

Nurses' fatigue, sleep quality, and perception of the night shift work environment



Susan H. Weaver, PhD, RN, CRNI, NEA-BC
 Nurse Scientist, Hackensack Meridian Health Ann May Center for Nursing
Theresa A. Wurmser, PhD, MPH, RN, NEA-BC
 Vice President, Nursing Research, Grants and Academic Affairs, Hackensack Meridian Health Ann May Center for Nursing



Not-for-profit health care organization that is the largest, most comprehensive and truly integrated health care network in New Jersey.

- 35,000+ employees
- 8,600+ nurses
- 7,000 physicians
- 18 hospitals
- 500 other patient care locations, including ambulatory care centers, surgery centers, home health services...



What is known about the nurse fatigue?



Overarching aim: To investigate the fatigue, sleep quality and consequences of fatigue of day and night shift clinical nurses and administrative supervisors and to explore night shift nurses experience working night shift.



Methods



Descriptive, cross-sectional study

- Pittsburgh Sleep Quality Index (PSQI),
- Occupational Fatigue Exhaustion Recovery (OFER) Scale
- Brief Fatigue Index (BFI)
- Night Shift Survey

Survey open for 4 weeks in Fall 2022

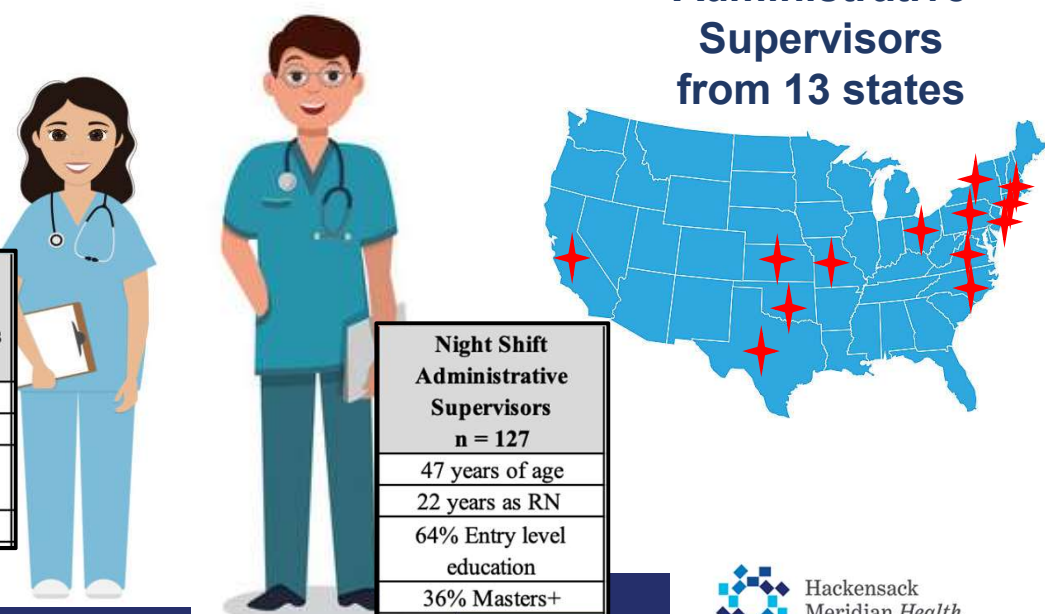


	Day Shift Clinical Nurses n = 836	Night Shift Clinical Nurses n = 821	<i>p</i>
Category	Mean (SD)	Mean (SD)	
Age (years)	39 (13)	37 (12)	.000*
Years as RN	13 (12)	11 (11)	.000*
Years in current position	8 (10)	7 (8)	.030*
Gender	n (%)	n (%)	
Male	91 (10)	132 (14)	.006*
Female	802 (87)	776 (84)	
Prefer not to state	28 (3)	18 (2)	
Highest Nursing Degree	n (%)	n (%)	
RN Diploma	125 (14)	148 (16)	.039*
Associate Degree	121 (13)	134 (14)	
Baccalaureate Degree	581 (63)	581 (63)	
Master's degree	81 (8)	50 (5)	
Doctoral Degree	12 (1)	14 (2)	
National Nursing Certification	n (%)	n (%)	
Yes	496 (54)	426 (46)	.001*
*p-value < 0.05			

Clinical nurses from 12 hospitals




Administrative Supervisors from 13 states



Day Shift Administrative Supervisors Nurses n = 99
46 years of age
22 years as RN
56% Entry level education
44% Masters+


Night Shift Administrative Supervisors n = 127
47 years of age
22 years as RN
64% Entry level education
36% Masters+



Hackensack Meridian Health
KEEP GETTING BETTER

Pittsburgh Sleep Quality Index	Day Shift Clinical Nurses n = 909	Night Shift Clinical Nurses n = 930	<i>t</i>	<i>P</i>
Duration of sleep	0.87	1.11	-5.28	0.000*
Sleep Disturbance	1.39	1.51	-4.34	0.000*
Sleep Latency	1.55	1.75	-4.39	0.000*
Day Dysfunction due to sleepiness	1.08	1.55	-12.63	0.000*
Sleep Efficiency	0.64	0.99	-7.35	0.000*
Overall Sleep Quality	1.25	1.43	-5.69	0.000*
Need meds to sleep	0.62	0.93	-6.22	0.000*
Total PSQI Score	7.39	9.33	-10.57	0.000*

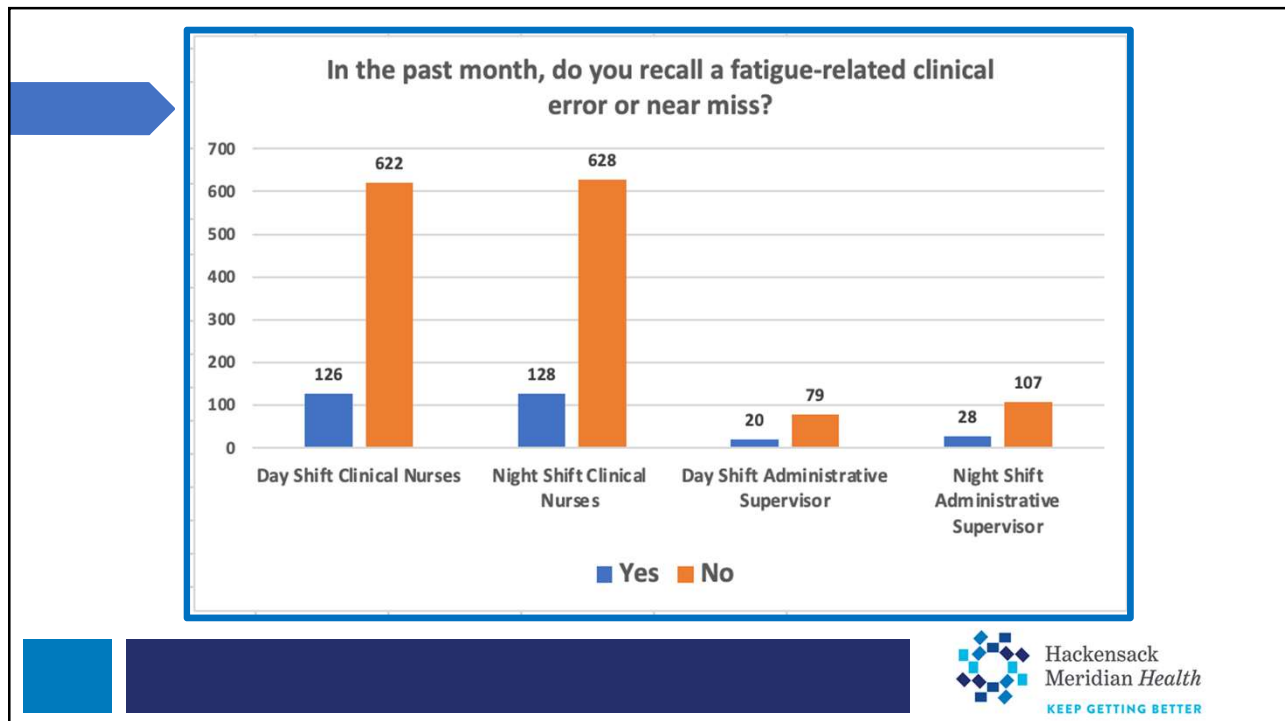
*p-value < 0.05

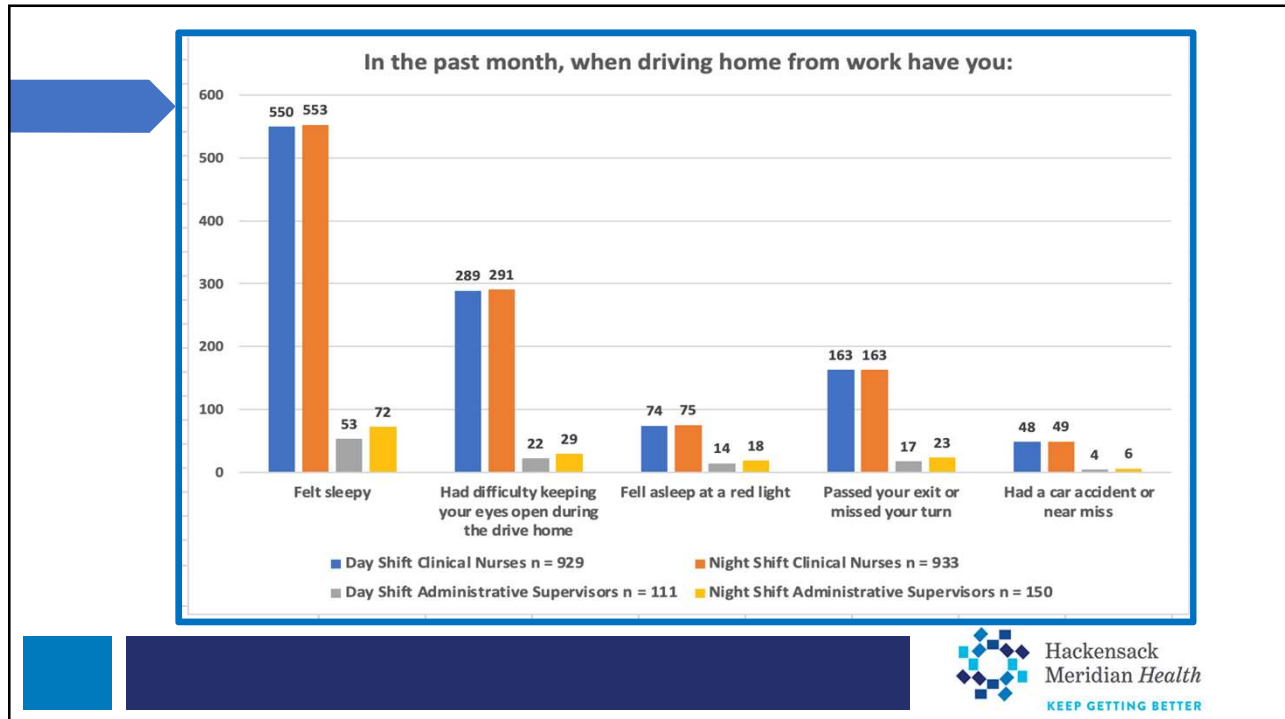


Hackensack Meridian Health
KEEP GETTING BETTER

Occupational Fatigue Exhaustion Recovery (OFER) Scale	Day Shift Clinical Nurses n = 915	Night Shift Clinical Nurses n =919	t	P
Acute Fatigue moderate/high (51-75)	63.59	67.66	-4.16	0.000*
Chronic Fatigue low/moderate (26-50)	46.84	50.40	2.89	0.004*
Intershift Recovery	46.86	41.35	5.67	0.000*
Brief Fatigue Inventory (BFI)	Day Shift n = 925	Night Shift n =923	t	P
Fatigue Now	5.86	6.25	-2.93	0.003*
Usual Fatigue	5.67	6.14	-4.22	0.000*
Worse Fatigue	7.30	7.66	-3.10	0.002*
Interference with				
General Activity	5.27	6.06	-6.11	0.000*
Mood	5.62	6.25	-4.86	0.000*
Walking Ability	3.65	4.16	-3.80	0.000*
Normal Work	5.37	5.84	-3.58	0.000*
Relations with other people	4.96	5.58	-4.72	0.000*
Enjoyment of Life	5.00	5.83	-5.99	0.000*
Global BFI	5.37	5.95	-5.69	0.000*

*p-value < 0.05






Night Shift Clinical Nurses and Administrative Supervisors	Yes	No	Unsure/Do not know
	n (%)	n (%)	n (%)
Do you have inperson education during your shift?	574 (39)	894 (61)	
Do you have the opportunity to receive the flu or other vaccines at night?	869 (59)	600 (41)	
Are hot foods available to purchase at night?	866 (58)	618 (42)	
Do you feel safe at work?	1313 (89)	156 (11)	
Napping			
If a room was available would you take a nap during your meal break?	761 (52)	553 (38)	155 (10)
If a room was available would you be comfortable with a coworker taking a nap during their meal break?	996 (68)	312 (21)	153 (10)
After working a night shift, if a room was available would you be take a nap before driving home?	527 (35)	802 (54)	166 (11)

Night Shift Survey

Hackensack Meridian Health
 KEEP GETTING BETTER



Code of Federal Regulations
A point in time eCFR system

1985

14, up to date as of 9/25/2023. Title 14 was last amended 9/25/2023. [view historical](#)

atures: It is now possible to filter search results and recent changes by dates. It is also possible to subscribe to the eCFR changes from single or ies. Consult the reader aid pages to learn more.

or CFR reference (eg. [filing](#) or [1 CFR 1.1](#))

Subchapter G / Part 135 / Subpart F / § 135.267 [Previous](#) [Next](#)

§ 135.267 Flight time limitations and rest requirements: Unscheduled one- and two-pilot crews.

(a) No certificate holder may assign any flight crewmember, and no flight crewmember may accept an assignment, for flight time as a member of a one- or two-pilot crew if that crewmember's total flight time in all commercial flying will exceed—

(1) 500 hours in any calendar quarter.

(2) 800 hours in any two consecutive calendar quarters.

(395) U.S. GOVERNMENT PRINTING OFFICE: 2000

The Joint Commission
Sentinel Event Alert

A complimentary publication of The Joint Commission Issue 48, December 14, 2011
Addendum: May 14, 2016, Pages 2, 3

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 productivity. These studies and others show that fatigue increases the risk of adverse events, compromises patient safety, and increases risk to personal safety and well-being.^{1,2,3,4,5} While it is acknowledged that many factors contribute to fatigue, including but not limited to insufficient staffing and excessive workloads, the purpose of this *Sentinel Event Alert* is to address the effects and risks of an extended work day and of cumulative days of extended work hours.

The impact of fatigue
Fatigue resulting from an inadequate amount of sleep or insufficient quality of sleep over an extended period can lead to a number of problems, including:

- lapses in attention and inability to stay focused
- reduced motivation
- compromised problem solving
- confusion
- irritability
- memory lapses
- impaired communication
- slowed or faulty information processing and judgment
- diminished reaction time
- indifference and loss of empathy⁶

Accredited organizations should consider information in an Alert when designing or redesigning relevant processes and consider implementing relevant suggestions contained in the Alert or reasonable alternatives.

Please route this issue to appropriate staff within your organization. *Sentinel Event Alert* may only be reproduced in its entirety and credited to The Joint Commission, Inc.



Hackensack Meridian Health
KEEP GETTING BETTER







Hackensack Meridian Health
KEEP GETTING BETTER

Fall Back Celebration and Drowsy Driving Prevention Week



DROWSY DRIVING PREVENTION WEEK®

NOV 5-11, 2023
theNSF.org

SLEEP FIRST. DRIVE ALERT.™

Sleep First. Drive Alert.™

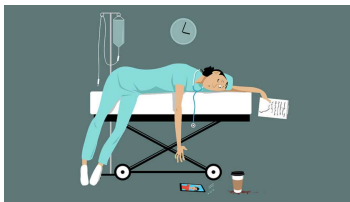
Falling asleep at the wheel is dangerous and drowsy driving is preventable.
#SLEEPFIRST

NATIONAL SLEEP FOUNDATION | theNSF.org



Implement initiatives to prevent drowsy driving.

Re-evaluate organizational policies and structures to ensure that nurses can receive education and fulfill other job requirements during their shifts.



Implement an organizational fatigue management program

Clinical Nurses and Administrative Supervisors serve as role models of healthy practices.



Your Feedback



Sue Weaver
201-787-1281
susan.weaver@hmhn.org

