
NURSES AT RISK

Insufficient Protections at Johns Hopkins Hospital Compromise Nurse and Patient Health and Safety

December 2018



Introduction

Employers have a legal and moral obligation to provide safe and healthy workplaces to employees under the Occupational Safety and Health Act. In hospitals and other healthcare settings, this becomes doubly important because safer nurses mean safer and better care for patients. During the summer and fall of 2018, nurses at Johns Hopkins Hospital (JHH) surveyed their colleagues about health and safety in their units. This report outlines the results of the

survey and draws on the scientific literature to underline the impact and importance of nurses' health and safety. While the vast majority of these issues have persisted long before nurses began to unionize, some of the issues included in this report are or may be under review by management since nurses began organizing to form a union.



Short Staffing Leads to Increased Stress Burnout, Turnover

Short staffing undermines patient care and harms nurses. JHH nurses report significant issues with staffing levels: 85 percent of nurses report that their unit only sometimes or often has sufficient staff to care for patients safely and only 5 percent of JHH nurses report that they *always* have the staff they need. The standard should be that nurses report they always have sufficient staff to care for patients safely. Short staffing leads to increased work load, stress, and burnout for nurses. Aiken, Clarke et al.¹ found that each additional patient per nurse was associated with a 23 percent increase in the odds of burnout (odds ratio (OR) 1.23, 95 percent confidence interval 1.13-1.34). A more recent study found that with better staffing (lower nurse-to-patient ratios), nurses' burnout and job dissatisfaction rates were lower.²

Stress and burnout contributed significantly to increased nurse turnover. Nurses who reported high levels of stress (OR 0.59, $p < 0.001$), were unsatisfied with the organization's leadership (OR 0.22, $p < 0.001$), unsatisfied with their opportunity to advance their careers (OR 0.56, $p < 0.001$), or were not adequately compensated (OR 0.63, $p < 0.001$) were more likely to leave the organization.³ Those nurses who reported experiencing high physical demands (OR 1.57, $p < 0.001$) or burnout (OR 1.39, $p < 0.001$) were more likely to leave the profession entirely.⁴ JHH's staffing policies are harming nurses' mental health, employment, and career prospects.



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Inadequate Staffing, Resourcing, and Scheduling Leads to Increased Workplace Violence and a Higher Risk of Injury and Illness

In addition to short staffing, JHH nurses report inadequate resources, support services, and rest and meal breaks. A mere 6 percent of JHH nurses report that their unit always has adequate supplies to provide safe patient care. Support services such as dietary, housekeeping, pharmacy, and aides are vital for provision of safe patient care. Only 4 percent of JHH nurses report that their units always have adequate support services to allow nurses to spend time with their patients. A majority of JHH nurses do not consistently have the ability to take sufficient and safe meal and rest breaks. Nurses also describe issues with fair scheduling and rotating day, night, and evening shifts in the patient care report.

When JHH fails to provide sufficient staffing, equipment, supplies, and support for nurses to provide safe patient care, the impact on nurses includes increased rates of workplace violence and a higher risk of injuries and illnesses to nurses in addition to stress, burnout, and turnover. For example, Roche, Diers et al. (2010)⁵ examined working conditions such as staffing and nurse autonomy and other elements of the patient care environment. These authors concluded that, “The analyses showed that as ward environments become less stable (fewer registered nurses, increased workload and unanticipated changes in patient needs, decreased perception of nurse leadership, lower nurse autonomy, poorer relations with doctors, more patients awaiting placement), perceived violence increases.”⁶ Similarly, Magnavita⁷ determined that the relationship between work-related distress and workplace violence is bidirectional. When nurses are stressed and burned out, workplace violence is more likely to occur. When the employer neglects workplace violence prevention and ignores incidents, nurses are more likely to be stressed and burned out.

Several published studies have determined a strong link between low nurse staffing and increased injuries to nurses. The California nurse-to-patient ratio law was associated with 31.6 percent fewer occupational injuries to nurses than the expected rate without the safe staffing law.⁸ Reliance on temporary nurses versus permanent staff RNs is associated with significantly more back injuries: odds for a back injury were 73 percent higher for units with high levels of temporary RN hours when compared to units with no temporary RNs.⁹ Turnover is also linked to increased nurse injuries.¹⁰

JHH nurses describe issues with mandatory overtime. Several studies have determined significant links between mandatory overtime and increased occupational injury and illness rates.^{11, 12, 13, 14} De Castro, Fujishiro et al.¹⁵ determined that the odds of work-related injury and illness were about 20 percent higher with increased frequency of working mandatory overtime (ORs 1.22 and 1.19, respectively). Working weekly overtime was associated with a 32 percent increase in the risk for a needlestick injury.¹⁶

Rotating shifts are associated with a wide range of injuries and illnesses. JHH should end this practice that prioritizes the employer’s flexibility and profit over nurses’ health. Notably, the International Agency for Research on Cancer (IARC) has determined that rotating shifts are a probable human carcinogen.¹⁷ Health and other negative impacts are summarized in Table 1.

TABLE 1: HEALTH IMPACTS OF ROTATING SHIFTS

IMPACT	RATES	CITATION
Cancer	-	IARC ¹⁸
Colorectal cancer	1.4 times higher for nurses working rotating shifts when compared to nurses who had never worked rotating nights	Schernhammer, Laden et al. ¹⁹
Coronary heart disease	1.5 times higher for nurses working rotating shifts for six or more years when compared to women who had never done shift work	Kawachi, Colditz et al. ²⁰
Stroke	4 percent increase in risk of ischemic stroke for every five years spent working rotating night shifts	Brown, Feskanich et al. ²¹
Gastrointestinal and musculoskeletal symptoms	More severe symptoms reported by nurses working rotating day/evening shifts when compared to nurses who did not work rotating shifts	Sveinsdottir ²²
Irritable bowel syndrome	Significantly higher prevalence of irritable bowel syndrome in nurses working rotating shifts when compared to day shift nurses	Nojkov, Rubenstein et al. ²³
Anxiety and depression	Women were 2.6 times more likely to report anxiety and depression after working varied shift patterns for two to three years and four times more likely after four years when compared to women who did not work varied shift patterns	Bara and Arber ²⁴
Fatigue	Nurses who worked rotating shifts were twice as likely to nod off while driving to or from work than nurses who worked only day/evening shifts	Gold, Rogacz et al. ²⁵
Accident or error related to sleepiness	Nurses who worked rotating shifts had twice the odds of reported accident or error related to sleepiness	Gold, Rogacz et al. ²⁶

Lack of a Workplace Violence Prevention Plan Endangers Nurses and Patients

JHH is not appropriately addressing and preventing workplace violence. Workplace violence occurs at higher rates at JHH than other hospitals: 79 percent of JHH nurses report that they have experienced workplace violence on their unit while a recent survey of employees in a large, multi-site hospital system reported that 63 percent of employees reported experiencing workplace violence.²⁷ Workplace violence significantly impacts patient care as well as nurses' physical, mental, and emotional well-being.

By ignoring workplace violence, JHH endangers nurses, other staff, and patients. Some 27 percent of nurses report that JHH ignores workplace violence when it happens. While 34 percent of nurses report that JHH investigates what happened after a violent incident, only 9 percent of nurses report that JHH changes practices to protect employees and patients after a violent incident. A similar study of NNU members found that 63 percent of NNU members report that their employer investigates workplace violence incidents and 30 percent report that their employers change practices to reduce the risk of violence. JHH should take material steps to prevent workplace violence by developing a comprehensive workplace violence prevention plan that includes the following:

- Evaluate and address risk factors and hazards in each unit and other areas of the facility (e.g., parking lot).
- Implement prevention measures, specifically improving staffing as well as including engineering controls, security staffing and response systems, alarm systems, etc.
- Develop effective reporting systems so that RNs can report workplace violence without fear of reprisal and with assurance that the employer will remedy any issues.
- Provide unit-specific, in-person training.
- Engage the active involvement of RNs and other health care workers regarding the risk factors and hazards in their units, what prevention measures would be effective, training content and provision, and reporting systems.

Implementing effective workplace violence prevention plans will reduce the number and severity of violent incidents. For example, Arnetz, Hamblin et al.²⁸ reported on a controlled intervention study where a worksite

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walk-through including environmental risk assessments were conducted on each intervention unit. Unit supervisors were given incident and injury data for their unit from the past three years and worked with direct-care staff to develop an action plan to reduce workplace violence using unit-specific administrative, behavioral, and environmental strategies. Intervention units reported less than half the violent incident rate compared to control units at six months post intervention.

Similarly, Gillespie, Gates et al.²⁹ reported on repeated measures study of six emergency departments. Researchers worked with direct-care employees, managers, and administrators to develop workplace violence prevention plans including environmental changes, policies and procedures, and education and training. While not all intervention units fully implemented the plans, the authors observed a 50 percent decrease in assaults in the unit that most thoroughly implemented their unit-specific plan. The authors conclude that, “This result emphasizes that the effectiveness of WPV [workplace violence] prevention programs is predicated not only on strategies examining risk factors related to patients, employees, and the employer but on programs with employee involvement and management commitment and endorsement.”³⁰

Staffing is likely a significant factor at play in the high rates of workplace violence reported by JHH nurses. Workplace violence is statistically significantly more likely to happen in facilities with lower staffing than facilities with higher staffing levels.³¹ Staffing levels and security were ranked as significant contributing factors to physical workplace violence incidents in one study.³² Speroni, Fitch et al.³³ examined common causes of workplace violence incidents and reported that a nurse shortage was a causal factor in 26.8 percent of incidents.

Improving workplace violence prevention efforts will effectively protect patients and nurses from the myriad impacts of workplace violence. Further, more effectively preventing workplace violence is likely to improve issues with turnover at JHH. Sofield and Salmond³⁴ found that 61 percent of nurses who experience workplace violence consider leaving their jobs.

Hazardous Exposures and Inadequate Personal Protective Equipment

JHH is not providing sufficient or effective protective equipment for nurses. A significant proportion of nurses—33 percent—reported that they have experienced skin or respiratory irritation at work. This is an indication of hazardous exposure that JHH has not addressed. The Occupational Safety and Health Administration (OSHA) requires that employers provide personal protective equipment (PPE) and other measures to prevent exposures to hazardous substances. Such protection can include engineering controls like airborne infection isolation rooms; PPE like gloves, gowns, respirators; and other measures like medical surveillance programs for nurses who handle hazardous drugs.

Nurses report significant issues with gloves provided by JHH. Gloves are necessary to prevent exposures to blood, bodily fluids, infectious diseases, and hazardous chemicals such as antineoplastic drugs or cleaning chemicals. Only 6 percent of nurses report that they always have quality gloves to protect from hazardous materials. Nurses report that gloves rip easily and that many nurses must wear gloves that are too big for them in order to prevent ripping. OSHA requires that employers select and provide PPE that properly fits each employee and maintain such PPE in a “reliable condition,” (29 CFR 1910.132).

Many nurses administer chemotherapy or antineoplastic drugs for a wide range of treatments. Exposure to antineoplastic drugs poses a significant hazard to nurses and is associated with increased chromosomal aberrations in exposed nurses,³⁵ increased risk for spontaneous abortion (two-fold risk),³⁶ and an increase in acute symptoms of exposure where protection was not used.³⁷ At JHH, 22

percent of nurses reported that they do not have appropriate protective equipment and disposal containers when administering chemotherapy. OSHA requires that employers provide PPE to prevent hazardous exposures present in the workplace, including antineoplastic drugs. One study reported a significant decrease in exposure after implementation of safe handling procedures, including the addition of chemotherapy-specific gloves.³⁸

Nurses also report that JHH does not follow up on exposure incidents when nurses have had significant exposures to hazardous drugs. The National Institute for Occupational Safety and Health (NIOSH) has released national guidelines for employers to protect employees from hazardous drug exposures by preventing exposures and implementing medical surveillance programs among other measures.³⁹ All nurses and other health care workers who handle chemotherapy, antineoplastics, or other hazardous drugs should be enrolled in a medical surveillance program. This means that there should be ongoing examinations for symptoms of exposure as well as investigation and follow-up after an exposure incident such as a spill or a needlestick. Records of all exposures and follow-up examinations should be maintained by the employer. Employees have the right to access such records as required by OSHA.

Unsafe Patient Handling and Back Injuries and Musculoskeletal Disorders

JHH does not have an effective safe patient handling plan in place. An effective safe patient handling plan includes equipment, training, and additional staff to replace the need for manual handling and to reduce the risk of injury to employees. At JHH, 63 percent of nurses report that they must manually move patients all the time with an additional 31 percent of nurses reporting that they must manually move patients sometimes. Only 39 percent of nurses report they have lift equipment when they need it and a mere 9 percent report they always have additional staff to assist with lifts when needed. This puts nurses at extremely high risk for injuries such as strains and sprains, back and neck pain, and musculoskeletal disorders.

JHH needs to improve its safe patient handling plan in order to protect nurses and patients. Nurses experience high rates and numbers of musculoskeletal disorders and injuries related to patient handling (U.S. Bureau of Labor Statistics). The annual prevalence of low back problems among nurses is 40-50 percent.⁴⁰ Risk factors for musculoskeletal disorders include exerting excessive force, performing the same or similar tasks repetitively, working in awkward postures, or being in the same posture for long periods of time.

Safe patient handling equipment is necessary to minimize and replace the force exerted by nurses. A survey of critical care nurses found that nurses with high-level lift availability were 50 percent less likely to have work-related back pain than nurses with no lift availability; nurses who reported medium-level lift use were three times less likely to have work-related shoulder pain.⁴¹

However, equipment by itself is insufficient. Additional staffing is necessary. Safe patient handling equipment does NOT simplify lifts or replace the need for more than one person. Safe patient handling programs must have lift teams or other staff who are available and trained to assist RNs with patient handling tasks. One study found that having more workers participate in a horizontal patient transfer task, assuming equal distribution of the force and torque, in combination with devices, substantially reduced the force and torque on health care workers as compared to using the equipment with fewer workers.⁴²

The published literature supports the use of lift teams with equipment and training to significantly reduce injuries related to patient handling. In one study, all 10 facilities studied demonstrated a decrease in number of back injuries to nursing personnel with an average reduction of 69 percent. Some facilities have reported zero injuries from patient handling tasks after implementation of the lift team.⁴³ Another study found that the odds of work-related low back pain were 46 percent lower among nurses with lift teams than among nurses without lift teams.⁴⁴

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Endnotes

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