

Brief biography for authors/ contributors:

Lynsey Boyd, Cameryn Lukawski, Delaney Barnard, and Bryanna Carter graduated May 9, 2024, with a Bachelor of Science in Nursing Degrees from the Fran and Earl Ziegler College of Nursing at the University of Oklahoma Health Sciences. They will be starting their nursing careers in the trauma intensive care unit, medical intensive care unit, pediatrics, and OR. They chose the research nurse-led mechanical

ventilation weaning in adult intensive care units because they felt that this topic would bring the medical teams together and utilize the resources at hand to enhance patient outcomes of mechanical ventilation liberation. They would like to thank Dr. Fisher for his wonderful guidance and help throughout their nursing school journey. Mark J. Fisher PhD, RN, CNE is an assistant professor at the Fran and Earl Ziegler College of Nursing at the University of Oklahoma Health Sciences Center.

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Nurse-Driven Initiatives to Reduce Supply Waste Produced in the Intensive Care Unit

By Ellee Edgar, BSN, Abigail Graves, BSN, Justin Tijerina, BSN, and Emma Wasson, BSN

Nurses are at the center of all patient care and as a result are consistently at the patient bedside. Nurses influence patient care while also having an opportunity to influence the cost of care through efficient care. Though healthcare costs are influenced by a myriad of factors, inefficiencies in resource management and supply waste are changeable by nurses. Solid waste and greenhouse gas emissions were shown to be 5.5 kg and 45 kg CO₂-e per hospitalization, respectively (Prasad, et al., 2021). In a neuro ICU, total daily unit waste was over 200 pounds averaging just under 11 pounds per patient (Corbin, et al., 2022). Plastics derived from fossil fuels are widely used in healthcare to make many of the supplies used by nurses and when disposed can increase microplastics in our air, water, and soils (See, 2023). The sheer number of health

care facilities and their patients can lead to excessive waste given the total number of healthcare providers who may lack awareness and engagement in waste-reduction behaviors. Decreases in disposable waste could begin with hospitals serving to guide more ethically sound and sustainable initiatives thus leading to a reduction in overall waste-related environmental impact (Ghersin, et al., 2020). Reduction of waste going to landfills, unnecessary production of greenhouse gases, and reduction of microplastics in intensive care units (ICUs) among other areas of waste in healthcare, are influenced by healthcare providers. Nurses have an opportunity to lead the healthcare industry toward more sustainable practices and reductions in the healthcare environmental footprint.

Productive engagement of nurses in making the change to more sustainable

practices can begin simply through increased awareness of wasteful practices (Morrow et al., 2013). Focused efforts in a specific area or waste stream can serve as a useful starting

place. Waste streams include disposed waste, diverted waste, and avoided waste (Schenk, et al., 2023). Nurses are ideally positioned to avoid waste through their own efficient supply use and non-use along with their modeled actions and behaviors with other healthcare providers involved in patient care. This evidence-based project addresses unnecessary waste in medical surgical ICUs by using bedside supply carts as opposed to general supply rooms. Excess supplies in a patient's room are typically deemed contaminated, may be opened by accident and not needed, or left only to expire before use – avoidable waste (Wohlford, et al., 2020). Use of bedside supply carts located in patient's rooms could greatly reduce waste through efficient use of supplies and reduced waste of unused yet contaminated supplies. Literature reviewed focused on managing waste in healthcare, specifically in medical-surgical ICUs, and locating sources of avoidable waste, such as single-use equipment, disposable packaging, and discarding unused supplies left in the patient's room after leaving the unit. For example, Cockerham et al. (2016) found supply changes led to impressive 45% to 80% decrease in stocked supplies on two different ICU bedside carts. Additionally, nursing and supporting staff found the cart turnover process to be faster and eas-



Dr. Mark J. Fisher, Abigail Graves, Emma Wasson, Ellee Edgar, Justin Tijerina (left to right)

ier allowing more time for patient-care related work (Cockerham, et al., 2016).

Standardized bedside supply carts are used to optimize resources and supplies, prevent overstocking, and reduce the disposal of supplies or packaging that are expired, contaminated, or unused. The goal of the practice change is to decrease nurse created waste at the bedside. Utilizing the implementation of standardized bedside supply carts to maximize sustainability and reduction of waste without compromising the highest quality of patient care. Findings noted in the literature indicate that unnecessary hospital waste in medical-surgical ICUs can be decreased substantially by implementing standardized bedside supply cart stocked with essential supplies needed that are easily accessible and remain organized to assist

nurses in providing optimal patient care.

Evidence identified during this project focuses on waste reduction in healthcare by nurses and the utilization of standardized bedside supply carts. By advocating for standardized bedside supply carts for nurses' use, rather than a centralized unit supply room, this will enhance supply efficiency and reduce waste in medical-surgical ICUs. This nurse-driven waste-reduction effort could spark a movement in identifying more sustainable practices in health-care and creating new methods to be more responsible with resources. Ultimately, this nurse-led change could lead to more efficient and better patient care. ■

References online:
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Interventions to Overcome Nurse Burnout

By Goodwin, C., McCormack, M., Andrews, J., Costanzo, G., Lekwa, F., & Smith, P.R.

Nurse burnout was studied for years before COVID-19, and the pandemic brought nurse burnout to the public eye. Burnout is associated with workload and lack of support that nurses experience in critical care areas such as ICUs (Buckley et al., 2019, Forsyth et al., 2021). High rates of burnout, work-related stress, and compassion fatigue are also related to unsafe staff-patient ratios and feelings of being overworked when the units are understaffed. The issue raises the idea that nurses may benefit from having interventions implemented by hospitals to help decrease burnout rates and improve job satisfaction in nurses, therefore improving desired outcomes for patients.

Problem

Burnout is important in nursing because it may lead to disengagement in care leading to nurses leaving the profession (Ratliff et al., 2020). When nurses become disengaged it affects patient care and may lead to patients not trusting the healthcare system in general. Nurses leaving the bedside may result in units

being left short staffed. Nurses may then feel obligated to pick up more shifts contributing to an increase in the burnout they are feeling.

Literature Review

Nurse burnout, work-related stress, and compassion fatigue have been studied through various surveys and questionnaires of nurses who work in bedside positions. The focus of several studies was on critical care units, such as pediatric ICUs and Emergency Departments, to determine burnout and compassion fatigue (Buckley et al., 2021). Nurses who work in critical care areas are more likely to report higher levels of burnout due to the increase in work demands, work-related stress, and grief that is experienced (Aslan et al, 2020; Faller et al, 2011; Forsyth et al, 2022). Yet, nurses tend to report lower stress levels, less burnout, and higher rates of personal



Chelsey Goodwin, Mackenzie McCormack, Janessa Andrews, Gabriella Costanzo, and Finess Lekwa (left to right)

accomplishment and job satisfaction when nurses can interact positively with patients and families in critical care and general care units (Buckley, 2019).

Several varied factors play a role in how nurses experience burnout and compassion fatigue, such as age, length of being a nurse, and which specialty or unit nurses work in (Berger et al, 2015). Survey results by Berger et al show nurses who are younger than 40 years of age, who have less than 10 years