

AAOHN Staffing Model Development

Purpose/value/significance:

As today's economy and businesses continue to seek opportunities to cut costs and require each function to validate and prove the value they bring to an organization, it is important for AAOHN to have an evidence based position paper and model to assist occupational health teams and organizations in establishing appropriate staffing needs.

This project will compile and review current literature related to staffing models, develop a series of staffing determination tools and test the accuracy of those tools on with occupational health teams of varying industries. These tools will look at complexity of the organization and occupational health tasks, as well as volume of tasks, and time-task analyses. Upon conclusion of the analysis of the collected data, a staffing model for AAOHN will be published for use by the organizational constituents.

This project will also address the needs to manage Occupational Health globally and from remote locations such as managing global programs while being based in the United States or managing multiple sites in the United States from one central location. The project will address the skills and time commitments needed to operate in this manner.

Previously staffing models looked at merely the staffing as number of people without fully taking into consideration a time per task analysis. This project plans to look not only at pure numbers of staff needed to minimally keep a facility open, but look at the staff breakdown, based on a time per task analysis and the complexity of the site operations. It is evident that the needs of a biologic agent facility, academic research hospital, outpatient occupational health clinic, and administration organizations have very

different needs. As such, they also have very different skill sets and operational needs and time per task analyses. The models proposed for testing in this model creation will address all of those variations.

To date, the identified staffing needs determination models have been developed and piloted at 13 clinics within one organization with responsibilities ranging from research and development, high risk biological agent facilities, manufacturing, central management of multiple locations and administrative offices. The initial review indicates that the identified modeling tools have been successful in predicting the needed staffing and staff balance. Further evaluation is still needed in other industries.

Potential Impact:

By AAOHN adopting a modeling tool for Occupational Health Staffing, the organization can reflect current, up to date , evidence-based support for Occupational Health Nurses and Occupational health facilities globally and be recognized as the expert with the proven modeling tool for the industry. Having a proven model will assist companies and organizations in recognizing the value and the need for occupational health staff and develop appropriate staffing levels to minimize burnout and risk to the current occupational health staff. Potentially, having such a model could lead to a call for additional occupational health staff, thus growing the AAOHN organization and membership.

Literature review:

Of 30 articles reviewed for possible applicability, 15 articles from 2001 or later have been deemed applicable to this project. There is no staffing model described in the literature specific to Occupational Health since 2001. However 11 studies look at how to develop staffing models for nursing in various locations from in hospital to out -patient clinics and how to develop appropriate staffing skill mix can impact care and efficiency (Buchan & Dal Poz, (2002); McGillis-Hall, Doran, Baker, Pink, Sidani, O'Brien-Pallas, & Donner, (2003); Mefford & Alligood, (2011); Waters (2012); Hall, Doran, & Pink, (2004); Krough, Ernster, & Knoer, (2012); Kapu & Kleinpell, (2013); O'Brien- Pallas, Baumann, Donner, Murphy, Lochhass-Gerlach, & Luba, (2001); Kohr, Hickey, & Curley, (2012); Duffield, Roche, Diers, Catling-Paull, & Blay, (2010); Venturato, & Drew, (2010). Several of the models focus on what components need evaluated to determine the best staffing model for a location or type of skill set needed (Buchan & Dal Poz, (2002); McGillis-Hall, et al., (2003); Mefford & Alligood, (2011); Waters (2012); Hall, Doran, & Pink, (2004);). Quinian, Mayhew, & Bohle (2001) and Hong, Chin, & Thomas (2013) look at the components and needs for globally managing occupational health from a corporate management position to actual clinical needs globally. Lastly, Lerner, Rodday, Cohen, & Rogers (2013) and Grossmeier, Seaverson, Mangen, Wright, Dalal, Phalen, & Gold (2013) look at how occupational health services impact healthcare costs and overall worker health.

Prior to 2001 there is the previous AAOHN staffing model that was developed in 1987. While several components of this model remain valid, there are many gaps in this model compared to the needs of facilities and staff today. Similarly, the American Medical

Association issued a position statement related to staffing of occupational health clinics from 1989. It too is incomplete in the analysis of staffing structure to ensure that all of the needs of the facilities are addressed.

From the literature review that has been completed, there are limited data and studies to reflect the needs of occupational health clinics. As such, it is evident that further work needs to be done to develop and implement an appropriate staffing model for Occupational Health Nursing facilities and to support staffing needs of current and future occupational health nurses.

Methods:

The primary investigator (PI) will be Nicole Shaffer DNP, CRNP-BC, COHN-S, FAAOHN. She brings 19 years of occupational health experience to this project functioning as a registered nurse, nurse practitioner, regional manager and most recently director of occupational health for North and South America for a large company of 30,000 employees.

The first phase will be creation of definitions and weighting of site complexity looking at employee/patient size, breadth of services provided, risk of operations of the business served, and regulations in which they are governed (i.e. California compared to Pennsylvania). Next a listing of all potential tasks and times to completion will be populated in the time-task analysis tool for clinical operations, site/business operations, partnership meetings, management roles, and any others that may be applicable to their job. Once the tools are completed and have been properly set up through the use of computer development specialists, the call for volunteers and the research project can begin. The research for this project will be completed through the testing of the proposed

staffing determination tools by Occupational health staff/facilities of various specialties. In order to obtain participants, the PI will work with AAOHN to solicit volunteers from their organization membership. The PI will be soliciting volunteers with the sanction of AAOHN and obtaining a letter of approval from AAOHN for the volunteer member survey in lieu of Internal Review Board (IRB) approval as AAOHN does not have an IRB. The objective is to have one to two facilities of each identified variation of practice location as listed in the table below.

Agricultural facility	Hospital based occupational health clinic
Rural outpatient occupational health clinic	Academic research facility clinic
Suburban outpatient occupational health clinic	Manufacturing
Military clinic	Research and development
Pharmaceutical	Centralized management for multiple locations
Animal health/research facility	Biological agent facility
Governmental agency	Global management facility
Occupational Health Clinic located outside of US	

In addition to each of these businesses completing the staffing model tools and providing the data back to the PI, the participants will provide data about their current staffing make up. Finally, the participants will be asked to complete an online survey

describing their experience with using the tools. Such questions as ease of use, their trust in the outcomes, willingness to use again, value it brings to the profession and their work and many more. The survey will not exceed 15 questions. All data will be captured for both the staffing model and survey in an excel spreadsheet format. Identification of each specific location will be omitted. The only identifier collected for both the staffing tool trial and the survey will be the nature of the business (as listed above in the table) and size of the facility they are working in. All data will then be compiled based on type of organization and also analyzed in total at one data set.

Plans for Analysis:

The current staffing data of the volunteer locations will then be analyzed and compared to the results of the staffing tool recommended staffing levels for each of the locations. Statistical analysis, through use of SPSS and Excel, of these results will be examined with the support of a Medical Statistician. The feasibility, generalizability and usability of the tool will be examined by a Organizational Business Expert. The results from the usability survey will also be evaluated and further modifications of the tools will be made as needed. The plan is to have this project completed within 12 months of receipt of the grant award. The program plan and status of the project will be presented at the National AAOHN conference in Dallas, Texas as well as a call for volunteers to test the models.

Assumptions/Limitations:

In planning for this project, the PI is assuming that obtaining volunteers to test the models will be easily obtained from the AAOHN membership. Challenges may occur if less

specialties volunteer than are planned for and therefore decreasing the generalizability of the tools.

The nature of this project also limits the amount of different sites that are able to be evaluated. While attempting to sample the vast majority of different areas of specialty in occupational health, the likelihood exists that some specialty organizations may be missed or inadvertently omitted.

While trying to account for the variations in each type of occupational health setting, there are some basic assumptions that occupational healthcare is somewhat uniform. Tasks, time to complete each, and methods of completion are assumed to be standard medical care. The models also assume that Nurse Practitioners/Physicians assistants are able to practice in each state and in occupational health clinics.

Conclusion

Staffing and cost of resources have long been important topics in industry and nurses have historically had difficulty showing their value or worth financially. It is important to help occupational health nurses and teams to be able to demonstrate to their respective businesses the evidence based staffing needs and cost benefits associated with that model. Please consider awarding this project the AAOHN staffing grant to help in moving the development and implementation of this staffing project forward.

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