Current State of Fatigue Monitoring and Risk Management in Hospital Nurses

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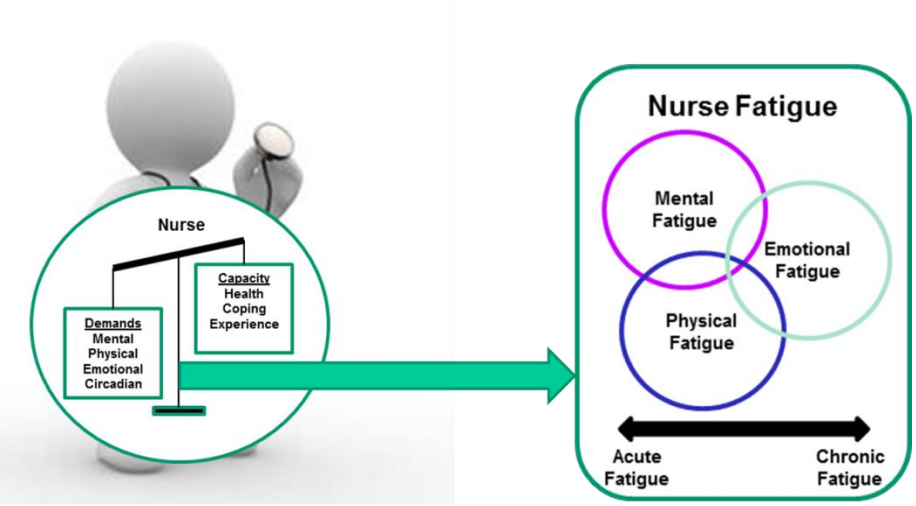
Occupational Fatigue in Nurses



- Complex ***multidimensional state*** (ranging from acute to chronic) that arises when nurses are exposed to ***excessive demands*** and stressors in their work with ***insufficient recovery*** or restoration. Fatigue interferes with nurses' ability to function at normal capacity.
- Related to, but distinct from, burnout and sleepiness constructs.

Occupational Fatigue In Nurses - Risks

My ANA | Staff Nurses | Advanced Practice Nurses | Nurse Managers | Nursing Research | Student Nurses

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About ANA

Nurse Fatigue

SHARE

Fatigue Is a Costly Condition

Nursing can be a physically and emotionally draining profession. Nurses work long hours with all types of patients. And as much as we think we are invincible, the fact is, we need rest to give our patients the highest quality care possible.

There is a strong link between fatigue and accidents, mistakes, and errors. When we are fatigued, our decision-making skills decline, our reaction times lengthen, and our ability to problem solve is impaired. Specific to nursing, strong evidence links prolonged work hours, rotating shifts, and insufficient breaks to:

- Slowed reaction time
- Lapses of attention to detail
- Errors of omission
- Compromised problem solving
- Reduced motivation
- Decreased energy

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Lawsuit: Ohio nurse was 'worked to death'

By **Dominique Debucquoy-Dodley**, CNN

updated 12:49 PM EST, Wed November 13, 2013

The Joint Commission
Sentinel Event Alert

A complimentary publication of The Joint Commission — **Issue 48, December 14, 2011**

Health care worker fatigue and patient safety

The link between health care worker fatigue and adverse events is well documented, with a substantial number of studies indicating that the practice of extended work hours contributes to high levels of worker fatigue and reduced

High Employment Demand For Nurses

RN SHORTAGE

BY 2022

20.2%	3.44M	1.13M
EMPLOYMENT NEEDS	NURSING JOBS	ADDITIONAL NURSES
Nurse employment needs will increase by 20.2%.	Number of nurse jobs will grow from 2.86 to 3.44 million jobs.	1.13 million additional nurses will be needed.

SOURCE: http://www.nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNursing/workforce/Fast-Facts-2014-Nursing-Workforce.pdf

Published by STRATEGIC PROGRAMS, INC.

MEDICAL ERROR

would be the 3rd leading killer in the U.S. per year

599,000	HEART DISEASE
568,000	CANCER
187,000	MEDICAL ERROR
137,000	CHRONIC LOWER RESPIRATORY DISEASE
129,000	STROKE
118,000	ACCIDENTS

ESCAPEFIREMOVIE.COM source: cdc.gov; Health Affairs

Invest In Your Investment NURSES

The Obstacle
Nurses are turning over at staggering rates

1.6M

16.4%

268k nurses leave annually

10-15% of average hospitals are staffed by new graduates

17% Of New Nurses Leave in the 1st Year

31% Of New Nurses Leave after the 2nd Year

SCHOOL OF NURSING
University of Wisconsin-Madison

Occupational Fatigue In Nurses

- Nurse fatigue recognized as an important challenge to achieving *safety* and *quality* in healthcare systems
  - American Nurses Association, Registered Nurses Association of Ontario, The Joint Commission, World Health Organization, Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine
- Increasing emphasis on design, development, and implementation of fatigue monitoring and risk management systems in nursing

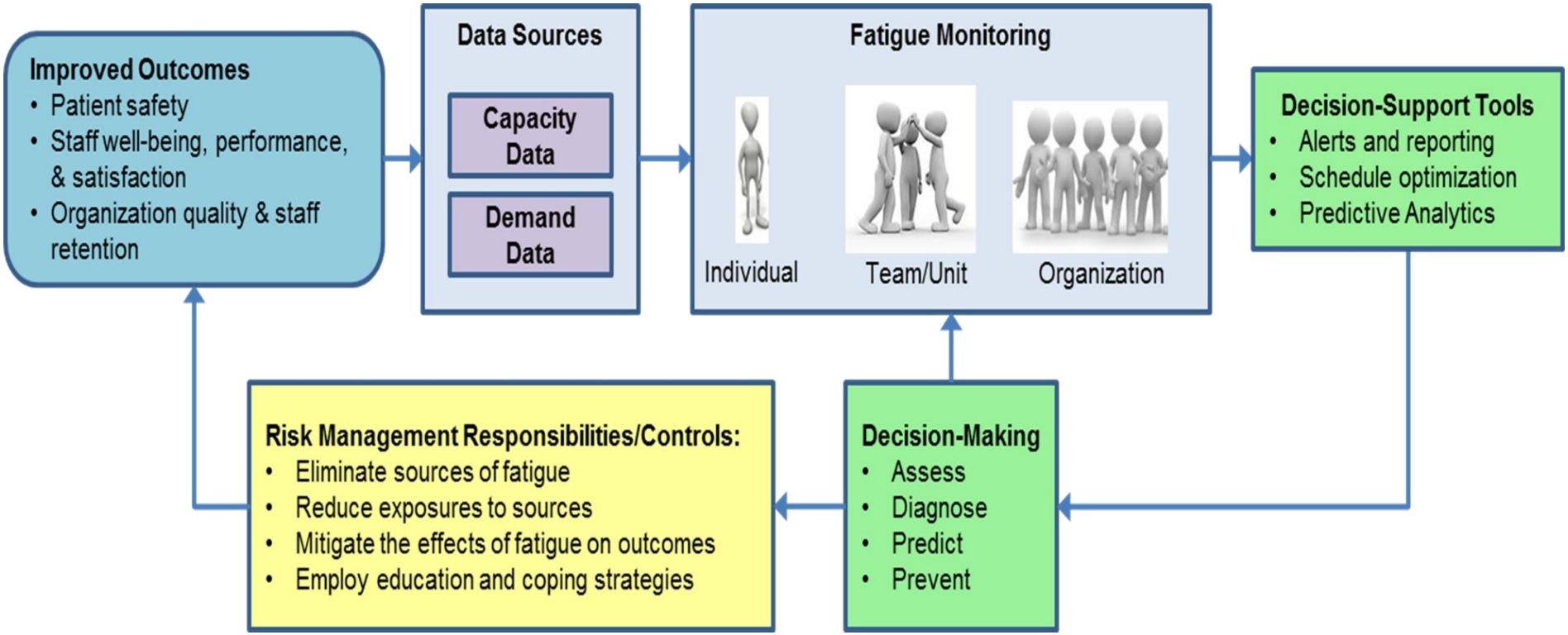
Aims

- To describe the current state of fatigue risk management systems (FRMS) to address nurse fatigue in hospitals
  - Describe nurse perceptions of the importance of addressing fatigue
  - Describe current fatigue monitoring strategies in practice
  - Describe current state of adoption of evidence-based policies for addressing fatigue
  - Describe current state of preparedness, defined by presence of antecedents for change, of hospitals to adopt fatigue risk management systems

Approach

- Guided by Multi-Level Fatigue Risk Management Model for Nursing
- Sequential exploratory mixed-method design
  - Three phases of semi-structured interviews
    - Transcribed word-for-word
    - Directed content analysis
  - Survey study
    - Descriptive statistics

Conceptual Framework
Multi- Level Fatigue Risk Management Model



Steege, L., & Pinekenstein, B. (2016). Addressing Occupational Fatigue in Nurses: A Risk Management Model for Nurse Executives. *Journal of Nursing Administration, 46*(4), 193-200.

Interview Studies

- Phase 1:
  - 22 Registered Nurses (RNs) (< 2 years or > 5 years of experience) from medical-surgical or intensive care units from a single hospital[6, 7]
  - Participants' experiences with fatigue, prevalence, sources, coping, consequences
- Phase 2:
  - 10 float RNs from a single hospital
  - Participants' experiences with fatigue, prevalence, sources, coping, consequences
- Phase 3:
  - 10 nurse managers (for medical-surgical or intensive care units) from two hospitals[8]
  - 11 nurse executives from hospitals across Wisconsin [8]
  - Experiences with fatigue, prevalence, sources, coping, consequences
  - Fatigue monitoring and management activities and barriers

[6] Steege, L., & Dykstra, J. (2016). A Macroergonomic Perspective on Fatigue and Coping in the Hospital Nurse Work System. *Applied Ergonomics, 54*, 19-26.
[7] Steege, L.M., Rainbow, J.G., 2017. Fatigue in hospital nurses—'Supernurse'culture is a barrier to addressing problems: A qualitative interview study. International Journal of Nursing Studies 67, 20-28.
[8] Steege, L., Pinekenstein, B., Arsenault Knudsen, E., Rainbow, J., 2017. Nurse Leader Experiences with Fatigue: A Mixed Methods Study. Journal of Nursing Management

Survey Study

- 62-item online survey
  - 158 nurse executives, directors, or managers from 29 different states [9, 10]
  - Administered between January and May 2016
  - Items addressing:
    - Hospital and individual demographics
    - Nurse fatigue awareness
    - Fatigue monitoring and management
    - Fatigue-related hospital policies

[9] Steege, L., Pinekenstein, B., Rainbow, J., Arsenault Knudsen, E., In Press. Addressing Occupational Fatigue in Nurses: Current State of Fatigue Risk Management in Hospitals, Part 1 Journal of Nursing Administration.
[10] Steege, L., Pinekenstein, B., Rainbow, J., Arsenault Knudsen, E., In Press. Addressing Occupational Fatigue in Nurses: Current State of Fatigue Risk Management in Hospitals, Part 2. Journal of Nursing Administrati

Findings – Individual Nurses

- All nurses and nurse leaders interviewed experience fatigue at work and acknowledge general consequences (risks) of fatigue
- Staff nurses vary in perception of importance of addressing fatigue
  - "I really feel like it's part of the job" – experienced ICU nurse
  - "It is of high importance…when you're fatigued you don't function at the same level" – less experienced Med-Surg nurse
- Nursing professional culture values, beliefs, and behaviors may act as barriers to addressing fatigue

Supernurse

Theme	Description
Extraordinary powers used for good	• Nurses' perceived unique knowledge about their patient and complete responsibility to care for their patient, event at their own expense. • Nurses' personal obligation to sacrifice themselves for the good of their unit.
Cloak of invulnerability	• Nurses' desire to project an image of strength and invulnerability in alignment with professional values and to avoid judgment by peers.
No sidekick	• Nurse resistance to asking for help. • The importance of learning to cope (deal with fatigue) on your own.
Kryptonite	• Fatigue is perceived as a sign of weakness in nursing; there is a stigma with acknowledging fatigue in professional nursing culture.
Alter-ego	• Generational differences in perceptions of and acceptance of fatigue. Younger and less experienced nurses may not identify as a Supernurse and would like to embrace a regular human alter-ego.

Findings – Organization Level

- Only 27% of nurse leaders believe other hospital leaders are aware of nurse fatigue
- 75% disagree that addressing fatigue is a priority in their hospital
- 91% agree it is the role of organizational leadership to address fatigue
- Critical antecedents for organizational change to implement FRMS are lacking in hospitals

Current State of FRMS - Monitoring

Item	% (*n*)
Our organization regularly monitors nurse fatigue	
Strongly Disagree	22 (32)
Disagree	52 (77)
Neither Agree nor Disagree	19 (29)
Agree	7 (10)
Strongly Agree	0 (0)
My organization has adequate systems in place to monitor fatigue in *individual nurses*.	
Strongly Disagree	19 (28)
Disagree	52 (75)
Neither Agree nor Disagree	20 (29)
Agree	9 (13)
Strongly Agree	0 (0)
My organization is aware of the sources of fatigue that our *nurses* experience.	
Strongly Disagree	7 (11)
Disagree	26 (39)
Neither Agree nor Disagree	26 (38)
Agree	37 (55)
Strongly Agree	4 (6)
Our organization tracks the consequences of fatigue.	
Strongly Disagree	21 (31)
Disagree	49 (72)
Neither Agree nor Disagree	19 (29)
Agree	11 (16)
Strongly Agree	0 (0)

- Regular direct monitoring of nurses' fatigue levels is rare
  - "I think we should be aware of it [fatigue], I'm not convinced we can monitor it. We can't put them through a metal detector and see what level of fatigue they're at." – CNO
- Most organizations also not tracking fatigue consequences

Current State of FRMS – Decision Tools

Item	% (n)
Are there decision support tools that assist you as a leader to make decisions about fatigue management strategies?	
Yes	10 (15)
No	90 (136)
My organization has sufficient tools and data monitoring in place to address fatigue.	
Strongly Disagree	27 (41)
Disagree	50 (75)
Neither Agree nor Disagree	17 (26)
Agree	5 (7)
Strongly Agree	1 (1)

- Tools to support decision-making about fatigue were rarely identified
- Existing tools support retroactive vs proactive monitoring of fatigue sources and consequences
  - Reports on hours worked
  - Reports on staffing

Current State of FRMS – Responsibilities and Controls

Item	% (n)
Our organization implements strategies to decrease nurse fatigue	
Strongly Disagree	17 (26)
Disagree	36 (53)
Neither Agree nor Disagree	23 (34)
Agree	24 (36)
Strongly Agree	0 (0)
Our organization has a just culture that supports employee reporting of fatigue levels, sources, and consequences.	
Strongly Disagree	7 (11)
Disagree	19 (28)
Neither Agree nor Disagree	28 (41)
Agree	36 (54)
Strongly Agree	10 (15)
What resources does your organization provide for nurses to help decrease fatigue?	
Changing patient assignments	39 (62)
Fatigue education	8 (13)
Quiet spaces to rest	26 (42)
Other	4 (7)
Rest/naps	6 (10)
Self-care strategies	32 (51)
Staff retreats	6 (10)
Employee assistance	71 (114)
Please select any environmental changes your facility has made to address fatigue:	
Lighting	14 (22)
Meditation space	14 (22)
Sleep rooms	4 (6)
Larger patient rooms	14 (23)
Noise reduction	35 (57)
Ergonomic nurse work stations	26 (41)
Unit layout redesign	24 (38)
Other	4 (7)
None	36 (58)

- Majority of participants' organizations did not have a formal fatigue management system in place
- ~25% of respondents indicated their organization was implementing some strategies to address fatigue
  - Changing patient assignments
  - Employee assistance programs
  - Self-care strategies
  - Quiet spaces to rest
- Systems approach to addressing nurse fatigue that considers the entire work system is not reported

Current State of FRMS – Adoption of Evidence-Based Policies

Survey Item	Response	% (*n*)
Does your facility have a policy on limiting nurse shift scheduling to mitigate fatigue?	Yes No	57.0% (85) 43.0% (64)
Does your facility have a mandated nurse-patient staffing ratio policy?	Yes No	14.8% (23) 85.2% (132)
Does your hospital have a policy that supports nurse napping?	Yes No	4.5% (7) 95.5% (149)
Does your facility provide a formal program or policy for alternative transportation home to staff members who are fatigued after their shift?	Yes No Not known	2.5% (4) 95.5% (150) 1.9% (3)
Does your facility currently provide education to nurse managers/supervisors on fatigue risk management?	Yes No	13.3% (20) 86.7% (130)

- Adoption of evidence-based policies to address fatigue is both limited and variable
  - Scheduling ~57%
  - Napping and alternative transportation < 5%

Barriers to FRMS

- Lack of valid, reliable, unobtrusive, real-time measures of fatigue
- Lack of understanding of multidimensional demands in nursing work that contribute to fatigue
- Design of nursing work system
  - Healthcare leaders' lack of recognition of fatigue
  - Nursing professional culture – Supernurse
  - Lack of regulatory standards

Summary

- Nurse fatigue is a critical challenge to safety and quality in healthcare systems,
  - Yet, a majority of hospitals do not have fatigue monitoring or management systems in place
- Effective resolution of fatigue in practice will require innovative policies and tools to better monitor and measure work demands contributing to fatigue as well as the impact on patient, nurse, and organizational outcomes
- Systems perspective accounting for external environment is needed to support dissemination of FRMS in nursing and implementation in hospitals

Questions?

"You're in a hospital, Nurse Hill. If you collapse from exhaustion, the emergency room is just down the hall."