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MAGNET HOSPITALS: AN UPDATE ON THE IMPACT ON NURSING BURNOUT

ABSTRACT

Nurse burnout has been associated with worsened outcomes for nurses, such as increased turnover or quitting and lower job satisfaction. The purpose of this research was to examine Magnet-designation status in U.S. hospitals, specifically shared governance and structural empowerment, and its effects on nurse burnout, nurse turnover, and job satisfaction of nurses. This study utilized a literature review complemented by two semi-structured interviews. The results showed that Magnet hospitals kept lower levels of burnout, better job satisfaction, and less turnover than non-Magnet hospitals, but this was only the case for some studies of Magnet hospitals. Some outcomes could be attributed to Magnet characteristics, such as shared governance, but other factors could have influenced their success.

INTRODUCTION

Burnout is a syndrome caused by chronic job stressors that are not successfully managed (World Health Organization, 2019). Burnout is characterized by exhaustion, depersonalization, job detachment, and feelings of inadequacy (World Health Organization, 2019). Nurse burnout has increased according to a 2022 survey of 2500 nurses, which found that 75% had experienced burnout since the COVID-19 pandemic began (Johnson, 2022). The author also stated that 64% of respondents wanted to leave the healthcare field (Johnson, 2022). According to Murthy (2022), however, the nurse burnout crisis predated COVID-19. The root cause of nurse burnout has been systemic issues such as inadequate organizational support and underinvestment in public health (Murthy, 2022).

In another survey, nearly a third of nurses surveyed claimed they would leave their jobs by the end of 2022. In the survey, 44% of the nurses that planned to quit cited burnout and high stress as the primary reason for wanting to quit their jobs, which was the most cited reason overall (Landi, 2022).

There have been several factors that may have contributed to rates of nurse burnout. For example, according to the 2022 Nurse Salary Research Report, nurses stated that factors other than salary had contributed to nursing burnout. Despite salary increases for nurses, healthcare providers have been unable to recruit and retain nurses because of burnout (Kreimer, 2022). The literature review claimed that symptoms and clinical diagnoses such as depression, burnout, and fatigue are common for nursing staff. The results showed that individuals working as a nurse had a depression rate more than double employees in any other field (Thew, 2018). Another study suggested that healthcare workers' intention to leave healthcare doubled from 2020-2021 (Almendral, 2022). The data indicated that burnout was the most significant controllable reason for nurses leaving healthcare, emphasizing the importance of organizational interventions (Fontaine, 2021).

A study about burnout among nurses found that factors associated with nurse burnout included personal, management, and organizational factors such as excessive workload, staff shortages, and low nurse-to-patient ratio. This had nurses quitting their positions, which stressed the remaining nurses. (Bakhamis, Paul, Smith, & Coustasse, 2019). Consequently, hospitals aimed to avoid burnout to prevent increased levels of patient injuries, medical errors, and higher mortality rates among nurses suffering from burnout compared to nurses who did not experience burnout (Bakhamis et al., 2019). Another literature review of 20 studies of nurses from 14 countries, including the United States (U.S.), suggested that a high MBI dimension of emotional exhaustion or nurses was associated with increased patient mortality and depersonalization was associated with increased occurrence of adverse events such as medication errors (Jun, Ojemeni, Kalamani, Tong, & Crecelius, 2021). The authors also found that high levels of nurse burnout were associated with reduced commitment to organizations and reduced job productivity (Jun et al., 2021). Furthermore, nurses who regularly worked 12-hour or great shifts and experienced burnout were likelier to experience lower job satisfaction (Dall'Ora, Griffiths, Ball, Simon, & Aiken, 2015).

The U.S. Surgeon General recommended interventions to combat nurse burnout, including giving nurses adequate pay, increasing mental health services for nurses, increasing access to health insurance and personal protective equipment, investing in public health, and reducing administrative burdens (Murthy, 2022). In 2022 resulting from the impact of Covid-19, most organizational interventions focused on answering burnout (Pijpker, Vaandrager, Veen, & Koelen, 2019). The organizational interventions included improving job control, social support, working well in the proper environment, and effort-reward balance (Giga et al., 2018).

Magnet hospitals were designated as such by the American Nurses Credentialing Center (ANCC) for meeting the requirements of its Magnet Recognition Program (ANCC, n.d.). The Magnet Recognition Program has several standards for excellence, including transformational leadership, structural empowerment, innovations and improvements, exemplary professional practice, and empirical quality results (ANCC, n.d.) One of the aspects of the structural empowerment requirement for Magnet recognition was shared governance. In this governance model, nurses share power, input, and decision-making with hospital administration, usually via committees and councils (Collins, 2017).

The purpose of this research was to examine Magnet-designation status in U.S. hospitals, specifically shared governance and structural empowerment, and its effects on nurse burnout, nurse turnover, and job satisfaction of nurses.

METHODOLOGY

This research hypothesized that the designation of U.S. hospitals as Magnet hospitals led to decreased nurse burnout, nurse turnover, and job satisfaction compared to non-Magnet U.S. hospitals.

Search strategy

The methodology for this study was a literature review of primarily peer-reviewed journals, news articles, and data analyses from within the last 12 years. The research group

determined the impact that Magnet designation status and shared governance as organizational interventions have had on nurse burnout.

Interview procedures

The research group conducted two semi-structured interviews with two nurses to gain perspectives about burnout, and relevant answers were used in the discussion. The nurses signed a consent form. The interviews were tape-recorded and the answers transcribed, then the tape recordings were destroyed once the study had ended. These interviews were approved by the Marshall University Institutional Review Board (IRB).

Step 1: Identifying Literature and Collecting Data

In the search for data and literature relevant to the research topic, several peer-reviewed sources were located using Marshall University's PubMed, ProQuest One Academic, Academic Search Complete, and PsycINFO databases. Google Scholar was also utilized to find scholarly sources when further relevant sources were not found through Marshall University's databases. The Google search engine was also used for news articles and informational websites. In search of data and articles related to the purpose and hypothesis of the research study, multiple keyword phrases were used, such as "burnout" AND "nurses," "Magnet Hospital" AND "Shared Governance," "Turnover" OR "satisfaction."

A total of 57 articles were reviewed using (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009), but the only articles included were those that met the inclusion criteria (N=27). Articles were excluded if they did not meet the inclusion criteria (N=30). All 27 references utilized were subject to full-text review and included in the data abstraction and analysis. After review, with sources from hospitals outside the U.S. or that did not deal with burnout, the relevant publications were reduced to 27, 10 included in the results (See Figure 2).

The 27 articles were limited to the English language and were published between the years 2009 and 2022. The information gained from these articles and websites was used as the sources of primary and secondary materials. Following the review of relevant abstracts, articles were used to report information in the results. This search was completed by M.D. and J.S. and validated by A.C., who acted as the second reviewer and determined if the references met the inclusion criteria. Research articles and news articles from before 2010 were excluded from the review,

The use of the conceptual framework in this study was appropriate as the focus was on the effects of nurse burnout and organizational interventions to combat nurse burnout in U.S. hospitals (Maslach & Leiter, 2016). Identifying the causes and effects of nurse burnout had to be determined, and any effects of interventions to reduce nurse burnout were also analyzed.

RESULTS

An analysis of cross-sectional data from 425 U.S. hospitals examined the involvement that nurses had in shared governance ranging from the least engaged, where nurses did not serve on hospital committees, to the most engaged, where nurses had the opportunity to participate in policy decisions (Kutney-Lee et al., 2016). Magnet Hospitals accounted for 46 of the 425 hospitals in the study; of these, 36 were found to have nurses highly engaged in shared governance, and 10 had nurses that were moderately engaged, with no Magnet hospitals being

rated as having minor engaged nurses (Kutney-Lee et al., 2016). Nurses who were highly engaged in shared governance reported significantly better job outcomes than less engaged nurses, with 13% of most engaged nurses having reported being dissatisfied with their jobs compared to 43% of the least engaged nurses (Kutney-Lee et al., 2016). In addition, 23% of highly engaged nurses said they experienced burnout, as compared with 52% of the least engaged nurses stating their intentions to leave compared to 13% of the least engaged nurses (Kutney-Lee et al., 2016).

An initiative by a Magnet-designated U.S. hospital sought to improve shared governance and decision-making to improve nurse job satisfaction (Oss, Schad, Drenth, Johnson, Olsen, & Bursiek, 2020). Interventions included distributing literature about shared governance to nurses and meetings to enhance relationships between nurses and management (Oss et al., 2020). A follow-up survey of the nursing department found that 53% of nursing units demonstrated improvement in registered nurse (RN) satisfaction with involvement in decision-making, and 48% of units noted improvement regarding R.N. job satisfaction about autonomy and job duties (Oss et al., 2020).

A survey about the work environment and nursing outcomes was given to nurses from 567 hospitals in Pennsylvania, California, Florida, and New Jersey, with 46 of these being Magnet hospitals (Kelly, McHugh, & Aiken, 2011). The work environment aspects studied included nurse participation in hospital affairs, nurse manager ability, and organizational support, and outcomes measured included burnout, job satisfaction, and intent to leave their jobs (Kelly, McHugh, & Aiken, 2011). The results of the survey found that nurses in Magnet hospitals were 18% less likely to report job dissatisfaction and 13% less likely to have high levels of burnout as compared to nurses from non-Magnet hospitals, as well as being less likely to leave their positions (Kelly, McHugh, & Aiken, 2011).

Another analysis was performed on cross-sectional data, which included over 20,000 nurses in 523 U.S. hospitals, 83 of which were Magnet hospitals which examined the relationship between Magnet status and nurse burnout (Schlak, Aiken, Chittams, Pogshosyan, & McHugh, 2021). The analysis found that Magnet hospital status reduced burnout, with 40% of the Magnet hospitals studied being in the lowest quartile of burnout scores (Schlak, Aiken, Chittams, Pogshosyan, & Chittams, Pogshosyan, & McHugh, 2021).

A correlational study that examined a sample of 2,958 nurse units in 497 U.S. hospitals looked at reasons for turnover and compared Magnet and non-Magnet hospitals (Park, Gass, & Boyle, 2016). The results indicated that turnover due to work environment factors was significantly less in Magnet hospitals than non-Magnet hospitals, with 14.21% of separated Magnet hospital nurses indicating that this was the reason for quitting versus 17.09% for non-Magnet nurses, with P=.002 (Park, Gass, & Boyle, 2016). Additionally, a cross-sectional study of longitudinal data from 1,884 nursing units in 306 U.S. hospitals found evidence suggesting Magnet hospitals had 16% lower R.N. turnover than non-Magnet hospitals (Staggs & Dutton, 2012).

Another study sought to compare the performance of military hospitals to civilian Magnet hospitals and non-Magnet civilian hospitals on the factors of job satisfaction and the intent of nurses to leave their jobs (Patrician, Olds, Breckenridge-Sproat, Taylor-Clark, Swiger, & Loan, 2022). The results found that job satisfaction scores were higher in Magnet hospitals than non-Magnet hospitals, with a median score of 68.24 vs. 65; this was not significant, with p=0.272

(Patrician et al., 2022). The study also found that intent to leave was not significantly different in Magnet Hospitals vs. non-Magnet hospitals, p=0.12. However, that nurse participation in hospital affairs, a proxy measure for shared governance, was significantly higher in Magnet hospitals at p=0.0014 (Patrician et al., 2022).

However, another study of data from 157 non-Magnet hospitals and 14 Magnet hospitals with 675 and 162 nurse respondents, respectively, aimed to determine the differences between the two types of hospitals regarding nurse satisfaction and work environment (Trinkoff et al., 2010). The study found no significant differences in job satisfaction, 79% for Magnet hospitals vs. 71.9% for non-Magnet hospitals, with P=0.22 (Trinkoff et al., 2010). The results also indicated no significant difference in practice environment scores between Magnet and non-Magnet hospitals, with a score on this measure of 51.0 for Magnet and 50.0 for non-Magnet hospitals (Trinkoff et al., 2010).

Another study that surveyed new R.N.s examined the differences between Magnet and non-Magnet hospitals regarding job satisfaction and reports of workplace hostility experienced by these nurses (Hickson, 2015). This study also found no significant difference between Magnet and non-Magnet hospitals regarding job satisfaction, with a mean score of 80.9 for nurses in Magnet hospitals and 74.3 for non-Magnet hospitals (Hickson, 2015). Finally, some nurses claimed they were still expected to work 12-hour shifts and take on documentation tasks in Magnet hospitals, which could have led to burnout (Bachert, 2017).

DISCUSSION

The purpose of the research was to determine the impact that the Magnet Recognition status of U.S. hospitals had on the rates of nurse burnout, nurse turnover, and job satisfaction of nurses in these hospitals compared to non-Magnet hospitals. The results of the literature review indicated that, in general, Magnet hospitals performed better in terms of job satisfaction and nurse retention than non-Magnet hospitals and experienced less nurse burnout but that this was not always the case.

Some studies found a significant difference between Magnet hospitals and non-Magnet hospitals. However, the study included more variables than simply Magnet status, and under Magnet status itself, several variables could contribute to burnout other than shared governance. For example, one study that looked at work environment reasons for nurse burnout and turnover noted that there were multiple reasons why nurses would quit their jobs that were not directly related to governance or management style (Park, Gass, & Boyle, 2016).

Other studies found no significant difference in work environment factors between Magnet and non-Magnet hospitals. These studies noted that despite nominal Magnet status, sometimes these hospitals did not act differently from non-Magnet hospitals (Trinkoff et al., 2010).

Semi-Structured Interviews

During an interview with a nurse unit manager from Virginia, the nurse indicated to the interviewer that they were experiencing burnout symptoms due to their job. During another interview with a hospital nurse working in West Virginia, the nurse revealed that they had also suffered symptoms of burnout but were not currently suffering from burnout. The nurse manager said in their interview that they had considered leaving their job frequently because of burnout.

The hospital nurse interviewed indicated that they had not currently considered leaving their job as a response to burnout.

When asked what interventions were available at their workplace, the nurse unit manager and hospital nurse indicated that programs or interventions were only available sometimes but would use these resources if they were available.

The nurse unit managers' suggestions were that they did not know a clear answer to burnout but felt that increased pay would be an excellent place to start. The hospital nurse suggested more significant support from managers and nurses, being listened to more, and having a say in policy and decisions to improve burnout.

Study Limitations

Limitations of the research were that there are many more non-Magnet hospitals than Hospitals with Magnet designation status, which could influence effect sizes during research. Another area for improvement was that most of the research relied on survey data, which could be biased due to the self-reporting nature of surveys. Publication bias could be present due to only four databases being used for research. Finally, there could be bias by the researchers as employees in the healthcare field and students in a healthcare administration program.

Practical Implications

The practical implications of this study are that although Magnet hospitals have generally shown better outcomes regarding nurse satisfaction, retention, and lower levels of burnout, more research is needed to determine what aspects of the Magnet program, in particular, contributed to this. Successful aspects of the Magnet program, such as shared governance, should be more widely adopted to combat nurse burnout in U.S. hospitals.

CONCLUSION

The literature review found evidence that Magnet hospitals had better nurse burnout, turnover, and job satisfaction outcomes than non-Magnet hospitals. However, this was not the case across the board for all studies, as some studies showed no difference between Magnet hospitals and non-Magnet hospitals for these metrics. Further study is needed to evaluate how Magnet status affects nurse burnout.

REFERENCES

Almendral, A. (2022, January 28). *The world could be short of 13 million nurses in 2030 - here's why*. World Economic Forum. Retrieved October 19, 2022, from https://www.weforum.org/agenda/2022/01/health-care-nurses-attrition-mental-health-burnout/#:~:text=The%20world%20could%20be%20short%20of%2013%20million,effects%20of%20the%20pandemic%2C%20causing%20many%20to%20burnout.

Johnson, T. (2022, July 20). *Nurse burnout reaches new high as latest omicron variant surges*. Bloomberg.com. Retrieved September 8, 2022, from <u>https://www.bloomberg.com/news/articles/2022-07-20/nurse-burnout-reaches-new-high-as-latest-omicron-variant-surges</u>

Murthy, V. H. (2022). Confronting Health Worker Burnout and Well-Being. *New England Journal of Medicine*, 387(7), 577–579. <u>https://doi.org/10.1056/NEJMp2207252</u>

- Landi, H. (2022, March 22). *Third of nurses plan to leave their jobs in 2022, survey finds*. Fierce Healthcare. Retrieved September 8, 2022, from <u>https://www.fiercehealthcare.com/providers/third-nurses-plan-leave-their-jobs-2022-</u> <u>survey-finds#:~:text=quit%20their%20jobs.-</u> <u>,More%20than%20one%2Dthird%20(34%25)%20of%20nurses%20say%20it's,by%20sta</u> ffing%20firm%20Incredible%20Health.
- Kreimer, S. (2022, May 23). Nurse salaries rise amid widening gender pay gap and 'precipitous increase' in RNS looking for the Exit. Fierce Healthcare. Retrieved September 8, 2022, from <u>https://www.fiercehealthcare.com/providers/nurse-salaries-rise-amid-widening-gender-pay-gap-and-precipitous-increase-rns-looking</u>
- Thew, J. (2018, January 3). *Reduce Nurse Stress and Reduce Medical Errors*. Patient Safety & Quality Healthcare <u>https://www.psqh.com/analysis/reduce-nurse-stress-reduce-medical-errors/</u>
- Fontaine, D. (2021, August 11). *What's causing the American nursing shortage? Dominique*. Healthline. Retrieved October 19, 2022, from <u>https://www.healthline.com/health/nursing-shortage</u>
- Bakhamis, L., Paul, D. P. I., Smith, H., & Coustasse, A. (2019). Still an Epidemic: The Burnout Syndrome in Hospital Registered Nurses. *The Health Care Manager*, *38*(1), 3–10. <u>https://doi.org/10.1097/hcm.0000000000243</u>
- Jun, J., Ojemeni, M. M., Kalamani, R., Tong, J., & Crecelius, M. L. (2021). Relationship between nurse burnout, patient and organizational outcomes: Systematic review. *International Journal of Nursing Studies*, 119, 103933. <u>https://doi.org/https://doi.org/10.1016/j.ijnurstu.2021.103933</u>
- Dall'Ora, C., Griffiths, P., Ball, J., Simon, M., & Aiken, L. H. (2015). Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a crosssectional study of 12 European countries. *BMJ Open*, 5(9), e008331. <u>https://doi.org/10.1136/bmjopen-2015-008331</u>
- Pijpker, R., Vaandrager, L., Veen, E. J., & Koelen, M. A. (2019). Combined Interventions to Reduce Burnout Complaints and Promote Return to Work: A Systematic Review of Effectiveness and Mediators of Change. *International journal of environmental research and public health*, 17(1), 55. <u>https://doi.org/10.3390/ijerph17010055</u>
- Giga, S. I., Fletcher, I. J., Sgourakis, G., Mulvaney, C. A., & Vrkljan, B. H. (2018).
 Organizational level interventions for reducing occupational stress in healthcare workers. *Cochrane Database of Systematic Reviews*(4). https://doi.org/10.1002/14651858.CD013014
- American Nurses Credentialing Center (ANCC). (n.d.). *Magnet Model Creating a Magnet Culture*. <u>https://www.nursingworld.org/organizational-programs/magnet/magnet-model/</u>
- World Health Organization (2019, May 28). *Burn-out an "occupational phenomenon": International Classification of Diseases.* <u>https://www.who.int/news/item/28-05-2019-</u> burn-out-an-occupational-phenomenon-international-classification-of-

diseases#:~:text=%E2%80%9CBurn%2Dout%20is%20a%20syndrome,related%20to%2 0one's%20job%3B%20and

- Collins, R. (2017). Magnet Hospitals and Shared Governance: Empowering Frontline Nurses. *Vocera*. <u>https://www.vocera.com/blog/magnet-hospitals-and-shared-governance-</u> <u>empowering-frontline-nurses</u>
- Kutney-Lee, A., Germack, H., Hatfield, L., Kelly, S., Maguire, P., Dierkes, A., Del Guidice, M., & Aiken, L. H. (2016). Nurse Engagement in Shared Governance and Patient and Nurse Outcomes. *The Journal of nursing administration*, 46(11), 605–612. <u>https://doi.org/10.1097/NNA.00000000000412</u>
- Oss, J. A., Schad, E. A., Drenth, A. R., Johnson, L. M., Olson, J. M., & Bursiek, A. A. (2021, 2021/02/01/). Driving Nurse Satisfaction Through Shared Governance. *Nurse Leader*, *19*(1), 47-52. <u>https://doi.org/https://doi.org/10.1016/j.mnl.2020.03.019</u>
- Kelly, L. A., McHugh, M. D., & Aiken, L. H. (2011). Nurse outcomes in Magnet® and nonmagnet hospitals. *The Journal of nursing administration*, 41(10), 428–433. <u>https://doi.org/10.1097/NNA.0b013e31822eddbc</u>
- Schlak, A. E., Aiken, L. H., Chittams, J., Poghosyan, L., & McHugh, M. (2021). Leveraging the Work Environment to Minimize the Negative Impact of Nurse Burnout on Patient Outcomes. *International Journal of Environmental Research and Public Health*, 18(2), 610. <u>https://www.mdpi.com/1660-4601/18/2/610</u>
- Park, S. H., Gass, S., & Boyle, D. K. (2016). Comparison of Reasons for Nurse Turnover in Magnet® and Non-Magnet Hospitals. *The Journal of nursing administration*, 46(5), 284– 290. <u>https://doi.org/10.1097/NNA.00000000000344</u>
- Staggs, V. S., & Dunton, N. (2012). Hospital and unit characteristics associated with nursing turnover include skill mix but not staffing level: an observational cross-sectional study. *International journal of nursing studies*, 49(9), 1138–1145. <u>https://doi.org/10.1016/j.ijnurstu.2012.03.00</u>
- Patrician, P. A., Olds, D. M., Breckenridge-Sproat, S., Taylor-Clark, T., Swiger, P. A., & Loan, L. A. (2022). Comparing the Nurse Work Environment, Job Satisfaction, and Intent to Leave Among Military, Magnet®, Magnet-Aspiring, and Non-Magnet Civilian Hospitals. *JONA: The Journal of Nursing Administration*, 52(6), 365–370. https://doi.org/10.1097/nna.00000000001164
- Trinkoff, A. M., Johantgen, M., Storr, C. L., Han, K., Liang, Y., Gurses, A. P., & Hopkinson, S. (2010). A comparison of working conditions among nurses in Magnet and non-Magnet hospitals. *The Journal of nursing administration*, 40(7-8), 309–315. <u>https://doi.org/10.1097/NNA.0b013e3181e9371</u>
- Hickson J. (2015). New Nurses' Perceptions of Hostility and Job Satisfaction: Magnet® Versus Non-Magnet. *The Journal of nursing administration*, 45(10 Suppl), S36–S44. https://doi.org/10.1097/NNA.0000000000251

- Bachert, A. (2017, October 14). Magnet Status: Superior Care or Marketing Gimmick? *MedPage Today*. <u>https://www.medpagetoday.com/nursing/nursing/68525</u>
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, 6(7), <u>e1000097</u>. <u>https://doi.org/10.1371/journal.pmed.1000097</u>
- Maslach, C., & Leiter, M. P. (2016). Chapter 43 Burnout. In G. Fink (Ed.), *Stress: Concepts, Cognition, Emotion, and Behavior* (pp. 351-357). Academic Press. https://doi.org/https://doi.org/10.1016/B978-0-12-800951-2.00044-3