







# The Economic Implications of Psychosocial Peer Support for Health Workers in German Hospitals

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**Purpose:** The objective of this study is to evaluate whether the nationwide establishment and institutionalization of a peer-support program, is economically justified given the potential positive effects on the Second Victim Phenomenon (SVP) among healthcare professionals in Germany.

**Methods:** A comprehensive methodological approach was employed, using data from the SeViD studies to assess the prevalence and duration of SVP among physicians and nurses in Germany. Economic impact assessments were conducted to estimate the potential cost savings associated with implementing a peer-support program.

**Results:** The economic analysis reveals significant annual costs associated with SVP-induced absenteeism: approximately 1.56 billion euros for physicians and 1.87 billion euros for nurses. Implementing comprehensive peer-support programs could reduce these costs to approximately 0.85 billion (physicians) and 1.02 billion euros (nurses), respectively, demonstrating substantial potential economic benefits.

**Conclusion:** Investing in a structured peer-support program could yield annual savings exceeding 1.55 billion euros while enhancing workforce resilience and improving patient care. This underscores the economic rationale for scaling up peer support initiatives in healthcare settings.

**Keywords:** peer support program, economic impact, second victim phenomenon, healthcare professionals

## Introduction

The physical and psychological burdens faced by healthcare personnel have become increasingly evident, especially since the COVID-19 pandemic.<sup>1</sup> Healthcare workers often encounter severe situations, including patient harm, fatal incidents, suicides among patients and colleagues, and personal assaults. Violence against healthcare workers, especially in emergency departments, remains a significant issue.<sup>2,3</sup>

In 2000, Albert W. Wu introduced the term “Second Victim” to describe healthcare providers traumatized by medical errors.<sup>4</sup> In 2022, the European Researchers’ Network Working on Second Victims (ERNST) defined Second Victims as “any healthcare worker, directly or indirectly involved in an unanticipated adverse patient event, unintentional healthcare error, or patient injury and who becomes victimized in the sense that they are also negatively impacted”.<sup>5</sup>

International studies highlight the widespread prevalence of severe events and resultant traumas among healthcare providers. Reported prevalence rates vary from 10% to 72.6% among respondents.<sup>6–8</sup> In Germany, the SeViD

project assessed the incidence and impact of Second Victim trauma among healthcare professionals,<sup>9</sup> finding an overall prevalence of nearly 60% among physicians and nurses,<sup>10,11</sup> consistent with other recent international studies.<sup>12</sup>

Symptoms of Second Victims may vary and include distressing memories, anxiety, self-directed anger, regret, remorse and turnover intention.<sup>13–15</sup> Acute psychological reactions, such as acute stress reaction or post-traumatic stress disorder (PTSD), can occur depending on the severity of the event.<sup>16</sup> A 2019 health insurance report in Germany evaluating reasons for incapacity to work found that mental disorders are among the leading causes of sick leave for nursing staff.<sup>17</sup> A 2023 report by another German health insurance fund found that the healthcare sector had 434 sick days per 100 employees due to mental disorders in 2022, exceeding the average of 301 sick days per 100 employees across all sectors.<sup>18</sup>

The economic impact of severe events on healthcare personnel is significant. Absenteeism and presenteeism result in productivity losses.<sup>19</sup> In 2019, it was estimated that permanent incapacity can result in replacement costs of up to 30% of the annual salary, with vacancies lasting an average of 100 days and costing approximately 120,000 euros for senior doctor positions.<sup>20,21</sup>

Other countries have developed various support programs to reduce emotional stress reactions following Second Victim incidents. Examples include Resilience in Stressful Events (RISE),<sup>22</sup> forYOU,<sup>23</sup> and the Medically Induced Trauma Support Service (MITSS)<sup>24</sup> in the US; the open access online Second Victim support program MISE (Mitigating the Impact on Second Victims)<sup>25</sup> in Spain; Kollegiale Hilfe (KoHi) in an Austrian hospital;<sup>26</sup> and a support program in Switzerland.<sup>27</sup> Initial studies using validated tools like the Second Victim Experience and Support Tool (SVEST)<sup>13,28</sup> suggest these programs,<sup>29,30</sup> combined with a Just Culture approach, to reduce Second Victim Phenomenon (SVP).

In Germany psychosocial peer support has nationwide been successfully implemented for firefighters,<sup>31</sup> police and non-police emergency services,<sup>32</sup> in healthcare mainly for certain professional groups, special regions, individual hospitals<sup>33,34</sup> or as a model project.<sup>35</sup> Even though the economic value of peer support programs has been assessed in Germany for single hospitals, showing expected results of an average cost saving of €6,672 per healthcare worker participating in a peer support program,<sup>36</sup> these support programs primarily rely on voluntary commitments.<sup>37,38</sup>

Considering these insights, the economic impact of implementing a nationwide psychosocial support model in the German healthcare system needs to be evaluated.

## Objective

This paper aims to quantify the potential direct cost savings for the German healthcare system from a nationwide implementation of a psychosocial first aid model consisting of peer support in larger facilities and anonymous telephone-based hotlines by projecting key figures from previous studies and assumptions to the number of healthcare professionals in Germany.

## Materials and Methods

The analysis focuses on two primary aspects: estimating the economic damages associated with severe events that impair work capacity and result in long-term professional departure, and calculating the economic potential of peer-support programs by assuming these programs reduce the likelihood of such adverse outcomes. The scope is limited to the inpatient healthcare sector in Germany. The ethical permissibility of the study was confirmed by the Chair of the Ethics Committee of the State Medical Association of Hesse (Landesärztekammer Hessen), who reviewed the case and granted a waiver in lieu of ethical approval, as no sensitive personal data or vulnerable subjects were involved.

## Data Sources

The primary data sources for this study include the SeViD-I<sup>10</sup> and SeViD-II<sup>11</sup> studies. Both studies are cross-sectional investigations, which provide prevalence rates of the SVP and estimates of impairment duration among

medical and nursing staff in Germany. The first study, conducted in 2019, focuses on young internal medicine physicians, reporting a 59% prevalence of SVP.<sup>10</sup> The second study, carried out in 2020, examines nurses, identifying a 60% prevalence.<sup>11</sup> Both studies utilized the “Second Victim im deutschsprachigen Raum” (SeViD) questionnaire, which includes sections on general SVP experiences, symptoms, and preferred support strategies.<sup>9</sup> A comprehensive literature review informs the assumptions and parameters used in the analysis. Two expert estimates by leaders in healthcare management concerning the recent cost for replacement of staff supplement the data. Both experts gave informed consent that their estimations were used anonymously for scientific purposes including further publication.

## Methodology

The methodology is structured as follows: First, we estimate the annual nationwide incidence of SVP among doctors and nurses in German inpatient care as well as the burden of disease expressed by self-reported duration of symptoms. Annual incidence rates and impairment duration are based on surveyed data from the SeViD studies.<sup>10,11</sup> The figures for doctors and nurses were obtained from the Federal Statistical Office of Germany.<sup>39</sup>

Next, the economic damage associated with these severe events is estimated. This includes calculating costs related to absenteeism due to lost productivity from Second Victim trauma, and assessing replacement costs associated with long-term departures, which encompass recruitment, training, and temporary staffing expenses. Expert estimation is used to calculate costs associated with absenteeism due to lost productivity (estimated at 411 euros per day of absence for doctors and 137 euros per day for nurses) and estimate replacement costs (150,000 euros for doctors and 50,000 euros for nurses).

The study then calculates the economic potential of peer-support programs by assuming these programs reduce the probabilities of adverse outcomes. The potential cost savings are calculated by considering reductions in absenteeism, and replacement needs. The reduction for adverse outcomes due to peer-support programs is estimated based on data from international studies.<sup>22,23,25</sup> We estimate a reduction of duration of symptoms by assuming that the distribution of durations is shifted towards shorter values. The distribution of absence durations before implementation of peer-support programs is taken from the SeViD studies.<sup>10,11</sup> As durations in these studies were recorded as grouped data (up to one day, up to one week, up to one year, more than a year) we chose the lower bound of the class intervals in our model. The model estimates annual savings. Hence, the class corresponding to “more than a year” is considered to account for both individuals, who return only after a break of more than a year, and individuals leaving the profession altogether. Taking the midpoint of the class intervals instead of the lower bound would lead to substantially higher positive predictions.

To ensure robustness, a sensitivity analysis is conducted to evaluate how variations in key assumptions—specifically shifting 50% of the probability weight of each duration to the next shorter level—impact the overall economic impact estimates, with additional calculations performed using shifts of 75% and 25% to assess the sensitivity of this assumption and understand the range of potential economic benefits from the peer-support programs.

In the final step, two scenarios were compared: 1. The baseline scenario corresponding to the situation without implementation of a nationwide peer-support program; 2. The intervention scenario estimating the total economic damages with the peer-support program in place, by assuming a reduction in absenteeism and turnover.

## Results

Based on the methodological approach outlined, we present the following estimates focusing on the inpatient sector.

### Prevalence, Burden of Disease and Economic Yield in Physicians

According to the SeViD-I study, the 12-month prevalence of SVP among young doctors is reported at 36%.<sup>10</sup> Extrapolating this prevalence across other age groups and considering the total number of hospital-employed physicians in Germany (207,388 by the end of 2022), approximately 74,660 doctors are expected to experience SVP-related impacts annually.

**Table 1** Comparison of Scenarios for Physicians: Scenario 1 is the Baseline Scenario Corresponding to the Situation Without Implementation of a Nationwide Peer-Support Program; Scenario 2 is the Intervention Scenario Corresponding to the Situation with Implementation of a Nationwide Peer-Support Program; Upper and Lower Limits According to Sensitivity Analysis

	Scenario 1	Scenario 2	Upper and Lower Limits
< 1 day	0.045	0.209	0.127 / 0.291
< 7 days	0.328	0.337	0.332 / 0.341
< 1 month	0.345	0.255	0.300 / 0.209
< 1 year	0.164	0.141	0.153 / 0.130
> 1 year	0.118	0.059	0.089 / 0.030

The SeViD-I study also provides self-reported estimates on the duration until full recovery from SVP. Table 1 shows the duration of recovery in both scenarios. Applying these durations, the economic impact of physician absenteeism due to SVP is estimated to be 1.56 billion euros in scenario 1 and 857.3 million (506.6 million/1.21 billion) euros (lower limit – upper limit) in scenario 2 resulting in a total reduction of 701.4 million (1.05 billion/350.7 million) euros (difference lower limit – upper limit) for physician absenteeism.

## Prevalence, Burden of Disease and Economic Yield in Nurses

SeViD-II reports an annual SVP incidence of 29%<sup>11</sup> among nurses. Considering there are 509,104 nurses in Germany, approximately 147,640 nurses will be affected by SVP annually.

Table 2 shows the duration of recovery in both scenarios for nurses. Estimated annual cost of nurse absenteeism totals to 1.87 billion euros in scenario 1 and 1.02 billion (1.45 billion/597.8 million) euros (lower limit-upper limit) in scenario 2. Therefore, introducing widespread peer support programs for nurses in German hospitals could reduce this cost to approximately 847.9 million (423.9 million/1.27 billion) billion euros (lower limit-upper limit) annually.

**Table 2** Comparison of Scenarios for Nurses: Scenario 1 is the Baseline Scenario Corresponding to the Situation Without Implementation of a Nationwide Peer-Support Program; Scenario 2 is the Intervention Scenario Corresponding to the Situation with Implementation of a Nationwide Peer-Support Program; Upper and Lower Limits According to Sensitivity Analysis

	Scenario 1	Scenario 2	Upper and Lower Limits
< 1 day	0.045	0.161	0.103 / 0.219
< 7 days	0.232	0.274	0.253 / 0.295
< 1 month	0.316	0.246	0.281 / 0.210
< 1 year	0.175	0.204	0.189 / 0.218
> 1 year	0.232	0.116	0.174 / 0.058

## Overall Economic Impact

The combined economic impact of reduced absenteeism and turnover among both physicians and nurses, facilitated by effective peer support programs, is estimated to exceed 1.55 billion (774.6 million / 2.32 billion) euros annually within the inpatient healthcare setting in Germany.

## Discussion

Our study underscores the substantial economic benefits of establishing and institutionalizing peer support structures across Germany with a total economic yield of 1.55 billion euros annually for German hospital sector.

It is important to note that these estimates represent a conservative approach, focusing solely on the direct effects of absenteeism and turnover of nurses and physicians. Indirect effects of presenteeism such as delayed access to treatments or increased error rates among staff working despite impairments were not included, highlighting further potential benefits that are not quantified here.

The economic impact of SVP-induced absenteeism is striking. Even if a complete elimination of the problem through peer support programs is not to be expected and a run-in phase for the acceptance of this aid is to be assumed, implementing peer support programs has the potential to mitigate SVP-related costs significantly, whereby the freed-up funds could be invested in the sustainable stabilization of the healthcare system.

These findings align with previous literature highlighting the detrimental effects of SVP on healthcare professionals' well-being and organizational outcomes.<sup>36,40</sup> For instance, studies have documented higher rates of burnout, decreased job satisfaction, and increased turnover intentions among healthcare workers affected by SVP.<sup>7,41</sup> By contrast, results of first peer support programs have been shown to enhance psychological resilience, improve coping mechanisms, and foster a supportive work environment.<sup>42-45</sup>

Understanding the economic implications of the SVP and the potential mitigating effects of peer support programs is inherently complex due to several methodological and contextual challenges. The multifaceted nature of healthcare professionals' responses to severe incidents complicates the direct attribution of outcomes solely to these events. Decisions to leave the medical or nursing profession are influenced by a multitude of factors beyond individual traumatic experiences, including organizational culture, workload, and personal circumstances.<sup>46-50</sup> Thus, isolating the causal relationship between Second Victim incidents and subsequent economic outcomes presents a considerable challenge.

The identified cost savings do not fully capture the broader context, such as the well-being of healthcare professionals or the potential impact on team members whose performance may be affected, which could, in turn, influence patient outcomes. Additionally, while defensive measures highlight the importance of addressing the issue, their associated costs have not been factored into the analysis.

Psychosocial peer support programs offer crucial benefits for healthcare workers, enhancing their mental well-being and resilience. These programs help reduce social isolation, provide emotional support, and complement traditional professional services, creating a sense of community among participants.<sup>44,51</sup> Interventions that address the psychosocial needs of health workers provide both qualitative improvements in care and substantial economic benefits, highlighting their importance in healthcare settings. It is essential that healthcare authorities and decision-makers gain a deeper understanding of this issue and that planning and management teams integrate the SVP into the development of personnel policies. The investment in peer support programs is likely to be offset by the significant benefits these initiatives bring, including improved staff well-being and enhanced patient safety.

## Limitations

While our findings highlight promising economic benefits, it is crucial to acknowledge the study's limitations. Given the constraints of the available data and the current state of research, this study adopts a simplified approach. Our simplified approach, relying on available data and expert assessments, inherently involves uncertainties with need for cautious interpretation and further research. On the one side, the assumption of recovery time as a direct surrogate for absenteeism may not accurately reflect the true nature of the condition, as it likely represents a mix of absenteeism and presenteeism. Considering the potential impact of presenteeism, which could lead to medical errors and substantially higher costs than

absenteeism, we still consider this a conservative approach for cost estimation.<sup>52–54</sup> Additionally, the calculation using self-reported one-year prevalence may be scrutinized, as high prevalence should affect the whole population over time. On the first view, this conflicts with the self-reported lifetime prevalence of about 60%. Explanations comprise the under-investigated roles of self-reporting bias, social desirability, self-concepts, resistance and resilience to the effect, accumulation of the effect in vulnerable persons and the temporal course of Second Victim experience. However, we preferred the use of the one-year prevalence as most of the impact of SVP also appeared in this period, and experiences may change over time.

The identification and quantification of severe incidents among healthcare professionals rely predominantly on self-reported surveys rather than standardized, objective criteria. This methodological limitation introduces uncertainties in accurately assessing the prevalence and severity of Second Victim incidents, potentially underestimating their true impact.

Future research should address these gaps to provide a more comprehensive understanding of the broader economic implications and the full spectrum of benefits associated with peer support in healthcare.

## Conclusion

The economic benefits of psychosocial peer support programs for healthcare professionals to mitigate the effects of SVP among physicians and nurses in Germany are substantial and underscore the need for strategic investments in supportive interventions. Our study provides a conservative estimate of annual cost reductions of 1.55 billion (774.6 million/2.32 billion) euros (lower limit-upper limit) through reduced absenteeism and turnover alone, emphasizing the potential return on investment for healthcare institutions. To strengthen the case for implementing such programs, future research should explore additional dimensions of economic impact, such as improved patient safety, enhanced job satisfaction, and the long-term effects on workforce sustainability. Furthermore, the integration of psychosocial peer support programs into existing healthcare infrastructures should be examined to identify best practices and optimize their effectiveness. Policymakers and healthcare administrators are encouraged to consider these findings when allocating resources to mental health and well-being initiatives, as the potential benefits extend beyond cost savings to include improved care quality and staff retention.

## Ethical Statement

This study does not involve any individual, animal or patient data, as it is an economic analysis based solely on publicly available data sources.

## Disclosure

The authors report no conflicts of interest in this work.

## References

1. Wu AW, Connors C, Everly GS. COVID-19: peer support and crisis communication strategies to promote institutional resilience. *Ann Intern Med.* 2020;172(12):822–823. doi:10.7326/M20-1236
2. Pich J, Hazelton M, Sundin D, Kable A. Patient-related violence against emergency department nurses. *Nurs Health Sci.* 2010;12(2):268–274. doi:10.1111/j.1442-2018.2010.00525.x
3. Al Khatib O, Taha H, Al Omari L, et al. Workplace violence against Health Care Providers in Emergency Departments of Public Hospitals in Jordan: a cross-sectional study. *Int J Environ Res Public Health.* 2023;20(4):3675. doi:10.3390/ijerph20043675
4. Wu AW. Medical error: the second victim. The doctor who makes the mistake needs help too. *BMJ.* 2000;320(7237):726–727. doi:10.1136/bmj.320.7237.726
5. Vanhaecht K, Seys D, Russotto S, et al. An evidence and consensus-based definition of second victim: a strategic topic in healthcare quality, patient safety, person-centeredness and human resource management. *IJERPH.* 2022;19(24):16869. doi:10.3390/ijerph192416869
6. Seys D, Wu AW, van Gerven E, et al. Health care professionals as second victims after adverse events: a systematic review. *Eval Health Prof.* 2013;36(2):135–162. doi:10.1177/0163278712458918
7. Mira JJ, Carrillo I, Lorenzo S, et al. The aftermath of adverse events in Spanish primary care and hospital health professionals. *BMC Health Serv Res.* 2015;15(1):151. doi:10.1186/s12913-015-0790-7
8. Nydoo P, Pillay BJ, Naicker T, Moodley J. The second victim phenomenon in health care: a literature review. *Scand J Public Health.* 2020;48(6):629–637. doi:10.1177/1403494819855506



9. Strametz R, Rösner H, Ablöcher M, Huf W, Ettl B, Raspe M. Entwicklung und Validation eines Fragebogens zur Beurteilung der Inzidenz und Reaktionen von Second Victims im Deutschsprachigen Raum (SeViD). *Zbl Arbeitsmed.* 2021;71(1):19–23. German . doi:10.1007/s40664-020-00400-y
10. Strametz R, Koch P, Vogelgesang A, et al. Prevalence of second victims, risk factors and support strategies among young German physicians in internal medicine (SeViD-I survey). *J Occup Med Toxicol.* 2021;16(1). doi:10.1186/s12995-021-00300-8
11. Strametz R, Fendel JC, Koch P, et al. Prevalence of second victims, risk factors, and support strategies among German nurses (SeViD-II Survey). *IJERPH.* 2021;18(20):10594. doi:10.3390/ijerph182010594
12. Potura E, Klemm V, Roesner H, et al. Second victims among Austrian Pediatricians (SeViD-A1 Study). *Healthcare.* 2023;11(18):2501. doi:10.3390/healthcare11182501
13. Burlison JD, Scott SD, Browne EK, Thompson SG, Hoffman JM. The second victim experience and support tool: validation of an organizational resource for assessing second victim effects and the quality of support resources. *J Patient Saf.* 2017;13(2):93–102. doi:10.1097/PTS.0000000000000129
14. Ganahl S, Knaus M, Wiesenhuetter I, Klemm V, Jabinger EM, Strametz R. Second victims in intensive care-emotional stress and traumatization of intensive care nurses in Western Austria after adverse events during the treatment of patients. *Int J Environ Res Public Health.* 2022;19(6). doi:10.3390/ijerph19063611
15. Bushuven S, Trifunovic-Koenig M, Bentele M, et al. Self-assessment and learning motivation in the second victim phenomenon. *Int J Environ Res Public Health.* 2022;19(23):16016. doi:10.3390/ijerph192316016
16. Marung H, Strametz R, Roesner H, et al. Second victims among German emergency medical services physicians (SeViD-III-Study). *IJERPH.* 2023;20(5):4267. doi:10.3390/ijerph20054267
17. Grobe T, Steinmann SG. Pflegefall Pflegebranche? So geht's Deutschlands Pflegekräften 2019 ; 2019. German.
18. DAK Gesundheit. Psychreport 2023: entwicklungen der psychischen Erkrankungen im Job 2012-2022 2023 [Stand: 24.07.2024]. Available from: <https://caas.content.dak.de/caas/v1/media/32628/data/3983614e98a936fe7d7dd70f3dac2e73/dak-psychreport-ergebnis-praesentation.pdf>. Accessed January 17, 2025. German.
19. Lui JNM, Andres EB, Johnston JM. Presenteeism exposures and outcomes amongst hospital doctors and nurses: a systematic review. *BMC Health Serv Res.* 2018;18(1):985. doi:10.1186/s12913-018-3789-z
20. Bundesagentur für Arbeit. *Berichte. Fachkräfteengpassanalyse: Blickpunkt Arbeitsmarkt; 2019.*
21. Swientek J. Wie viel kostet eigentlich eine unbesetzte Stelle?; 2019 [Stand: 24.07.2024]. Verfügbar unter: Stand: 24.07.2024]. Verfügbar unter: <https://www.praktischerarzt.de/magazin/kosten-fuer-unbesetzte-stelle/>. Accessed January 17, 2025. German.
22. Edrees H, Connors C, Paine L, Norvell M, Taylor H, Wu AW. Implementing the RISE second victim support programme at the Johns Hopkins Hospital: a case study. *BMJ Open.* 2016;6(9):e011708. doi:10.1136/bmjopen-2016-011708
23. Scott SD, Hirschinger LE, Cox KR, et al. Caring for our own: developing a systemwide second victim rapid response team. *Jt Comm J Qual Patient Saf.* 2010;36(5):233–240. doi:10.1016/s1553-7250(10)36038-7
24. Pratt S, Kenney L, Scott SD, Wu AW. How to develop a second victim support program: a toolkit for health care organizations. *The Joint Commission Journal on Quality and Patient Safety.* 2012;38: 235–240.
25. Mira JJ, Carrillo I, Guilbert M, et al. The second victim phenomenon after a clinical error: the design and evaluation of a website to reduce caregivers' emotional responses after a clinical error. *J Med Internet Res.* 2017;19(6):e203. doi:10.2196/jmir.7840
26. Gatterer C, Krommer E, Ablöcher M, et al. Kollegiale Hilfe (KoHi) – Beschreibung des Interventionsprogramms zur Reduktion der Auswirkung belastender Arbeitssituationen im Sinne des Second-Victim-Phänomens bei patientennahem Personal in der Klinik Hietzing, Wien, Österreich (KoHi-II-Studie). *Zbl Arbeitsmed.* 2023. German. doi:10.1007/s40664-023-00517-w
27. ReMed. Handbuch ReMed: unterstützungsnetzwerk für Ärztinnen und Ärzte 2017. Available from: <https://remed.fmh.ch/files/pdf20/ReMed-2017-Handbuch-final-d-VersionWeb.pdf>. Accessed January 17, 2025. German.
28. Finney RE, Czinski S, Fjerstad K, et al. Evaluation of a second victim peer support program on perceptions of second victim experiences and supportive resources in pediatric clinical specialties using the Second Victim Experience and Support Tool (SVEST). *J Pediatric Nurs.* 2021;61:312–317. doi:10.1016/j.pedn.2021.08.023
29. Lane MA, Newman BM, Taylor MZ, et al. Supporting clinicians after adverse events: development of a clinician peer support program. *J Patient Saf.* 2018;14(3):e56–e60. doi:10.1097/PTS.0000000000000508
30. Hirschinger LE, Scott SD, Hahn-Cover K. Clinician support: five years of lessons learned. *Patient Safety & Quality Health Care.* 2015;12(2):26–31.
31. Koll-Krümman M, Hinzmann D, Igl A, Heininger S, Kreitlow J, Schießl A. Psychosoziale Unterstützung im Gesundheitswesen. *Ärztliche Psychotherapie.* 2021;16(2):87–92. German. doi:10.21706/aep-16-2-87
32. Hinzmann D, Schießl A, Koll-Krümman M, Schneider G, Kreitlow J. Peer-Support in der Akutmedizin. *Anästh Intensivmed.* 2019;60:95–101. doi:10.19224/ai2019.095.
33. Hinzmann D, Forster A, Koll-Krümman M, et al. Calling for help-peer-based psychosocial support for medical staff by telephone-a best practice example from Germany. *Int J Environ Res Public Health.* 2022;19(23):15453. doi:10.3390/ijerph192315453
34. Heininger S, Forster A, PSU München Psychosoziale Unterstützung für Pflegendе, Büchner VA, Engehausen R, Peters M, Schwaiberger M. editors. *Gesundheitswesen in der Praxis. Zukunft der Pflege im Krankenhaus gestalten: Probleme erkennen Profession entwickeln, Potenziale fördern* (1. Aufl.); 2024.
35. Deutsche Gesellschaft Interdisziplinäre Notfall- und Akutmedizin e.V. EMPTY - Emergency Medicine Problem Talk for You [Stand: 23.09.2024]. Available from: <https://www.dgina.de/arbeitsgruppen/board-arbeitswelten/empty>. Accessed January 17, 2025.
36. Roesner H, Neusius T, Strametz R, Mira JJ. Economic value of peer support program in German hospitals. *Int J Public Health.* 2024;69:1607218. doi:10.3389/ijph.2024.1607218
37. Hinzmann D, Koll-Krümman M, Forster A, Schießl A, Igl A, Heininger SK. First results of peer training for medical staff-psychosocial support through peer support in health care. *Int J Environ Res Public Health.* 2022;19(24):16897. doi:10.3390/ijerph192416897
38. Roesner H, Blum K, Gambashidze N, Schmiedhofer M, Weigl M, Strametz R. Determinants influencing implementation of clinical risk management – qualitative results of a national survey among clinical risk managers in Germany (KHaSiMiR21). *J Patient Safety and Risk Management.* 2024;29(3):157–164. doi:10.1177/25160435241240831

39. Destatis: *Statistisches Bundesamt Deutschland*. 23111-0002: *Personal in. Krankenhäusern:Deutschland*, Stichtag; 2023.
40. Moran D, Wu AW, Connors C, et al. Cost-benefit analysis of a support program for nursing staff. *J Patient Safety*. 2020;16(4):e250–e254. doi:10.1097/PTS.0000000000000376
41. Scott SD, Hirschinger LE, Cox KR, McCoig M, Brandt J, Hall LW. The natural history of recovery for the healthcare provider “second victim” after adverse patient events. *Qual Saf Health Care*. 2009;18(5):325–330. doi:10.1136/qshc.2009.032870
42. Boakye KG, Apenteng BA, Hanna MD, et al. The impact of interpersonal support, supervisory support, and employee engagement on employee turnover intentions: differences between financially distressed and highly financially distressed hospitals. *Health Care Manage Rev*. 2021;46(2):135–144. doi:10.1097/HMR.0000000000000251
43. Hu -Y-Y, Fix ML, Hevelone ND, et al. Physicians’ needs in coping with emotional stressors: the case for peer support. *Arch Surg*. 2012;147(3):212–217. doi:10.1001/archsurg.2011.312
44. Simms L, Ottman KE, Griffith JL, et al. Psychosocial peer support to address mental health and burnout of health care workers affected by COVID-19: a qualitative evaluation. *Int J Environ Res Public Health*. 2023;20(5):4536. doi:10.3390/ijerph20054536
45. Merandi J, Liao N, Lewu D, et al. Deployment of a second victim peer support program: a replication study. *Pediatr Qual Saf*. 2017;2(4):e031. doi:10.1097/pq9.0000000000000031
46. Holland P, Tham TL, Sheehan C, Cooper B. The impact of perceived workload on nurse satisfaction with work-life balance and intention to leave the occupation. *Appl Nurs Res*. 2019;49:70–76. doi:10.1016/J.APNR.2019.06.001
47. Sumner J, Townsend-Rocchiccioli J. Why are nurses leaving nursing? *Nurs Adm Q*. 2003;27(2):164–171. doi:10.1097/00006216-200304000-00010
48. Sasso L, Bagnasco A, Catania G, Zanini M, Aleo G, Watson R. Push and pull factors of nurses’ intention to leave. *J Nurs Manag*. 2019;27(5):946–954. doi:10.1111/jonm.12745
49. Martinussen PE, Magnussen J, Vrangbæk K, Frich JC. Should I stay or should I go? The role of leadership and organisational context for hospital physicians’ intention to leave their current job. *BMC Health Serv Res*. 2020;20(1):400. doi:10.1186/s12913-020-05285-4
50. Williams ES, Konrad TR, Scheckler WE, et al. Understanding physicians’ intentions to withdraw from practice: the role of job satisfaction, job stress, mental and physical health. 2001. *Health Care Manage Rev*. 2010;35(2):105–115. doi:10.1097/01.HMR.0000304509.58297.6f
51. Joo JH, Bone L, Forte J, Kirley E, Lynch T, Aboumatar H. The benefits and challenges of established peer support programmes for patients, informal caregivers, and healthcare providers. *Fam Pract*. 2022;39(5):903–912. doi:10.1093/fampra/cmab004
52. Min A, Kang M, Park H. Global prevalence of presenteeism in the nursing workforce: a meta-analysis of 28 studies from 14 countries. *J Nurs Manag*. 2022;30(7):2811–2824. doi:10.1111/jonm.13688
53. Kigozi J, Jowett S, Lewis M, Barton P, Coast J. The estimation and inclusion of presenteeism costs in applied economic evaluation: a systematic review. *Value Health*. 2017;20(3):496–506. doi:10.1016/j.jval.2016.12.006
54. Schultz AB, Chen C-Y, Edington DW. The cost and impact of health conditions on presenteeism to employers: a review of the literature. *Pharmacoeconomics*. 2009;27(5):365–378. doi:10.2165/00019053-200927050-00002

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