



## OPEN ACCESS

## EDITED AND REVIEWED BY

Susana Viegas,  
New University of Lisbon, Portugal

## \*CORRESPONDENCE

Wioletta Mędrzycka-Dąbrowska  
wioletta.medrzycka@gumed.edu.pl

## SPECIALTY SECTION

This article was submitted to  
Occupational Health and Safety,  
a section of the journal  
Frontiers in Public Health

RECEIVED 07 November 2022

ACCEPTED 16 November 2022

PUBLISHED 06 December 2022

## CITATION

Mędrzycka-Dąbrowska W, Zorena K,  
Friganović A and Sak-Dankosky N  
(2022) Editorial: Patient and medical  
staff safety in the 21st century.  
*Front. Public Health* 10:1092149.  
doi: 10.3389/fpubh.2022.1092149

## COPYRIGHT

© 2022 Mędrzycka-Dąbrowska,  
Zorena, Friganović and Sak-Dankosky.  
This is an open-access article  
distributed under the terms of the  
[Creative Commons Attribution License  
\(CC BY\)](https://creativecommons.org/licenses/by/4.0/). The use, distribution or  
reproduction in other forums is  
permitted, provided the original  
author(s) and the copyright owner(s)  
are credited and that the original  
publication in this journal is cited, in  
accordance with accepted academic  
practice. No use, distribution or  
reproduction is permitted which does  
not comply with these terms.

# Editorial: Patient and medical staff safety in the 21st century

Wioletta Mędrzycka-Dąbrowska<sup>1\*</sup>, Katarzyna Zorena<sup>2</sup>,  
Adriano Friganović<sup>3</sup> and Natalia Sak-Dankosky<sup>4</sup>

<sup>1</sup>Department of Anaesthesiology Nursing and Intensive Care, Faculty of Health Sciences, Medical University of Gdańsk, Gdańsk, Poland, <sup>2</sup>Department of Immunobiology and Environment Microbiology, Faculty of Health Sciences, Medical University of Gdańsk, Gdańsk, Poland, <sup>3</sup>Department of Nursing, University of Applied Health Sciences, Zagreb, Croatia, <sup>4</sup>Department of Clinical Nursing, Medical University of Warsaw, Warsaw, Poland

## KEYWORDS

medical, safe, patient, WHO, environmental

## Editorial on the Research Topic

### Patient and medical staff safety in the 21st century

Improving healthcare safety is a global priority and has been identified as an issue approaching epidemic proportions (1). The COVID-19 pandemic is a clear reminder of the importance of the safety of healthcare workers. Insufficient Personal Protective Equipment (PPE) has been a problem in many places, and there have been too many examples of infection and death of healthcare workers from COVID-19 (2). The number of adverse events that occur during the provision of medical services, and the associated costs are enormous. World Health Organization (WHO) reported that each year in middle-income countries there are ~134 million adverse events that result in failure to ensure safety in healthcare entities. As a consequence, 2.6 million people die annually (3).

Ensuring the safety of patients and medical staff is very difficult all over the world, regardless of the healthcare system model that is in place. The provision of medical services depends on the involvement of many representatives of various medical professions, methods of financing, condition of infrastructure, applied medical technologies, and the level of safety culture in the implementation of numerous processes, including nursing, diagnostic and therapeutic interventions. It is also important to consider how patient safety can be impaired when the health and safety conditions of health workers are not guaranteed. The interrelationship between occupational health and patient safety needs to be explored more to better understand how we can improve health services (4).

In this Research Topic, there are five manuscripts that address some of the problems related to the concept of safety in health care today.

Vuorio and Bor described an issue of the safety of healthcare staff in warzones, stating it is one of the most important yet often ignored humanitarian issues of the present. Currently, many medical staff working in Ukraine are experiencing severe stress. One of the consequences might be developing post-traumatic stress disorder (PTSD), a well-documented issue among deployed military healthcare workers (5). What is more, large numbers of refugees from the conflict zone arrive in different parts of the continent,

which challenges almost all of Europe's healthcare systems. This also increases the possible burden of healthcare staff involved in taking care of them. However, those who directly deal with the war will suffer the most. The International Council of Nurses (ICN) emphasized that the safety of healthcare workers during this conflict is paramount (6).

Zhu et al. presented an observational study describing the problem of physicians' workflow interruptions in outpatient departments in China. They emphasized that unjustified interruptions of physicians' attention away from the current task might negatively impact the quality and efficiency of care (7). The most common reasons for those interruptions are: patients and their relatives, intra-departmental communication, and telephone/beeper calls (8–10) (Zhu et al.). They can disturb thought processes and increase cognitive demand, increasing the risk of errors and hampering patients' safety (Zhu et al.).

Heroor et al., with a multinational panel of experts, mapped out consensus statements for surgeons and operating room staff regarding practical management of surgical smoke safety, mitigating the risks associated with it. Surgical smoke generated by Energy devices used in OR might have a negative impact on all persons working in its environment. One of the most serious consequences includes mutagenic effects from the carcinogens present in the surgical smoke (Heroor et al.). As per an occupational safety and health administration (OSHA) study, ~500,000 healthcare workers including surgeons, nurses, anesthesiologists, and surgical technicians are exposed to surgical smoke every year (11). However, no substantive data on the extent to which recommendations regarding this issue have been implemented has been available. The consensus statement presented by the authors summarizes the common approaches and statements regarding preventing OR personnel from the hazardous effects of surgical smoke.

Wang et al. in their manuscript reflected on an issue of the mental health status of medical staff exposed to workplace violence. Hospital violence is one of the most commonly reported types of workplace violence and has a negative impact on staff's physical and mental health. Hospitals should implement different interventions in order to protect staff who experiences this issue (Wang et al.).

Finally, Shen et al. in their opinion manuscript presented an interesting solution for protecting the surgical team against

COVID-19. They argued that using a concept of "Zero Contact," which means a complete separation of uninfected personnel from infectious sources, to prevent the spread of infectious diseases could be a promising way to protect the staff. Specifically, they described a "Zero Contact" operation based on a robotic surgical system—the system originally designed for remote surgeries (12) but which could now be used instead to protect the staff from COVID infections (Shen et al.).

The above articles which reflect on safety issues can contribute to addressing the problems they describe and therefore improve staffs' wellbeing and thus the quality of care they provide.

## Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

## Acknowledgments

We deeply thank all the authors and reviewers who have participated in this Research Topic.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

## References

1. Janes GJ, Mills T, Budworth L, Johnson J, Lawton R. The association between health care staff engagement and patient safety outcomes: a systematic review and meta-analysis. *J Patient Safety*. (2021) 17:207–16. doi: 10.1097/PTS.0000000000000807
2. Shaw A, Flott K, Fontana G, Durkin M, Darzi A. No patient safety without health worker safety. *Lancet*. (2020) 396:1541–3. doi: 10.1016/S0140-6736(20)31949-8
3. Patient Safety. Available online at: <https://www.who.int/news-room/fact-sheets/detail/patient-safety> (accessed on November 3, 2022).
4. Jabarkhil AQ, Tabatabaee SS, Jamali J, Moghri J. Assessment of patient safety culture among doctors, nurses, and midwives in a public hospital in Afghanistan. *Risk Manag Healthc Policy*. (2021) 19:1211–7. doi: 10.2147/RMHP.S292193

5. Gibbons SW, Hickling EJ, Watts DD. Combat stressors and post-traumatic stress in deployed military healthcare professionals: an integrative review. *J Adv Nurs*. (2012) 68:3–21. doi: 10.1111/j.1365-2648.2011.05708.x
6. International Council of Nurses. *ICN Says Protection and Safety of Nurses and All Health Workers in Ukraine Is Paramount*. (2022). Available online at: <https://www.icn.ch/news/icn-says-protection-and-safety-nurses-and-all-health-workers-ukraine-paramount> (accessed February 26, 2022).
7. Pereira D, Mueller P, Elfering A. Workflow interruptions, social stressors from supervisor(s) and attention failure in surgery personnel. *Ind Health*. (2015) 53:427–33. doi: 10.2486/indhealth.2013-0219
8. Blocker RC, Heaton HA, Forsyth KL, Hawthorne HJ, El-Sherif N, Bellolio MF, et al. Physician, interrupted: workflow interruptions and patient care in the emergency department. *J Emerg Med*. (2017) 53:798–804. doi: 10.1016/j.jemermed.2017.08.067
9. Weigl M, Catchpole K, Wehler M, Schneider A. Workflow disruptions and provider situation awareness in acute care: an observational study with emergency department physicians and nurses. *Appl Ergon*. (2020) 88:103155. doi: 10.1016/j.apergo.2020.103155
10. Schneider A, Williams DJ, Kalynych C, Wehler M, Weigl M. Physicians' and nurses' work time allocation and workflow interruptions in emergency departments: a comparative time-motion study across two countries. *Emerg Med J*. (2020) 38:emermed-2019-208508. doi: 10.1136/emermed-2019-208508
11. OSHA. *Laser/Electrosurgery Plume*. Available online at: <https://www.osha.gov/SLTC/laserelectrosurgeryplume/index.html> (accessed on November 3, 2022).
12. Bowersox JC, Shah A, Jensen J, Hill J, Cordts PR, Green PS. Vascular applications of telepresence surgery: initial feasibility studies in swine. *J Vasc Surg*. (1996) 23:281–7. doi: 10.1016/S0741-5214(96)0272-0