

EVALUATION OF NURSES NEED PLANNING: A SYSTEMATIC REVIEW

Vina Sri Avriantini¹⁾, Amal Chalik Sjaaf²⁾

¹⁾Masters Program of Public Health Management, Faculty of Public Health,
Universitas Indonesia

²⁾Faculty of Public Health, Universitas Indonesia

ABSTRACT

Background: The recruitment system is important to address the supply of nursing personnel and ensure continuity of health service delivery. However, the number of health workers alone is not enough to strengthen the health system. The health system must be in accordance with health care need to accelerate health outcome. This study aimed to review systematically the evaluation of nurses need planning.

Subjects and Method: A systematic review was conducted by searching published articles from 2015 to 2019 from databases including Wiley Online library, ProQuest, and ScienceDirect. The keywords for this review included “evaluation”, “health workforce”, “nursing”, and “planning”. The inclusion criteria were English and full text. After review process, 8 articles were retained in this review.

Results: There were several factors that affected nurse recruitment planning, including nurse orientation towards culture and rule, education, scheduling, source of allocation, and workforce composition.

Conclusion: There are several factors that affect nurse recruitment planning, including nurse orientation towards culture and rule, education, scheduling, source of allocation and workforce composition.

Keywords: evaluation, health workforce, nurses, planning

Correspondence:

Vina Sri Avriantini, Masters Program of Public Health Management, Faculty of Public Health,
Depok, West Java. Email: Viensa4@gmail.com. Mobile: 0895391849385

BACKGROUND

Health development increases awareness, willingness and ability to live healthy for everyone so as to realize an optimal degree of public health that is marked by the population behaves in a healthy life and in a healthy environment, has the ability to reach quality health services fairly and equally, and has a degree of health optimal in all regions of the Republic of Indonesia. WHO (2006) reports that health personnel contribute up to 80% in the success of health development.

The mandate of Law Number 36 Year 2009 regarding health in article 21 stipulates that the government regulates the planning, procurement, utilization and empowerment (guidance and quality control) of health

personnel in the context of providing health services. To improve Health HR, in the SKN established in 2009 the development and empowerment of Health HR is carried out through 4 (four) main efforts, namely: (1) Health HR Planning; (2) Procurement of Health Human Resources; (3) Utilization of Health Human Resources; (4) Empowerment (Development and Quality Supervision) of Health HR (Ministry of Health, 2009).

Decentralization in Indonesia which began to be implemented in 2001 brought rapid changes in all developments including the health sector. The role of health human resource planning is shifted to the regional government so that provinces and districts are encouraged to plan the required health

personnel based on local needs. The Regional Personnel Agency (BKD) has more power than other institutions to allocate available quotas from the Civil Servants (PNS) given by the center and conduct selection and recruitment. This planning policy is recognized by the local government as an opportunity to get health personnel in accordance with local needs.

Human resource planning or workforce planning can be interpreted as a process of determining the need for labor based on estimates, development, implementation, control of human resources that are integrated with organizational planning in order to create the number of employees, the right placement of employees and economically useful. While health human resources are various types of clinical and non-clinical health personnel who carry out medical efforts and public health interventions. The performance of health services is very dependent on the knowledge, skills and motivation of the people responsible for health services.

Challenges Health human resources are increasingly complex, so there must be a reform agenda for the planning of recruitment of health personnel including nurses aimed at addressing gaps in Government relating to policy interventions in the health sector. Nursing management has a responsibility in providing safe and best nursing services for patients through adequate number of nursing personnel and good skills.

Nursing staffing is one of the main functions of the organization's leadership in nursing. The success of organizational leaders in planning nurses is determined by the quality of human resources (Arwani and Suprianto, 2006). There are several factors that influence nurse recruitment planning, namely nurse orientation towards culture and rules, education, scheduling, source of allocation and other factors, namely labor composition. In its implementation, it is

necessary to consider a balance between these factors. The purpose of this study is to determine the effectiveness of the nurse recruitment planning system in a health service institution.

SUBJECTS AND METHOD

1. Study Design

The research design in this systematic review is a mix method, ranging from quantitative descriptive, qualitative, quantitative-qualitative, literature review and review of public documents. The type of research reviewed is all research in the form of scientific journals published in the span of 5-year publications, journals that are open access and fullpaper.

2. Data Extraction

This systematic review was prepared through research of published research articles. The search was carried out using 3 databases namely Wiley Online library, Proquest and ScienceDirect. The keywords used are "Evaluation", "Health Workforce", "Nursing", "Planning".

3. Inclusion and Exclusion Criteria

The inclusion criteria in this study were journal articles in the range of 5-year publications, namely between 2015 and 2019, using English, then a journal study was carried out to obtain 8 journals. Articles found are read carefully to see whether the articles meet the writer's inclusion criteria to be used as literature in writing systematic reviews.

In the initial stages of searching for journal articles in the ScienceDirect database, 8.405 articles were obtained using the keywords Nursing & Planning, then included according to the year of publication for a span of 5 years, from 2015 to 2019 and 3.373 articles were obtained. Then, it was filtered again with review articles and 584 articles were obtained, then filtered again with the subject of international journals of nursing and health policy so that 19 articles were obtained. Finally, it is filtered using the key-

words nursing, staffing and health workforce and assessing eligibility so that 5 articles are obtained.

The search was continued by searching the proQuest database, preliminary data produced 40.855 articles using the keywords nursing & planning, then filtered according to the year of publication with a span of 5 years and using a scholarly journal 9.967 articles were obtained, then filtered again with the subject of nurses and general information so that 711 was obtained article. Finally filtered using the keywords nursing,

staffing and health workforce and assessing eligibility so that 1 article is obtained.

The next search was to browse the Wiley online database, initial data produced 195,617 articles using the keywords nursing & planning, then filtered based on the year of publication with a span of 5 years 36,261 articles were obtained, then filtered using the keywords nursing, staffing and health workforce and open access so that 104 articles are obtained. After assessing eligibility, 2 articles were obtained. The total number of articles obtained after inclusion is 8 articles.

RESULTS

Tabel 1. Articles In Review

No	Title	Author (Year)	Variable	Results	Conclusion
1	How many nurses do we need? A review and discussion of operational research techniques applied to nurse staffing	Saville et al. (2019)	Planning nurse staffing, Operational research techniques, Traditional approaches	The paper begins with a summary of traditional approaches to nurse staffing and their limitations. We explain some key operational research techniques and how they are relevant to different nurse staffing problems, based on examples from the operational research literature. We identify three key contributions of operational research techniques to these problems: “problem structuring”, handling complexity and numerical experimentation.	the operational research literature complements the mainstream literature on nurse staffing and planning methods in a number of ways. While traditional nurse staffing methods sometimes conflate employment, deployment and workload assessment issues, and do not define what constitutes appropriate staffing, the operational research papers tend to be more explicit, in particular by specifying performance measures.
2	Towards safe nurse staffing in England’s national health service: progress and pitfalls of policy evolution	Lawless et al. (2019)	Nurse staffing policy	Securing safe staffing policy has been impacted by caveats and competing policy, evidence gaps, lack of coordination, and the absence of readily implementable solutions. Consequently, five years on, safe staffing policy for NHS England is described in aspirational terms that ascribes accountability to providers, but fails to adequately address barriers to delivery. Kingdon’s ‘policy windows’ model is used to explain why policy, even when driven by strong public concern and with high intersector support, may	Safe nurse staffing was recognised as a policy problem for the NHS following the Mid Staffs scandal. The gradual coupling of the process streams that culminated in the opening of the safe staffing policy window since 2013 has resulted in progress, but this work is incomplete. Tensions remain between the desire to resolve safe staffing and the practical implications of doing so. Evidence gaps and failure to identify and secure a technical and economically justifiable solution, coupled with a context where demand for

3	Health workforce planning: which countries include nurse practitioners and physician assistants and to what effect?	Maier et al. (2018)	Health workforce, Nurse Practitioners (NPs) and Physician Assistants (PAs)	<p>struggle to gain traction when the conditions necessary for success are not present, and in the face of practical or political constraints.</p> <p>Of eight countries with NPs/PAs, three (Canada, the Netherlands, United States) included these professions in their workforce planning. In Canada, NPs were partially included in Ontario's needs-based projection, yet only as one parameter to enhance efficiency. In the United States and the Netherlands, NPs/PAs were covered as one of several scenarios. Compared with physician-only models, multi-professional models resulted in lower physician man power projections, primarily in primary care. A weakness of the multi-professional models was the accuracy of data on substitution. Impacts on policy were limited, except for the Netherlands.</p>	<p>health services outstrips resource have had a major impact.</p> <p>Workforce planning is a mechanism that facilitates long-term planning and investment in the health workforce. Models need to adapt as the skill-mix of the health workforce evolves. Yet, few countries have integrated skill-mix changes into their workforce planning. Results suggest that physician-only models are likely to overestimate the extent of physician shortages. Given the rapidly growing numbers of NPs/PAs and their high levels of advanced practice, they should be fully integrated in workforce planning.</p>
4	Why we need multi-level health workforce governance: Case studies from nursing and medicine in Germany	Kuhlmann and Larsen (2015)	Multi-level health workforce governance	<p>Pilot research into nursing and medicine in Germany, carried out between 2013 and 2015 using a qualitative methodology, serves to illustrate systems-based governance weaknesses. Three explorative cases address major responses to health workforce shortages, comprising migration/mobility of nurses, reform of nursing education, and gender-sensitive work management</p>	<p>This research reveals the 'unhealthy' effects of fragmented governance arrangements and 'piecemeal work'policy approaches. Putting governance innovation in the driver seat of future health workforce policy is therefore a most promising strategy to improve efficiency and sustainability. Multi-level health workforce governance could reduce the gaps and make a</p>

5	The Joint Action on Health Workforce Planning and Forecasting :Results of a European programme to improve health workforce policies	Kroezena et al. (2018)	Health workforce planning, The supply-based approach, The demand-based approach, The needs-based approach	<p>of hospital doctors. The findings illustrate a lack of connections between transnational/EU and organizational governance, between national and local levels, occupational and sector governance, and organizations/hospital management and professional development. Consequently, innovations in the health workforce need a multilevel governance approach to get transformative potential and help closing the existing gaps in governance</p> <p>the JAHWF has provided important steps towards improved HWF planning and forecasting across Europe, among others through the creation of a minimum data set for HWF planning and the ‘Handbook on Health Workforce Planning Methodologies across EU countries’. At the same time, the context-sensitivity of HWF planning was repeatedly noticeable in the application of the tools through pilot and feasibility studies.</p>	<p>difference to the future health workforce in Europe.</p> <p>When considering the challenges facing health workforce planning, the contribution of the Joint Action on Health Workforce Planning and Forecasting can be observed mostly in creating awareness and activating countries to consider the more basic planning elements. The prediction and evaluation of HWF planning, which are more complex and context dependent elements, appear to be a long way off for many countries. Yet through its pilot and feasibility studies, the JAHWF has shown that even though the challenges facing HWF planning and forecasting across Europe are substantial, they are not insurmountable.</p>
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6	Nurse Staffing Improvements Through Interprofessional Strategic Workforce Action Planning	Young et al. (2018)	strategic process improvement initiative, nurse satisfaction, premium costs.	Extensive data analysis was completed to objectively develop staffing recommendations as part of SWAP. The majority of the necessary analysis crossed over various computer systems so manual analysis was often needed. This manual review of the scheduling gap proved that scheduled staff 24 hours before shift start was on average 17 nurses below the actual staff need. For one specific nursing unit, the scheduling gap was as high as 20 under the actual staff needed for a specific shift. Put another way, 14% of needed staff were not scheduled.	Use of that trended data supported transforming strategies into action to address nurse staffing to support a healthy work environment and reduce premium labor costs. SWAP provided the structure to engage clinical nurses, nurse leaders, and key stakeholders in the process. Moving forward, the SWAP committee will continue process improvement work by conducting a rapid cycle change process for daily staffing and resource allocation, including temporary reassignment of staff on a shift by shift basis. The publication of the final staffing playbook will be the culmination of work accomplished by the SWAP team.
7	Qualified nurses' rate new nursing graduates as lacking skills in key clinical areas	Missen et al. (2016)	clinical skills, competence, new nursing graduates, quantitative, questionnaire	Overall participants rated new nursing graduates' abilities for undertaking clinical skills as good or very good in 35_3% of skills, 33_3% were rated as adequate and 31_4% rated as being performed poorly or very poorly. Of concern, essential clinical skills, such as critical thinking and problem solving, working independently and assessment procedures, were found to be poorly executed and affecting new registered nurses graduates' competence.	The findings from this study can further serve as a reference for nursing education providers to enhance nursing curricula and work collaboratively with healthcare settings in preparing nurses to be competent, safe practitioners on completion of their studies.

8	A scoping review of nursing workforce planning and forecasting research	Squires et al. (2017)	human resources for health, nurses, scoping review, workforce forecasting	Thirty six studies met the inclusion criteria, with the majority coming from the USA. Forecasting methods were biased towards service utilization analyses and were not consistent across studies.	Current methods for nurse workforce forecasting are inconsistent and have not accounted sufficiently for socio-economic and political factors that can influence workforce projections. Additional studies examining past trends are needed to improve future modeling.
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DISCUSSION

Based on the journals that have been collected and reviewed as many as 8 articles, it was found that in the first article the results were obtained that in the UK the level of inadequate nurse planning would increase the mortality rate resulting in Hospital failure. By using an operational research approach, it is said to be able to overcome the problem in determining the level of nurse planning needed compared to traditional methods.

In the second article, explained the results of a review of public documents noted the development of safe nurse staffing policies. After many problems such as data / evidence gaps and failure in identifying and securing technical and economic solutions.

In the third article, by making comparisons between countries about labor planning methods, data is obtained that the nurse practitioner profession (NPs) is a new profession so that in the recruitment planning it is necessary to identify first and then analyze based on differences in the final results. Of the 8 countries that were compared 3 included NPs and PAs in the workforce planning agenda, and some used skill mix changes.

In the fourth article, it was found that using multi-level health workforce governance can reduce inequality and make changes to the future HR in Europe.

In the fifth article, using JAHWF (Join Action on Health Work Planning and Forecasting) which aims to obtain an optimal balance between supply and demand of health personnel.

In the sixth article it was found that there are several factors that influence nurse recruitment planning, namely the nurse's orientation towards culture and rules, education, scheduling, source of allocation and other factors, namely the composition of the workforce.

In its implementation, it is necessary to consider a balance between these factors.

Then a SWAP (Strategic workforce action planning) committee was formed which involved clinical nurses, nurse managers and key policy makers to create a healthy work environment.

In the seventh article it is explained that there is a need for collaboration in the health setting in preparing nurses who have good competencies and are able to become reliable practitioners.

In the eighth article it was found that some methods of recruiting nurses were inconsistent, additional studies are needed from past trends to perfect future models / approaches.

In Indonesia, the problem of health human resources is not only a classic issue regarding the number, type, quality and distribution, contextual issues such as decentralization and migration also need to be examined. Although classified as a classic, but various approaches are still unable to solve this problem. So as a suggestion there needs to be a variety of research to gather concrete evidence of the underlying problems behind this issue so that solutions can be sought immediately, for example by formulating health human resource policies and strategies at the local, regional and national levels to overcome these problems.

The limitation of this study is the lack of national level research data / information regarding health human resource planning, especially for nurses.

Nurse planning in different countries uses different methods and approaches. However, it has the same goal, which is trying to find and use the best recruitment method to get nurses who have good competence and also in sufficient numbers to be able to provide the best service for patients so that health status improves and health status increases. The right method is needed in planning the recruitment of health personnel, especially nurses. It is also necessary to target

the sufficient number of nurses in a health service so that health services can be optimized.

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