

## For PhD-Holding Registered Nurses Employed in Clinical Settings, Nursing Management Is Important

Faleh Ali Abdullah Alsaloli<sup>1</sup>, Fatimah Faiz Abdullah Alsaloli<sup>2</sup>, Nora Mubark Masoud Al-Shahrani<sup>3</sup>, Ghaliyah Saleh Ayed Alshamrani<sup>4</sup>, Fajer Saud Alklobi<sup>5</sup>, Nourah Saleh Ayed Alshamrani<sup>6</sup>, Fatimah Haib Albuhamod<sup>7</sup>, Ahmed Mohammed Aleissa<sup>8</sup>, Fatimah Ali Aldakhlan<sup>9</sup>, Yahya Ali Saleh Ghazwani<sup>10</sup>

<sup>1</sup>Nursing Technician, Asir Health Cluster, Bisha District, King Abdullah Hospital

<sup>2</sup>Nursing Technician, Asir Health Cluster, Bisha District, Al-Naqi' Primary Health Center

<sup>3</sup>Nursing Technician, Asir Health Cluster, Bisha Psychiatric And Longterm Care Hospital

<sup>4</sup>Nursing specialist, Prince Mishari Bin Saud hospital in Baljurashi.

<sup>5</sup>Nursing Specialist, Prince Mishari Bin Saud Hospital

<sup>6</sup>Nursing Technician, PHC Tabala Al fara

<sup>7</sup>Nurse, King Fahed hospital

<sup>8</sup>Staff nurse, King Fahad hospital hufuf

<sup>9</sup>Nursing, King Fahad hofuf hospital

<sup>10</sup>health services Administration department king Salman hospital

---

Received: 11.10.2024

Revised: 20.11.2024

Accepted: 27.11.2024

---

### ABSTRACT

**Background:** Registered nurses (RNs) with a PhD have the potential to enhance evidence-based nursing (EBN) and improve patient outcomes through their advanced expertise. However, their contributions in clinical practice settings are often underexplored and underutilized. Understanding their roles, challenges, and experiences is critical to leveraging their competencies for advancing nursing care quality and safety.

**Methods:** This study employed semi-structured interviews with 13 PhD-prepared RNs working in clinical practice. Data were collected through audio-recorded interviews, transcribed verbatim, and analyzed using inductive content analysis. Themes were developed collaboratively by the research team to encapsulate participants' experiences.

**Results:** The analysis revealed four main categories: (1) striving to develop nursing care with or without adequate support, (2) engaging intentionally in clinical practice, (3) promoting evidence-based nursing, and (4) fostering nursing education and professional growth. Participants highlighted their desire to integrate research into clinical practice, mentor colleagues, and improve patient care through EBN. However, barriers such as insufficient managerial support, unclear role definitions, and resistance from peers limited their potential contributions. A comprehensive theme, "Striving for Excellence in Nursing amidst Challenges," encapsulated the findings, reflecting participants' dedication despite facing obstacles.

**Conclusion:** PhD-prepared RNs bring valuable expertise to clinical practice, enhancing care quality and professional growth. However, their contributions are often hindered by systemic challenges. Addressing these barriers through clear role definitions, managerial support, and fostering a culture of EBN can maximize the impact of RNs with a PhD on patient outcomes and nursing practice.

**Keywords:** nurse: management: quality

### INTRODUCTION

For over a century, skilled nursing professionals have been pivotal in enhancing the quality and safety of healthcare delivery. Currently, there are approximately 20 million nurses and midwives globally (WHO, 2011), with registered nurses (RNs) playing a critical role in ensuring safe practices worldwide (Aiken et al., 2017). RNs are not only accountable for their professional practice but also play a key role in identifying and preventing errors and complications. Research indicates that hospital units with a higher proportion of RNs report fewer adverse events (Aiken et al., 2017). Additionally, the clinical expertise of RNs is a crucial determinant of patient outcomes (Yakusheva, Lindrooth, & Weiss, 2014). In many countries, nursing education spans undergraduate to postgraduate levels, with an increasing number of RNs pursuing doctoral degrees in nursing or caring science, both in Sweden and internationally (IOM, 2011; Swedish Society of Nursing, 2018). Doctorally prepared RNs have the potential to strengthen evidence-based practice (EBP) in healthcare settings.

However, limited research exists on the contributions of RNs with a PhD in clinical practice and their role in advancing nursing care quality and safety.

A core responsibility of nurse leaders is to create an environment that enables the provision of high-quality, safe nursing care. The gap between best-practice standards and the care frequently delivered in healthcare settings can place patients at unnecessary risk (Grimshaw, Eccles, Lavis, Hill, & Squires, 2012).

To reduce these risks, the integration of EBP is essential. EBP involves combining the best available research evidence with clinical expertise and patient preferences (Melnik, Gallagher-Ford, Long, & Fineout-Overholt, 2014). Both facilitators and barriers to EBP have been identified (Harvey & Kitson, 2016), and it is vital for nurse managers to recognize EBP as a cornerstone of improving care quality and ensuring patient safety (Melnik et al., 2016).

Ensuring an appropriately trained workforce is fundamental to safe nursing practice (Aiken et al., 2017; Griffiths, Ball, Murrells, Jones, & Rafferty, 2016). The presence of clinicians engaged in research at the bedside has been associated with improved care quality (Ozdemir et al., 2015). Nurses' educational attainment also plays a significant role in patient outcomes. Studies suggest that RNs with advanced degrees, such as a master's or PhD, are more likely to integrate research into their clinical practice compared to those with bachelor's or diploma-level education (Squires, Estabrooks, Gustavsson, & Wallin, 2011). Furthermore, an enhanced mix of nursing skills has been shown to reduce mortality rates and hospital stays (Aiken et al., 2017; Ball et al., 2018).

Despite advances in nursing education, nursing research is a relatively young discipline in many countries, including Sweden (Alghamdi & Urden, 2015; Sun & Larson, 2015). The first Swedish RN to earn a PhD did so about four decades ago (Rinell Hermansson, 2010). Today, of the approximately 140,000 RNs in Sweden, only around 1,700 (roughly 1%) hold a PhD (Swedish Society of Nursing, 2018), a proportion similar to that in the United States (Nickitas & Feeg, 2011).

RNs with a PhD are often employed in academic settings, focusing on research or education. Nevertheless, their advanced skills in critical thinking, evidence evaluation, and literature synthesis suggest they are well-equipped to promote EBP in clinical environments. Some international studies have highlighted the contributions of PhD-prepared RNs to practice development and research implementation in clinical settings (Andreassen & Christensen, 2018; Staffileno, Wideman, & Carlson, 2013; Wilkes & Mohan, 2008). However, further investigation is needed to understand the roles and experiences of PhD-prepared RNs working in clinical practice. This study aims to explore the experiences of RNs with a PhD working in clinical settings, focusing on their roles, functions, and work environments.

## METHODS

This study employed a qualitative approach (Polit & Beck, 2016), using semi-structured interviews with PhD-prepared RNs. The data were analyzed using inductive content analysis (Elo & Kyngäs, 2008). The study focused on identifying healthcare facilities where RNs with a PhD were likely to hold clinical roles, such as bedside nurses, clinical nurse specialists, or nurse managers. Given the absence of a centralized database documenting the academic qualifications of RNs, snowball sampling was utilized (Polit & Beck, 2016). Initial contacts were made with nurse managers at selected healthcare facilities, who were asked to identify RNs with a PhD within their organizations and provide their contact details. Identified RNs were also asked to refer others who fit the study criteria.

Each participant was contacted individually by the lead researcher, who provided detailed written and verbal information about the study, including the right to withdraw at any point. Participants were required to provide written informed consent before participating. To ensure confidentiality, interview transcripts were coded, and findings were reported at a group level, avoiding identifiable details.

### Data Collection

Data collection occurred through one-on-one interviews guided by a semi-structured format developed specifically for this study. The guide was piloted before use, resulting in minor adjustments. Interviews were conducted in private rooms at the participants' workplaces to ensure comfort and privacy.

### Interview guide

Questions:

Primary question:

Please tell me about your job...

Subsequent questions:

As a nurse with a PhD, what's your contribution to the care provided?

How do others perceive you, as a nurse with a PhD?

Please tell me about your choice to work in ... [referring to the respondent's current healthcare context]

Concluding question:

Is there anything in particular you want to pass on regarding your role or work

Probes:

Please tell me more about [refereeing to something the informant said] ...

Can you please elaborate on...?

Can you please describe...?

Please explain to me what you mean

The interviews began with an open-ended question, such as “Can you describe your work?” Participants were encouraged to elaborate freely, and follow-up questions or prompts were used as necessary. Each interview was audio-recorded and ranged from 20 to 80 minutes, with a total of nine hours of recorded data. Preliminary analyses were conducted during data collection, and interviews continued until data saturation was reached—when no new information emerged, and additional accounts corroborated existing findings (Elo et al., 2014). The recordings were transcribed verbatim by a professional transcriber, and the transcripts were cross-verified against the audio recordings for accuracy by the research team.

### Data Analysis

A qualitative content analysis approach was employed to analyze the data (Elo & Kyngäs, 2008). The transcripts were reviewed multiple times by the lead researcher to gain an overall understanding of the content and familiarize themselves with the data. Specific units of meaning—comprising words, phrases, sentences, or paragraphs conveying coherent ideas—were identified and assigned codes.

The coded meaning units were organized into subcategories, which were further grouped into broader categories. These categories were then synthesized into an overarching theme, encapsulating the key experiences of the participants.

To ensure a shared understanding of the data, all members of the research team read the transcripts independently. A structured analytical process was undertaken collaboratively, with at least two researchers working to develop subcategories, categories, and themes. These elements were then discussed by the entire team until consensus was achieved on their final structure.

For transparency, representative quotes from participants are included in the findings, with each quote linked to the corresponding participant’s coded transcript.

### RESULTS

The study involved 13 participants, all women, aged between 39 and 63. Their experience as registered nurses (RNs) spanned 17 to 38 years, with the duration since earning their PhDs ranging from 1 to 15 years. The analysis produced 19 subcategories, grouped into four main categories: pursuing advancements in nursing care with or without adequate support, engaging intentionally in clinical practice, promoting evidence-based nursing (EBN), and fostering nursing education and professional growth. A comprehensive theme encapsulating these findings was also developed.

### Examples

The RNs with a PhD expressed a strong desire to apply their expertise to enhance nursing practices. Their contributions emphasized a systematic approach to clinical care and reinforced the importance of patient-centered methodologies. Many participants noted that their academic background was appreciated by peers and managers, facilitating collaboration within the clinical setting.

“They understand that I work alongside them and share their experiences, which makes my contributions more relatable and valuable.”

However, some participants faced challenges due to insufficient managerial support and unclear role definitions. This often left them performing tasks similar to those of colleagues without a PhD, as managers seemed unaware of how to fully utilize their expertise.

“It feels like my PhD is undervalued because leadership doesn’t recognize its potential or practical applications.”

The participants highlighted the importance of maintaining active involvement in bedside nursing to prioritize the patient’s perspective. Their hands-on involvement also helped them identify potential areas for further research and innovation.

“Where else is high-level expertise more needed than with patients requiring critical care?”

Working directly with patients reinforced their credibility among colleagues and improved their ability to incorporate evidence-based practices into daily tasks. They reported changes in how they approached patient care, noting a more structured and research-informed methodology.

“Conducting research has changed how I think and reflect on patient care. It has made me more systematic and critical in my approach.”

RNs with PhDs showed a strong commitment to advancing EBN, mentoring colleagues, and fostering an environment of professional growth. They often assisted others in interpreting research findings, developing

clinical guidelines, and introducing innovative care practices.

“Colleagues seek my help in finding and analyzing research, and we discuss how to apply it to improve care.”

Despite their passion, participants encountered obstacles such as insufficient time allocated for research and occasional skepticism from peers about the relevance of their academic credentials to routine clinical tasks.

“Some question whether my PhD makes me better at certain technical tasks, which is disheartening and undermining.”

Another key role for these RNs was educating nursing students and mentoring colleagues. Their dual role in academia and clinical practice allowed them to bridge the gap between theoretical knowledge and real-world application.

“Working both in clinical settings and academia lets me connect the two, ensuring that educational content addresses real clinical issues.”

Participants emphasized their responsibility to inspire and guide others, including encouraging colleagues to pursue higher education and research. While rewarding, this role required addressing varying levels of competence among peers, from newly graduated nurses to those with decades of experience.

“You must tailor your approach to each nurse’s unique background and level of expertise.”

The participants valued their role as mentors and viewed their work as instrumental in strengthening the integration of education, research, and clinical practice.

The overarching theme reflected the participants’ determination to elevate clinical nursing standards using their advanced academic training, despite encountering various barriers. Their ambitions were driven by the desire to enhance patient care through evidence-based practices. However, many faced obstacles, such as ambiguous expectations and inadequate managerial support, limiting their ability to implement significant improvements. Balancing their dual responsibilities in academia and practice required a thoughtful approach to maintain both their clinical and research competencies.

In conclusion, while RNs with a PhD brought valuable expertise to clinical nursing, their contributions were often underutilized due to a lack of clear roles and support structures. Nevertheless, they remained motivated by their commitment to improving patient care and nursing education.

## DISCUSSION

Healthcare systems worldwide grapple with growing demands for advanced services and constrained resources. Delivering exceptional nursing care is vital to address these challenges in a cost-effective manner while maintaining high standards. Nurse managers play a pivotal role in this landscape. The **Institute of Medicine (IOM)**, in its 2010 report, emphasized the need for nurses to “practice to the full extent of their education and training” and called for increasing the number of nurses with doctoral degrees by 2020 (IOM, 2011). This recommendation aimed to elevate both research-focused (PhD) and practice-oriented (DNP) doctoral nursing programs in the United States. However, debates persist regarding the distinction between evidence-based practice (EBP) and research, as well as the role of a strong scientific foundation in advancing nursing care (Dracup, Cronenwett, Meleis, & Benner, 2005; Meleis & Dracup, 2005; Florczak, Poradzisz, & Kostovich, 2014). Collaborative efforts between DNP and PhD-prepared nurses have been proposed to integrate and apply evidence in clinical practice effectively (Florczak et al., 2014). Although the involvement of PhD-prepared nurses in clinical roles remains limited, interest is growing in pathways that merge academic and clinical nursing roles (van Oostveen, Goedhart, Francke, & Vermeulen, 2017; Smith, Gullick, Ballard, & Perry, 2018).

The responsibilities of PhD-prepared nurses, as highlighted in this study, centered on advancing practice and translating research into care. These findings align with prior research (Andreassen & Christensen, 2018; McNett, 2006; Sterling & McNally, 1999; Wilkes & Mohan, 2008). Successful implementation of EBP depends on having knowledgeable facilitators who understand the process (Dogherty, Harrison, Graham, Vandyk, & Keeping-Burke, 2013; Staffileno et al., 2013). The participants in this study expressed confidence in their ability to contribute to EBP but noted a lack of managerial support. This gap was attributed more to insufficient understanding of their qualifications by both direct and senior management than to intentional resistance. Nurse managers, as described in prior research, often fail to recognize the value of PhD-prepared nurses in improving care quality (van Oostveen et al., 2017; Wilkes & Mohan, 2008). Furthermore, limited job opportunities for PhD-prepared nurses to actively engage in clinical practice continue to pose a barrier (van Oostveen et al., 2017; Wilkes & Mohan, 2008).

PhD-prepared nurses have historically had limited roles in direct clinical care. Recent efforts aim to expand these opportunities and leverage their expertise to enhance clinical research (IAPD, 2018; INDEN, 2018). However, challenges persist, such as insufficient time for research due to competing clinical responsibilities, echoing findings from McNett (2006). Nurses with doctoral training often struggle to bridge the research-practice divide when primarily tasked with patient care rather than research-oriented roles.

The **American Association of Colleges of Nursing (AACN)** defines advanced nursing practice as encompassing individual patient care, care coordination, and administrative functions (AACN, 2006). The PhD represents the pinnacle of academic achievement in nursing, equipping graduates to conduct independent

research and lead within the profession. This leadership includes mentoring and setting a high standard for nursing practice (AACN, 2006). Both expert practitioners and nurse scientists are essential for advancing the evidence base underpinning patient care (Kitson, Conroy, Kuluski, Locock, & Lyons, 2013). Enhanced managerial support could foster a productive synergy between these roles.

## CONCLUSIONS

Registered nurses (RNs) bear responsibility for delivering high-quality, safe care and continuously improving nursing practices. PhD-prepared nurses bring advanced knowledge and skills that can significantly enhance EBP when integrated into clinical roles. This study highlights the limited research on the impact of PhD-prepared nurses in clinical care and underscores the need for further investigations. These efforts should explore how their expertise can be optimized to elevate the quality and safety of nursing care.

## REFERENCES

1. Aiken, L. H., Sloane, D., Griffiths, P., Rafferty, A. M., Bruyneel, L., McHugh, M., & Sermeus, W. (2017). Nursing skill mix in European hospitals: Cross-sectional study of the association with mortality, patient ratings, and quality of care. *BMJ Quality & Safety*, 26, 559–568. <https://doi.org/10.1136/bmjqs-2016-005567>
2. Alghamdi, M. G., & Urden, L. D. (2015). Transforming the nursing profession in Saudi Arabia. *Journal of Nursing Management*, 24(1), E95–E100. <https://doi.org/10.1111/jonm.12301>
3. American Association of Colleges of Nursing (AACN) (2006). AACN position statement on the practice doctorate in nursing. Retrieved from <http://www.aacn.nche.edu/dnp/Essentials.pdf>
4. Andreassen, P., & Christensen, M. K. (2018). "We're at a watershed": The positioning of PhD nurses in clinical practice. *Journal of Advanced Nursing*, 74(8), 1908–1918. <https://doi.org/10.1111/jan.13581>
5. Ball, J. E., Bruyneel, L., Aiken, L. H., Seremus, W., Sloane, D. M., Rafferty, A. M., ... Griffiths, P. (2018). Post-operative mortality, missed care and nurse staffing in nine countries: A cross-sectional study. *International Journal of Nursing Studies*, 78, 10–15. <https://doi.org/10.1016/j.ijnurstu.2017.08.004>
6. Dogherty, E. J., Harrison, M. B., Graham, I. D., Vandyk, A. D., & Keeping-Burke, L. (2013). Turning knowledge into action at the point-of-care: The collective experience of nurses facilitating the implementation of evidence-based practice. *Worldviews on Evidence-Based Nursing*, 10, 129–139. <https://doi.org/10.1111/wvn.12009>
7. Dracup, K., Cronenwett, L., Meleis, A. I., & Benner, P. E. (2005). Reflections on the doctorate of nursing practice. *Nursing Outlook*, 53, 177–182. <https://doi.org/10.1016/j.outlook.2005.06.003>
8. Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 2158244014522633. <https://doi.org/10.1177/2158244014522633>
9. Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62, 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
10. Florczak, K. L., Poradzisz, M., & Kostovich, C. (2014). Traditional or translational research for nursing: More PhDs please. *Nursing Science Quarterly*, 27, 195–200. <https://doi.org/10.1177/0894318414534470>
11. Griffiths, P., Ball, J., Murrells, T., Jones, S., & Rafferty, A. M. (2016). Registered nurse, healthcare support worker, medical staffing levels and mortality in English hospital trusts: A cross-sectional study. *British Medical Journal Open*, 6, e008751. <https://doi.org/10.1136/bmjopen-2015-008751>
12. Grimshaw, J. M., Eccles, M. P., Lavis, J. N., Hill, S. J., & Squires, J. E. (2012). Knowledge translation of research findings. *Implementation Science*, 7, 50. <https://doi.org/10.1186/1748-5908-7-50>
13. Harvey, G., & Kitson, A. (2016). PARIHS revisited: From heuristic to integrated framework for the successful implementation of knowledge into practice. *Implementation Science*, 11, 33. <https://doi.org/10.1186/s13012-016-0398-2>
14. IAPD (2018). International Association for Practice Doctorates. Retrieved from <http://professionaldoctorates.org.uk/>
15. INDEN (2018). International network for doctoral education in nursing. Retrieved from <http://indenglobal.org/>
16. IOM (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: The National Academies Press.
17. Kitson, A., Conroy, T., Kuluski, K., Locock, L., & Lyons, R. (2013). *Reclaiming and redefining the Fundamentals of Care: Nursing's response to meeting patients' basic human needs*, Adelaide, South Australia. School of Nursing, the University of Adelaide. ISBN 978-0-9872126-2-7 (electronic). Retrieved from [https://thesis.library.adelaide.edu.au/dspace/bitstream/2440/75843/1/hdl\\_75843.pdf](https://thesis.library.adelaide.edu.au/dspace/bitstream/2440/75843/1/hdl_75843.pdf)
18. McNett, M. M. (2006). The PhD-prepared nurse in the clinical setting. *Clinical Nurse*

- Specialist, 20, 134–138.
19. Meleis, A. I., & Dracup, K. (2005). The case against the DNP: History, timing, substance, and marginalization. *Online Journal of Issues in Nursing*, 10, 3.
  20. Melnyk, B. M., Gallagher-Ford, L., Long, L. E., & Fineout-Overholt, E. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: Proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *Worldviews on Evidence-Based Nursing*, 11(1), 5–15. <https://doi.org/10.1111/wvn.12021>
  21. Melnyk, B. M., Gallagher-Ford, L., Thomas, B. K., Troseth, M., Wyngarden, K., & Szalacha, L. (2016). A study of chief nurse executives indicates low prioritization of evidence-based practice and shortcomings in hospital performance metrics across the United States. *Worldviews on Evidence-Based Nursing*, 13(1), 6–14. <https://doi.org/10.1111/wvn.12133>
  22. Nickitas, D. M., & Feeg, V. (2011). Doubling the number of nurses with a doctorate by 2020: Predicting the right number or getting it right? *Nursing Economics*, 29(109–110), 125.
  23. Ozdemir, B. A., Karthikesalingam, A., Sinha, S., Poloniecki, J. D., Hinchliffe, R. J., Thompson, M. M., ... Holt, P. J. (2015). Research activity and the association with mortality. *PLoS ONE*, 10, e0118253. <https://doi.org/10.1371/journal.pone.0118253>
  24. Polit, D., & Beck, C. (2016). *Nursing research: Generating and assessing evidence for nursing practice*. (10th ed.). Philadelphia, PA: Wolters Kluwer.
  25. Rinell Hermansson, A. (2010). Från omvårdnadsforskning till vårdvetenskap [From nursing research to health care science]. *Socialmedicinsk Tidskrift*, 87, 386–396.
  26. Smith, S., Gullick, J., Ballard, J., & Perry, L. (2018). Clinician researcher career pathway for registered nurses and midwives: A proposal. *International Journal of Nursing Practice*, 24(3), e12640. <https://doi.org/10.1111/ijn.12640>
  27. Squires, J. E., Estabrooks, C. A., Gustavsson, P., & Wallin, L. (2011). Individual determinants of research utilization by nurses: A systematic review update. *Implementation Science*, 6, 955. <https://doi.org/10.1186/1748-5908-6-1>
  28. Staffileno, B. A., Wideman, M., & Carlson, E. (2013). The financial and clinical benefits of a hospital-based PhD nurse researcher. *Nursing Economics*, 31, 194–197.
  29. Sterling, Y. M., & McNally, J. A. (1999). Clinical practice of doctorally prepared nurses. *Clinical Nurse Specialist*, 13, 296–302. <https://doi.org/10.1097/00002800-199911000-00013>
  30. Sun, C., & Larson, E. (2015). Clinical nursing and midwifery research in African countries: A scoping review. *International Journal of Nursing Studies*, 52, 1011–1016. <https://doi.org/10.1016/j.ijnurstu.2015.01.012>
  31. Swedish Society of Nursing. (2018). Antalet disputerade sjuksköterskor och professorer i Sverige [The number of Registered Nurses with a PhD-exam and Professors in Sweden]. Unpublished paper.
  32. Van Oostveen, C. J., Goedhart, N. S., Francke, A. L., & Vermeulen, H. (2017). Combining clinical practice and academic work in nursing: A qualitative study about perceived importance, facilitators and barriers regarding clinical academic careers for nurses in university hospitals. *Journal of Clinical Nursing*, 26, 4973–4984. <https://doi.org/10.1111/jocn.13996>
  33. WHO (2011). World health statistics. Retrieved from <http://www.who.int/whosis/whostat/2011/en/>
  34. Wilkes, L. M., & Mohan, S. (2008). Nurses in the clinical area: Relevance of a PhD. *Collegian*, 15, 135–141.
  35. Yakusheva, O., Lindrooth, R., & Weiss, M. (2014). Nurse value-added and patient outcomes in acute care. *Health Services Research*, 49, 1767–1786. <https://doi.org/10.1111/1475-6773.12236>