue
- **Reasons** also similar across hospitals
  - Same organization and culture issues exist which must be difficult to resolve
- **Staffing** -- research that links nurse staffing to patient morbidity and mortality
  - Higher rates of missed care reported by day shift workers -- an imbalance in responsibilities?

Discussion (continued)

- Job and occupation satisfaction and intent to leave

  - Relational job theory: People more motivated when they witness a positive impact of their actions on their beneficiaries (Grant, 2007).

  - Nurses have direct (and many times immediate) knowledge (They cannot avoid it except by denial)

  - People in service work often describe their work as protecting the welfare of others

Discussion (continued)

- Some researchers refer to these individuals as "benevolent employees" who are 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.

- Higher absenteeism report more missed care
  - Avoiding the unit because unhappy?
  - Or miss care because disengaged

IMPLICATIONS

IMPLICATIONS

- Acknowledgement The first step is to admit we have a problem.

- Measurement *"You can't use information you don't have."*

- Determine impact of missed care on patient outcomes

IMPLICATIONS (continued)

- Exposure of the issue
  - The patient safety movement has benefited from
    - open disclosure of systemic problems in care,
    - media pressure, and
    - expert panels of clinician groups
- Need open dialogue supported by management in non punitive environment
- Develop a culture of mindfulness in nursing
- Ensure adequate staffing
  - Deal effectively with flows in patient acuity and volume

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IMPLICATIONS (continued)

- Develop interventions to decrease missed care and increase teamwork

The End

QUESTIONS?