

# Academization of Nursing and Its Possible Consequences for Hospital Management in Germany

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## Abstract

The history of nursing academization worldwide spans over a century. In Germany, this process started in the early 1990's and, relative to many other countries, has remained slow. However, some of the latest developments in the country are promising a constant increase in the number of nurses with academic education. Consequently, this process arouses new challenges and opportunities for hospital management. Through a literature review, this paper aimed to give an overview over the progress toward nursing academization in Germany, in comparison with the United States and the European Union. The other objective was to identify examples of the consequences of the process for German hospital management and to design proposals to facilitate adaptation to possible challenges.

**Keywords:** Nursing education • BScN • Hospital management • Nursing in Germany

## Introduction

The history of nursing academization worldwide spans over a century. In Germany, this process started in the early 1990's and, relative to many other countries, has remained slow. However, some of the latest developments in the country are promising a constant increase in the number of nurses with academic education. Consequently, this process arouses new challenges and opportunities for hospital management. Through a literature review, this paper aimed to give an overview over the progress toward nursing academization in Germany, in comparison with the United States (US) and the European Union (EU). The other objective was to identify examples of the consequences of the process for German hospital management and to design proposals to facilitate adaptation to possible challenges.

## Literature Review

Since 1909, when the first nursing bachelor program was launched in the US, many countries promote academic nursing education. The necessity for an academization of the nursing profession comes from the complexity of care within hospitals, as well as in community settings. It requires highly qualified nurses with rich knowledge in pathophysiology, psychology, as well as in the operation of medical devices. Evidence from several studies suggests that compared to nurses with vocational training, nurses with academic education possess skills for better prevention, recognition and treatment of exacerbations of patients' conditions. Besides that, they show higher levels of professional communication skills [1,2]. More and more advisory bodies and organizations in the healthcare industry worldwide recognize these potential benefits. In 2010 the US Institute of Medicine's (IOM) recommended that 80% of registered nurses should hold a baccalaureate degree or a higher by 2020 [3]. Two years later the German Council of Science and Humanities (*Wissenschaftsrat*) has recommended as well increasing the proportion of degree-educated nurses (DENs) to up to 20% [4]. In 2015, the Regional Office for Europe of the World

Health Organization called to standardize the initial level of nursing education at academic level in order to ensure a supply of qualified and skilled nurses that meets changes in population needs and constant technological progress in healthcare [5].

These recommendations are based on the mounting evidence from nursing research, which lately has actively investigated the association between education of registered nurses (RNs) and patient outcomes. There is considerable evidence demonstrating that higher proportions of DENs are associated with lower rates of mortality and failure to rescue (FTR). For instance, Aiken et al. found that an increase in proportions of DENs by 10% decreases the odds of both outcomes by 4% [6]. Cho et al. discovered an even greater decrease in mortality rates – up to 9% by each 10% increase in RNs with at least bachelor's degree [7]. The results of the study of Kutney-Lee and colleagues show that every 10% increase of degree-educated nursing staff is associated with 7.5 fewer FTR events for every 1,000 patients [8]. However, most of the studies conducted on this topic are cross-sectional – which do not prove causality between variables. Furthermore, the relationship between the educational levels of RNs and other patient outcomes (e.g. falls, nosocomial infections, pressure ulcers) was scarcely examined and results of existing studies are inconsistent [1]. The lack of causal relationship and incoherent results of some studies make it difficult for policy makers worldwide to reach a consensus on how nursing education should be. Therefore, while some countries are moving towards academization, others are still requiring only vocational training for entry into the profession, leading to an uneven professional landscape.

## Nursing Education in the US, the EU and Germany

According to Spetz nearly 66% of US nurses will be trained on academical level by 2025 [9]. The projection shows that the country will not meet IOM recommendation's goal of 80% DENs by 2020. However, stakeholders in the US are aware of the benefits that nurses with academic degree can offer to the national healthcare system and develop different approaches in order to speed up the process of nursing academization. For instance, in December 2017, the New York governor signed a senate bill requiring all RNs either to have or to obtain a bachelor's degree within 10 years of initial licensure [10].

Nursing education in Europe has gone through several reforms in the last two decades. Firstly, the Bologna process, which started in 1999, has accelerated the transition of nursing training from vocational to academic level [11]. In addition, directives 2005/36/EC and 2013/55/EU have defined the minimum training requirements for nurses in the EU. The latter gives freedom to the EU Member States to decide whether a diploma or degree level is essential to practice the profession. According to findings of Praxmarer-Fernandes et

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Received 24 July 2020; Accepted August 19 2020; Published August 26 2020

al., among the countries that participated in the study, Luxembourg is the only country within the EU/EFTA to offer exclusively vocational level of nursing training [12]. 13 out of 27 countries offer exclusively bachelor's degree-level as initial nursing education. The same number of countries (incl. Germany) offer both vocational and degree-level education (Table 1). Among countries in the latter category the proportion of DENs working in hospitals varies drastically from 0% in Germany to 56% in Belgium (Figure 1) [13]. It was estimated that in total in 2014 about 7,000-8,000 nurses with an academic degree were working in German health care facilities. This numbers correspond to 0.5% of all nursing staff in the country [14].

One interpretation of this data is that nursing in Germany appears to be perceived as a practical profession. In such case, the health system may not be striving to promote academization. Explanations for this phenomenon could be the underestimation of the benefits of DENs for health outcomes; resistance to nursing academization from medical organizations and the United Services Union (the dominant trade union in the healthcare sector); and apprehension of financial consequences of the process [15]. The first debates on the transformation of nursing into an academic discipline began in Germany in the middle of the twentieth century. At that time stakeholders believed that academization of this "female profession" is not necessary and even unfeasible. Moreover, it was considered that everyone is capable to work in nursing and it does not require high qualification. All these caused a slowdown in the academization process in Germany, which begun only in early 1990's when the programs have primarily concentrated on the areas of nursing management and teacher training, while the first bachelor program in nursing was launched in 2004 [16]. According to Busse et al. there are 37 German higher education institutions offering now bachelor programs in nursing [15]. This number is expected to increase, especially after the adoption of the Nursing Professions Act 2017, which for the first time regulated an initial nursing education at academic level. This law, that entered into force on January 1, 2020, leads to a standardization of bachelor programs in the country's colleges and universities [17]. Subsequently, the number of DENs in Germany is supposed to grow. That, in turn, gives rise to several opportunities

and challenges for hospital management which will be discussed in the next section.

### Nursing Academization in Germany: Challenges and Opportunities

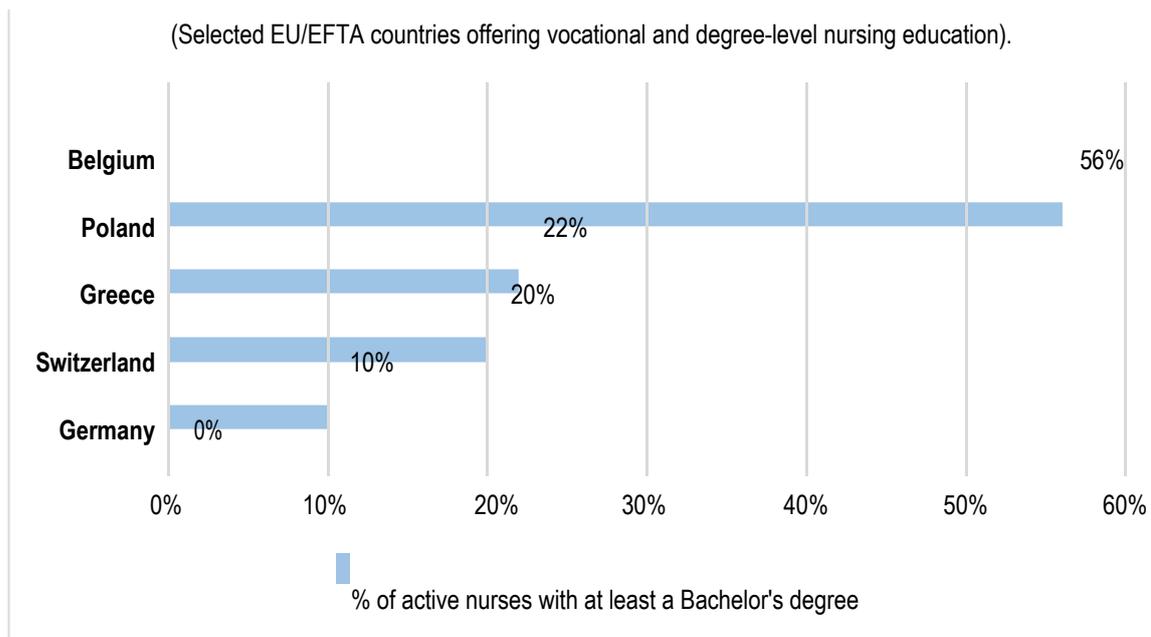
**Financial concerns:** Reforms in general and in healthcare sector in particular, cause concerns over the costs of new initiatives and actions. As mentioned above, the process of nursing academization is in progress and hospital management should be ready for its potential financial impacts.

The first question that arises is whether initial nursing education at academic level will lead to additional costs for hospitals? Answering this question, it is important to stress that bachelor programs in nursing differ from most academic programs by division into two parts: the theoretical one, provided by academic institutions, and a practical phase within healthcare facilities. The Nursing Professions Act 2017 does not regulate the financing of the practical part, which can be an additional challenge for a hospital management regarding nursing academization. In this way, hospitals cannot expect reimbursement of expenditure for the practical phase as they do when they train students of vocational education programs. However, examples that existed before The Nursing Professions Act 2017 was adopted, show that different sources for funding are available. For instance, the costs of practical training can be reimbursed by the sickness funds (*Krankenkassen*) or different ministries at the state level (e.g. as done by Ministry of Social Affairs in Mecklenburg-Vorpommern) [18].

The next aspect of concern is a potential increase in salaries for DENs. According to Busse et al., wages rates for employees in the public sector are based on the pay grades and levels of the collective pay agreement for Public Service (*Tarifvertrag für den öffentlichen Dienst – TVöD*) and depend on whether the person finished vocational or academic education, as well as on the length of the training program [15]. The complexity of tasks and grade of responsibility involved in the job also affect the wage rates. In accordance with this data, theoretically, the wage of new degree-educated entrants should be up to more than €700 higher than those after vocational training. But in reality,

**Table 1.** Levels of initial education of nurses in the EU/EFTA.

Educational level	Country
Diploma level exclusively	Luxembourg
	Bulgaria
	Cyprus
	Denmark
	Estonia
	Finland
	Ireland
	Italy
	Netherlands
	Norway
	Portugal
	Spain
	Sweden
Bachelor's degree exclusively	United Kingdom
	Austria
	Belgium
	Croatia
	Czechia
	Germany
	Greece
	Latvia
	Lithuania
	Malta
	Poland
	Romania
	Slovakia
Diploma & Bachelor's degree	Switzerland



Source: Aiken, Sloane, Bruyneel, Van den Heede & Sermeus [13].

Figure 1. Percentage of nurses with at least a bachelor's degree working in hospitals (2009-2010).

the new pay agreement will lead to a difference of only €80 [17]. In this context, it's expected that with the progress of nursing academization, hospitals' salary costs will not increase cardinally, but will happen gradually. Moreover, these expenditures can be reimbursed by developing management strategies that will use the potential of DENs to its maximum extent.

The systematic review of Tsiachristas et al. has shown that promoting new professional roles in healthcare that gravitates some tasks from doctors to specialist nurses and advanced nurse practitioners can potentially lead to costs savings [19]. Moreover, the authors found positive effects from the introduction of these roles regarding clinical outcomes and patient satisfaction. German hospitals are also likely to profit from such skill-mix innovations within their health workforce.

Some experts see the task-shifting from nurses to nurse assistants as a cost-effective strategy. This process should not be understood as the replacement of nurses by nurse assistants, but as supplementing and complementing [20]. According to the German Association of Nursing Science (*Deutsche Gesellschaft für Pflegewissenschaft*), the increase in DENs should happen together with an increase in nursing assistants. That is seen as an example of nursing staff deployment strategy that is adapted to the needs of patients and can be economically beneficial [14]. This is particularly important, especially given that nurses in German hospitals are often occupied with the mundane tasks that do not require nursing education, e.g. ordering patients' meals and their distribution or cleaning patient environments. This, in turn, leads to an increase in undone direct nursing tasks, such as oral hygiene or skin care, while patients must carry the consequences [21].

Yakusheva et al. provided an economic simulation, in which it was found that institutions with more than 80% of DENs can potentially save more than \$5.5 million annually due to lower readmission rates and shorter length of stay (LOS) [22]. Despite this study being provided within the US healthcare system settings, German hospitals are also likely to benefit financially from the shorter LOS and lower readmission rates if they reach a sufficient proportion of DENs.

**Integration and acceptance:** Considering the small number of graduates of bachelor's programs in nursing working in direct patient care, one can assume that most German hospitals do not have enough experience in employing DENs and should develop concepts for their successful integration and acceptance.

DENs can be integrated in patient and family members consultation, e.g. in verifying if a home environment is appropriately prepared for the

patient's discharge. Additionally, they can provide trainings in wound and pain management. Case management of patients that require advanced nursing interventions can be another area for integration. Furthermore, DENs can be involved in hospital projects on infection control and prevention, as well as on prevention of pressure ulcers, coordination of care and training of patients with diabetes mellitus. For instance, they can collect information within their wards on number of nosocomial infections, bedsores or patients with persistent hyperglycemia, transfer this data to the specific project manager, participate in meetings where the results and measures for potential improvement are discussed. Thereafter, the statistics on the ward performance and the goals can be presented to the colleagues. This will guarantee that nurses constantly use the knowledge they acquired in academic institutions and are involved in the improvement of the quality of care, while remaining engaged in direct patient care.

The academization of the nursing profession frequently arouses uncertainties, fears and skepticism within vocational trained nursing staff. This can lead to lack of acceptance of DENs by co-workers. Several strategies can be developed in order to prevent this situation and to contribute to a higher acceptance. As a first step, the hospital management should clarify that the skills, experience and knowledge of vocational trained nurses will not be devalued. Nursing staff with all education levels should recognize the benefits of the collaborative work process. This can be achieved through information events for hospital employees, where the tasks of degree-educated nurses and their impact will be transparently present. Another strategy to promote acceptance is by stimulating vocational trained nurses to acquire bachelor's degree [14,23].

**Quality of care:** As mentioned above, several studies found a negative association between higher proportions of DENs and hospital mortality. Furthermore, improvements in patient safety were documented in hospitals where the proportion of DENs has increased over time [24]. By hiring nurses with academic degree, German hospitals can achieve improvements in both indicators and deliver care of higher quality.

## Discussion and Conclusion

The German healthcare system traditionally perceives nursing as a practical, as opposed to an academic, profession. After more than 15 years of history of academic nursing education, less than 1% of nurses employed in the country's healthcare facilities hold an academic degree. With the growing number of

academic institutions offering bachelor programs and the new legislation that regulates initial nursing education at academic level, this situation is expected to change. Hospital management faces several challenges related to the progress in nursing academization, e.g. concerns about financing the practical phase of bachelor programs, about the rise in salary costs, and integration and acceptance of nurses with academic background in the work environment. Such a paradigm shift in nursing education can also bring several opportunities for cost-saving, the development of new roles for nurses and, most importantly, for improvements in the quality of care. Adequately developed programs for cooperation with academic institutions and other possible partners, as well as strategies and concepts for involvement of DENs in work environments, can extend the potential benefits of nursing academization for hospitals, as well as for nursing staff and patients.

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**How to cite this article:** Alexander Pachanov. "Academization of Nursing and Its Possible Consequences for Hospital Management in Germany" *J Nurs Care*, Volume 9 (2020):504 doi: 10.37421/jnc.2020.9.504