The Role of Education and Training in Developing Health care workforce in the U.S.

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Abstract: the effect of shortage in the healthcare workforce significantly influences healthcare services worldwide, mainly the access to healthcare facilities. Factors such as overloaded work schedules and restricted access to personal protective equipment (PPE) imposed significant stress and led to burnout and a high turnover rate. High staff aging fosters the retirement rate among the healthcare workforce, especially professionals. The coronavirus pandemic accelerated the issues, creating a high demand for health care services and increasing the work pressure on health staff. The systemic literature review analyzes the strategies that the health care managers and decision makers can use to eliminate the severity of the staff shortage. In addition, the article examines the integration between education and training with other strategies for alleviating the issue and increasing staff supply. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines, a detailed search transpired using the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and the academic databases MEDLINE. Data from 25 relevant articles was analyzed to answer the research question. Four common themes emerged from the analysis of workers replacement, education, training, collaboration, and integration that can be used as better strategies to increase the supply of health care workers. The results showed that the healthcare workforce is in increased demand for their services, placing them at risk for emotional stress and depression and lowering the retention rate among health organizations. However, some creative methods were developed by many institutions to turn over the shortage, especially during the exposure to the COVID-19 pandemic.

 Keywords—Staff shortage, education, training, strategies, job vacancies.

1. INTRODUCTION

The shortage in the health care workforce has been confirmed to be one of the critical obstacles to the excess health benefit in the United States. [1] The healthcare industry suffers a high annual turnover rate among RN staff 27.1%, with a cost of $46131 for each, according to 2022 the yearly NSI National Health Care Retention and RN. [2] The shortage in personal protective equipment (PPE) during the Covid-19 pandemic resulted in around 40% of clinics staff absenteeism. [3, 4, 5,6] 27.6% of health care facilities faced a shortage in N95 masks and gowns for a week or more. [6] The possibility of the exitances of environmental contamination and concern about the supply of essential equipment increased the staff's concerns about their ability to provide high-quality care. [6] In addition, the lack of trust and transparency with poor communication between managers and employees about their duties, especially during the pandemic, increases the pressure on workers. [3] Workers were concerned about the protection and safety of themselves and their relatives. [7] These job conditions influence workers' physical and emotional life. [3] The absenteeism rate was around 20% due to illness, raising the staff shortage rate. [8]

The job vacancies issue existed in the U.S. health care sector even before the hit of the current pandemic. In 2017, hospital turnover rates ranged from 4.5% to 30.7%, with an average of 18.2%, the highest rate since 2013. [9] The highest turnover rate creates a financial burden on the hospitals' budgets and services. Many studies emphasize the importance of work stress in lowing retention rates. [3, 5, 7] Staff burnout due to overload schedules contributes to adverse impacts on the quality of care and patient safety, indicating the probability of medical errors. [1, 7, 8] With these conditions, the demand for health care services increased dramatically in recent years. Factors such as population aging, the availability of health insurance through the expansion of the Affordable Care Act, or pandemics exposure led hospitals and other health facilities to work with the highest capacity putting their staff at high risk of burnout, especially with the shortage in essential medical resources. [1, 4, 6]

Health institutions are exploring more reasonable methods to solve job vacancies and create adequate conditions for staff availability. Job satisfaction and experience are considered factors that influence the workers' decisions. This study aims to analyze the ability of education programs and the training systems to increase the availability of the health workforce. Four common themes emerged from the analysis of workers replacement, education, training, collaboration, and integration that can be used as better strategies to increase the supply of health care workers. First, a shortage in staff impacted the healthcare institutions to deliver better services contributing to more pressure on the current staff. Second, the absence of skilled employees, especially during the outbreak of the Covid-19 pandemic, forces health institutions to create innovative ways to eliminate the issues. Third, some strategies are restricted by timeframe while others require high financial incentives to be implemented. This paper provides some methods that the literature refiled based on the practical work. However, the first consideration is always the safety and protection of workers and patients. Fourth, new policies need to be implemented for some solutions' success.

2. METHODS

The article employed various databases to specify the literature articles that described the research issue and help to define explanations for our research questions. For example, can education and training enable health staff or prospective medical students with affordable education and training improve workers' availability? Are there any techniques or strategies for solving the issue? The examination through different databases provided a substantial basis for discovering a research subject. After choosing the topic, the PRISMA framework was followed by a thorough literature search utilizing PubMed (including MEDLINE) and CINAHL databases. The systematic review contained 24 studies from the two scholarly databases to answer the study questions.

2.1. Exclusion Criteria

The research questions were analyzed after collecting and organizing the 58 articles identified from PUBMED (including Medline) and CINAHL. Filters were then applied to exclude articles outside of the desired publication timeframe of 2020 -2022 (n = 58). Finally, articles with full text available with the abstract were selected (n= 28). Few articles were out of context and did not relate to the research questions of our study; therefore, they were excluded. After applying the exclusion criteria, 16 articles remained.

Figure 1: Literature Review Process
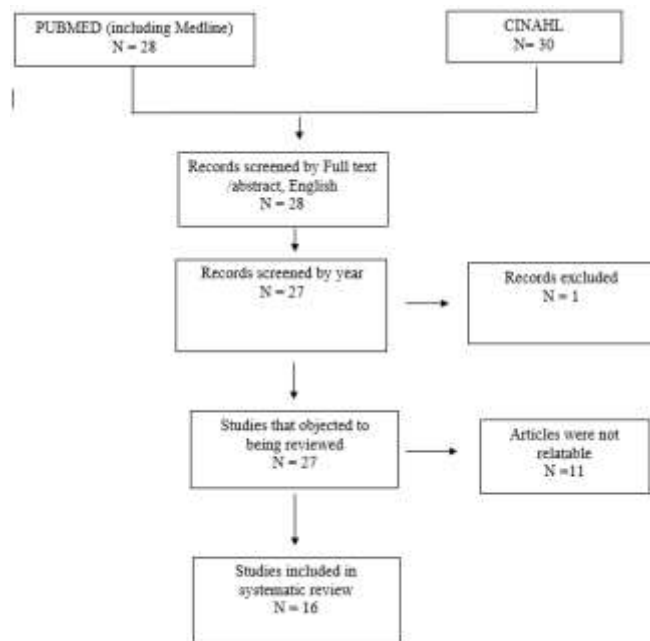
3. RESULTS

The research question explored the most reasonable strategies to eradicate the issue of job vacancies in healthcare industries. For example, does using education and training as a strategy help develop the health workforce? Are there any additional methods health leaders can utilize to eliminate the issue? The systemic literature review used PubMed (including MEDLINE) and CINAHL databases to select the related articles. The structure of the paper followed the PRISMA framework to conduct the systematic literature review for choosing the academic resources to answer the research questions. Out of 28 full texts identified, 24 were selected from given the relevance to the study questions. The articles were examined and determined to be adequate for data analysis. (See Figure 1). based on the analysis of data offered by the chosen papers, four common themes were identified as reasonable strategies for the research question. These themes indicate healthcare workers' redistribution, education programs, training methods, collaboration, and integration with other institutions would help healthcare leaders to solve or alleviate the issues.

The literature exhibits that

Theme	Occurrence	Instances of attributes (n)	Percentage* (%)
Changes in practices and regulations to offer a more flexible nursing workforce	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	n = 14	58%
Educational programs	16, 17, 18, 20, 21, 22, 23, 24	N = 8	33%
Training and clinical practice	10, 13, 18, 21, 25, 26, 27, 28	N = 8	33%
Collaboration and Integration	19, 22, 23, 24, 30	N = 5	20%

*Percentage rounded to the nearest whole number

The results show that; 58% of studies provide best evidence in which changes in practices and regulations to offer a more flexible nursing workforce [7, 8, 9, 10, 11, 12,

13, 14, 15, 16, 17, 18, 19, 20] deliver a best practice to solve the issue. 33% of the articles [16, 17, 18, 20, 21, 22, 23, 24] indicated that enabling students and medical staff to pursue educational programs especially in areas that suffer from sever lack of staff. Another 33% of articles [10, 13, 18, 21, 25, 26, 27, 28] suggested that providing training programs would improve the capability of the workforce and reduce the shortage. Finally, 20% of articles [19, 22, 23, 24, 30] demonstrated that collaboration with other institutions with the integration of related public health workers would help especially at the outbreak of crises.

4. DISCUSSION

This study is a review of the health literature focusing on the health care workforce shortage. However, this article is among the first articles concerned with the solution, not the problem's cause. Vacancies have been a common problem in the healthcare industry for a long time. Reasons related to an increase in demand due to an aging population or expansion of health care coverage, aging of employees, the retirement of professionals, lower wages, safety, and burnout usually affect the retention rate. The study exhibits four themes would provide better evidence to answer the research question.

Changes in practices and regulations to offer a more flexible nursing workforce

The first policy is worker replacement and redistribution to minimize the prevalence and size during an outbreak of the health crisis and reduces the shortage caused by employee absenteeism, especially on the front lines of care. [7] It also performs as an effective tool in limiting the pandemic outbreak. [7] The absenteeism rate among health workers reached around 30% during the Covid-19 pandemic. [7] However, this policy has many concerns related to the safety of replaced workers. In addition, many health service providers have offered telemedicine or telepsychiatry consultations as a solution to the challenges of providing in-person visits due to a shortage of health workers. [8,11] It is helped in maintaining public safety and providing access to essential services even for clinics closed onsite. There was a significant increase, 11% pre-pandemic to 79% during the pandemic, in telemedicine visits among clinics providing contraceptive services. [8] However, there is a need to give the providers suitable training and ensure the existence of proper methods for reimbursement. [8] In addition, it is essential to promote nursing resilience to reduce the cause of nurses' burnout. [9] Seven strategies for expanding nurses' powers were identified: Promoting the positivity and participation of nurses, initiatives to encourage nurses' practice, nurses' recognition as valuable and appreciated, supporting nurses' self-care, facilitating and promoting social connections to build a positive culture among nurses, recognizing nurses' strengths to encourage nurses' involvement, and supporting nurses' development and growth. [9] These strategies aim to lower the staff turnover rate and improve the quality of care by reducing nurses' burnout issues. Therefore, it is essential for health care managers to recognize the psychological events related to workers' emotional distress, empowerment, and safety. [10] Resilience is a critical factor, particularly during a pandemic in which health workers encounter isolated work conditions due to the lack of communication with their supervisors. It is about delivering the appropriate training for nurses regarding the standard procedures to deal with similar situations where the demand exceeds the hospital's capacity. [10]

Changes could involve the delivery of new obligations inside the healthcare system. By partnering with physicians, nurse practitioners (NPs) can provide a cost-effective solution that eliminates the staff shortage by improving the patients' access to the hospitals. [11, 16, 18, 19] The utilization of NPs to provide primary care to deliver continuous care to their patients can increase the capacity of the primary care to gap the staff shortage. [16, 19] However, for NPs model to be applicable, regulation and education standards for scope and practice should be similar between the states. In many states, NPs are not allowed to admit patients to clinics, but the insurance reimbursement for NPs' services differs based on the healthcare setting affecting NPs' choices for work. [16] The necessity of collaborative agreement with physicians and low insurance payments represented the main barriers to increasing the distribution of NPs. Therefore, it is essential to change the regulation to move the restriction and allow more space for NPs to practice.[11] Other strategies that aim to increase staff registered nurses supply include offering better work conditions such as high wages incentivizing staff to shift from working part-time to full-time or retired nurses to return to work lowering the retirement rate. [14] In addition, some institutions utilize psychiatric Mental Health Nurse practitioners (PMHNPs) to cover the shortage of mental health professionals, especially in rural areas. [17] The number of psychiatric health mental professionals in the U.S. declined by 10.2% between 2003 and 2013. [17] Barriers related to state regulation, the lack of job descriptions, and the hiring requirements deter the utilization of PMHNPs. [17] Therefore, nurses usually accept positions with contracts that do not provide employment benefits. However, these changes in the work environment by redistributing employees to new tasks imposed additional risks related to the safety of workers, placed further pressure, and caused emotional distress that may be associated with a high turnover rate.

Education programs

Pursuing a medical degree is cost and benefit, especially in rural areas where fewer medical students are interested in practicing due to the isolation, low salary, and lack of opportunities to pursue higher education. [21] However, some students in rural areas enter medical education to be physician assistants (PA) and work in the primary care unit. [21] Providing continuous care for patients with chronic diseases is critical for the health care of rural communities. Based on 2013 annual data from the American Academy of Physician

Assistants, around 12% of PAs deliver primary care in rural areas. [21] However, despite the increase in the enrollment in medical school (16%) between 2001 and 2011, the rate of students who intended to practice in rural areas declined. [21] Continuing education has the ability to enhance better job environment that led to health quality improvement. [22] The use of a transitional educational program (TEP) designed and implemented by U.S. specialists for institutions outside the United States. These programs are designed by nurses with previous experience in papering students to take the required exams. [23] Such programs were conducted in the Philippines and Mexico to prepare nurses to work for U.S. clinics after passing the U.S. Nursing Credentialing and Licensure Exam for Registered Nurses (NCLEX-RN). [23] 30 out of 67 nurses passed the exam in Mexico, showing high competency to be placed in a U.S. health care setting. [23] Those nurses have the ability to work in both English and Spanish language to serve citizens and immigrants from Latin America and limit the disparities in health care services. Therefore, recruiting Mexican nurses into the U.S. health system solves job vacancies, especially in remote areas. However, papering for these programs is expensive and needs a substantial amount of funds to succeed. [23]

Nursing usually faces a significant challenge when they decide to pursue their education. Factors such as financial burden due to high education costs and the ability of nurses to pay for these programs affect their program choices. Other factors include the program location, flexibility that allow nurses to continue their jobs, and the ability to enter the workforce quickly and faster after they pass all requirements. [24] In addition, these requirements could deter nurses from pursuing the new education, especially if the opportunities for professional growth are low. [24] Another study by Terry et al. defined six components that predictably affect the student's decision to practice in rural areas after graduating from medical school. These factors are related to clinical aspects of rural areas, managerial characteristics, practical elements about the work environment and the opportunity for growth, fiscal parts to allow workers to relocate, family aspects, and geographical components such as the size of the community. [20] Health education is uniform across all states; however, states have different regulations that affect the workforce's ability to perform specific duties. [16] Continuous education can help staff to increase their capability and knowledge that create the skills and confidence required for work. [18] In addition, changes in regulation on state or federal levels would remove the education barriers. [17]

Training techniques

Providing the proper training, especially during a crisis, builds trust and encourages communication among health staff. [10] It is essential to support psychosocial and mental health care among workers would imitate. [25] The main concern during covid 19 pandemic was staff's safety and protection; therefore, the material training and preparation were critical in meeting the works conditions and enabling work resilience that lowered the absenteeism rate. [25] Despite the benefits of training, a study by Becker et al. shows a decline in the interest in psychiatric fellowship due to lifestyle and prestige, financial reasons, and future carrier and growth opportunities. [26] The increased cost of attending training programs or related conferences affected the interest in following psychiatry fellowships. [26] Rural areas usually face the same challenges due to the low proportion of medical students interested in fellowship programs in remote areas. Isolation, the best communication with colleagues, considering their lifestyle and families, and the lack of future opportunities are among the main reasons for lowering the rate. [21] In addition, some institutions, such as correctional facilities, face challenges recruiting or retaining mental health professionals (MHPs) due to the difficulty of training or availability of better opportunities in other institutions. [27] The interest of being among health staff in such institutions (in 2007, 30% out of 170 graduate students were interested) was the main reason contributing to the shortage of MHPs. Reasons related to conceptions about the nature of work in correctional facilities with the concern about growth opportunities are among the reasons that deter medical students from entering the field. [27] In addition, it is essential to establish training programs that offer internships for senior medical students that benefit hospitals and healthcare centers. [28] Using a one-year internship training program by rural hospitals and healthcare centers provides the first step of getting the knowledge and transferring the experience for practical participation in healthcare settings. [28] The use of telehealth to provide primary care in rural areas, especially mental health care, creates opportunities for workforce training by delivering collaborative care. [13] Special training needed for NPs and PAs can expand the health workforce who deal with patients with chronic conditions such as patients living with dementia. [18] Therefore, policies emphasizing the benefits of participating in these programs motivate postgraduate and staff to be involved in training programs to expand the scope of health care.

Integration of CHWs & Collaboration

Collaboration between public health centers and universities or local health institutions would accelerate the process of preparing medical students to participate in health care services. [29, 19] Obtaining a Bachelor of Science in Nursing with the training of practical nurses would help nurses to pass the required exam to be registered nurses. [22] Collaboration is needed to strengthen and implement in efficient ways due to limited resources. [22, 29] Integrating community health workers (CHWs) into health care systems solves staff shortages, especially during epidemic outbreaks. Community health workers are public health workers who serve communities and develop a better understanding of their needs. However, CHWs are not usually employed to provide care to the population, but providing appropriate training, resources, and psychosocial support can improve their capabilities. [30] They usually have good experience in

addressing the social determinants of health that will help improve access to care and solve patient treatment and post-care problems. [30] Another solution suggested the utilization of partnerships with local care agencies to provide training courses or clinical rotation, including courses on mental health care. [23] The partnership with private hospitals would provide cost-efficient solutions for medical students to get the required experience. [23] An innovative partnership model with a concurrent enrollment program (CEP) that connects trainees with creative works would create paths to achieve around 80% of nurses with required certificates. [24]

Limitations

Despite the above findings, this systematic literature review may have potential limitations that include (a) time restriction for research where the literature review was limited to a 12-week time frame, (b) the selection criteria produced limited resources related to the methods for solving the issue, c) The available literature considered the reasons of the shortage, especially during the spread of Covid-19 pandemic, was limited. The author followed PRISMA guidelines and protocols for systematic literature reviews to minimize the influence of the above limitations. Related resources were collected from PubMed (including MEDLINE) and CINHAL. The articles were carefully read and analyzed to align with the research question.

5. CONCLUSION

In conclusion, the shortage of healthcare staff affected the access and the quality of healthcare service. The solution will depend on the ability of the health institution to utilize a strategy that requires a long time to be practical or a short time policy. Educational programs usually require many steps that take a long time and resources. Training on the sider can be utilized to enhance related public health workers' participation in health care systems. It also provides a valuable method to improve the productivity of current workers. The article concludes that changing and redistributing current health care workers and policies would be an effective technique for alleviating the issue. However, it is always required the consideration of patients' and workers' safety and protection.

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