Nurse Executives Leading Change to Improve Critical Access Hospital Outcomes: A Literature Review with Research-Informed Recommendations

Heather V. Nelson-Brantley, PhD, RN, CCRN-K¹

Debra J. Ford, PhD²

Karen L. Miller, PhD, RN, FAAN³

Marjorie J. Bott, PhD, RN⁴

¹ Assistant Professor, School of Nursing, University of Kansas Medical Center, hnelson-brantley@kumc.edu

² Associate Professor, Interdisciplinary Leadership Doctoral Program, Creighton University,

DebraFord@creighton.edu

³ Professor and Former Dean, School of Nursing, University of Kansas Medical Center, kmiller@kumc.edu

⁴ Associate Professor and Associate Dean for Research, School of Nursing, University of Kansas Medical Center, mbott@kumc.edu

Abstract

Background and Purpose: Nurses have been called to lead the transformation of health care to provide more efficient, safe, high quality care. However, little is known about how to prepare and enable critical access hospital (CAH) nurse executives to lead change. Research indicates that Magnet®-designated hospitals have significantly better patient and organizational outcomes as compared to non-Magnet hospitals. The purpose of this study was to synthesize challenges faced by CAH nurse executives and provide research-informed recommendations for leading change to achieve Magnet standards in CAHs.

Sample and Methods: A review of the literature was conducted to understand the historical development of CAHs and to identify challenges faced by CAH nurse executives. CINAHL, PubMed, and the Rural Health Information Hub databases were searched for relevant peer-reviewed studies and expert commentary published in English from 2007 to 2016. Thirty-four articles were synthesized.

Findings: CAH nurse executives face significant challenges to ensuring their hospitals are providing high quality care including: (a) recruitment, retention, and appropriate staffing ratios; (b) the need for nursing staff with multispecialist knowledge; (c) fewer baccalaureate-prepared nurses; and (d) lack of financial and human resources to support new graduate nurse transition, continuing education, and evidence-based practice. Recommendations for CAH nurse executives seeking to achieve Magnet standards were developed from interviews with healthcare professionals (N = 27) at the first independent CAH to achieve Magnet designation.

Conclusions: CAH nurse executives may consider the Magnet standards as a blueprint for leading change to improve organizational outcomes. Consideration should be given to: (a) securing administrative leadership support; (b) strategically planning for small, incremental change; (c) building shared governance, quality improvement, research, and education; (d) harnessing collective power; and (e) believing and staying committed to the purpose of improving staff and patient

Keywords: Critical access hospital, Leading change, Magnet, Nurse executive, Quality outcomes

Nurse Executives Leading Change to Improve Critical Access Hospital Outcomes: A Literature Review with Research-Informed Recommendations

Nurses have been called, in partnership with others, to lead the transformation of health care to provide more efficient, safe, high quality care (Institute of Medicine [IOM], 2011).

Approximately 27.7 million people (21% of the U.S. population) live in rural areas (defined as a population of 50,000 or fewer) of the U.S. (United States Census Bureau, 2014). Provider shortages, access limitations, and the inefficient utilization of health care services have been linked to a lack of high quality health care for rural residents (Weinhold & Gurtner, 2014). These same factors may present significant challenges for rural hospital nurse executives (NEs) seeking to transform rural hospital outcomes. Evidence indicates that Magnet®-designated hospitals are achieving many of the improvements called for by the IOM, and thus the journey to Magnet designation may serve as a roadmap for rural hospital NEs seeking to achieve high quality care.

The name *Magnet* originated in 1982 as a way to describe 41 hospitals that were able to attract and retain nurses at a time and in locations where hospitals around them were experiencing nursing shortages and high turnover (McClure, Poulin, Sovie, & Wandelt, 1983). An analysis of these hospitals revealed that they possessed similar qualities or characteristics that enabled them to attract and retain nurses; these qualities became known as the 14 Forces of Magnetism (Wolf, Triolo, & Ponte, 2008). In 1993, the Magnet Recognition Program was established by the American Nurses Credentialing Center (ANCC) as a mechanism for formally evaluating and recognizing health care organizations for structures and care processes that support nursing practice. In 2007, the 14 Forces of Magnetism were collapsed into a new Magnet Model consisting of five domains: (a) transformational leadership; (b) structural empowerment; (c) exemplary professional practice; (d) new knowledge, innovations, and improvements; and (e) empirical outcomes (ANCC, 2013).

Along with the new Magnet Model came a shift from a focus on organizational structure and care processes to an emphasis on quality outcomes (ANCC, 2013). Over the past decade, research has linked Magnet hospitals to: (a) decreased mortality and failure-to-rescue (Aiken, Smith, &

Lake, 1994; Kutney-Lee et al., 2015; McHugh et al., 2013); (b) decreased pressure injuries (Bergquist-Beringer, Dong, He, & Dunton, 2013) and patient fall rates (Everhart et al., 2014); (c) higher nurse-perceived managerial support (Lacey et al., 2007); (d) improved quality of care (Stimpfel, Rosen, & McHugh, 2014); (e) increased job satisfaction (Lacey et al., 2007) and shared governance participation (Hess, DesRoches, Donelan, Norman, & Buerhaus, 2011); (f) decreased nurse burnout (Kelly, McHugh, & Aiken, 2011) and turnover (Gardner, Thomas-Hawkins, Fogg, & Latham, 2007); and (g) higher patient satisfaction (Smith, 2014). Today, Magnet designation is used by the U.S. News & World Report and the Leapfrog Hospital Survey as a hospital performance indicator of safety, quality, and efficiency (ANCC, 2018b). A newly emerging body of evidence suggests that hospitals undergo significant transformations in their journey to Magnet designation, and it is this transformation that leads to superior outcomes (Hess et al., 2011).

When applying for Magnet designation, hospitals or health systems must provide evidence that they are achieving superior nurse and patient outcomes, engaging frontline nursing staff in shared decision making, and have nurses who actively are involved in research (ANCC, 2013). These standards may appear to be challenging particularly to NEs in small rural hospitals with limited resources. However, as one 25-bed independent critical access hospital (CAH) learned, the journey to Magnet may be a roadmap to finding effective solutions to their most pressing challenges.

Access to safe, quality, affordable, and efficacious health care is a leadership priority of countries around the world (World Health Organization, 2014). Recent studies indicate that the rate of rural hospital closures in the U.S. is rapidly accelerating with more than double the number closing in 2013 and 2014 than in 2011 and 2012 (Kaufman et al., 2016). These closures place an estimated 1.7 million rural residents at an even greater risk of negative health outcomes and

economic hardship (Kaufman et al., 2016). CAHs were introduced as a mechanism for ensuring access to health care for rural residents, and while they have provided much needed access, questions remain about the quality of care they provide (Casey, Burlew, & Moscovice, 2011). It is not enough to provide access to care; there also must be a focus on quality. Understanding the challenges faced by CAH NEs and how best to prepare them for leading change to consistently deliver high quality care remains an underexplored area of research.

In a recent meeting of national rural health thought leaders, a recommendation was made to identify successful rural health models that could be replicated with the aim of transforming rural health care nationally (Gerardi, 2015). To date, only one independent CAH has achieved Magnet designation (Waverly Health Center, 2018). This CAH may serve as a successful model for NEs working in CAHs seeking to improve quality outcomes. The purpose of this study was to: (a) outline the historical development and performance of CAHs; (b) synthesize challenges faced by CAH NEs; and (c) provide recommendations for leading change to achieve Magnet standards to advance CAH quality outcomes.

Methods

A review of the literature was conducted to understand the historical development and performance of CAHs and to identify challenges faced by CAH NEs. Literature was collected from November 2015 to May 2016 using CINHAL, PubMed, and the Rural Health Information Hub (Rural Health Information Hub, 2018) databases. Data sources included primary studies and systematic reviews from peer-reviewed journals, as well as authoritative reports, documents, webpages, and commentaries from leading rural hospital experts. The search was limited to articles published in English between 2007 and 2016. A manual search using Google Scholar and reference lists of retrieved articles also was performed. Search terms included: *critical access*

hospital and rural nursing. The following terms were combined with the previous search terms using the "AND" operator: leadership development, finance, resources, education, recruitment, retention, research, patient outcomes, and quality.

Findings

An initial search of the literature resulted in 405 abstracts (see Figure 1). After screening the abstracts for duplication, retrievability, and relevance, 58 articles were retained for full-text review. Thirty articles were excluded after full-text review because they failed to contribute knowledge related to challenges faced by rural hospitals. While reviewing the remaining 28 articles, four additional articles were identified as relevant and were retrieved from the reference list of the respective articles. While retrieving the four articles, two additional articles were identified through Google Scholar's 'related articles' feature and were retrieved, reviewed, and retained for analysis. In total, 34 articles were included in the final analysis.

CAH Legislative History and Performance

The Balanced Budget Act of 1997 established the Medicare Rural Hospital Flexibility (Flex) Program with the aim of improving access to emergency and preventative health care for rural populations (Rurual Health Information Hub, 2016).

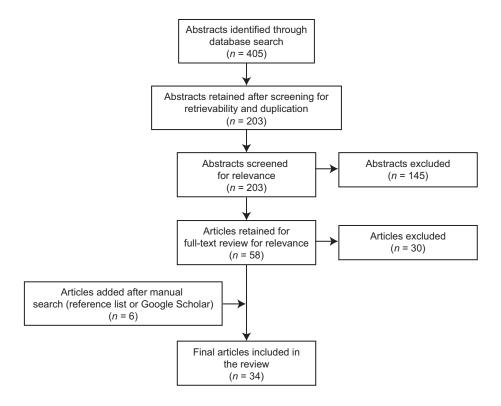


Figure 1.

Literature Search and Selection Process

This act enables rural hospitals to seek federal designation as CAHs, thus changing their Medicare reimbursement structure from a prospective payment system to a cost-based system (Li, Schneider, & Ward, 2007). To qualify, hospitals must be located more than 35 miles (or 15 miles in areas with mountainous terrain or only secondary roads) from any other hospital, or have been certified by January 1, 2006 by the State as being a necessary provider of care services. In addition, CAHs must have no more than 25 acute care and swing beds and maintain an average length of stay of \leq 96 hours, and offer 24-hour emergency care services (Casey et al., 2011).

The number of CAHs has increased from 41 in 1997 to 1,332 as of April 2016 (Rural Health Information Hub, 2016). CAHs comprise approximately 61% of all hospitals in rural areas and therefore play a major role in ensuring access to care for rural residents (Moss, Holmes, & Pink,

2015). The typical CAH employs 127 individuals, has an average service area population of 17,663, and generates \$0.4 million to \$26.4 million annually in wages, salaries, and benefits. Further, for every job in the CAH, an additional 0.34 jobs are created in the community, and an average of \$1.8 million are generated in local taxable retail sales (Doeksen, St. Clair, & Eilrich, 2016). Thus, CAHs also play a significant role in maintaining rural community economies.

Because of the important role CAHs play in rural communities, several legislative acts have been passed in an effort to maintain their financial viability (American Hospital Association, 2010). The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 increased CAH payment to 101% of reasonable costs and expanded payment for on-call services to include those provided by physician assistants, nurse practitioners, and clinical nurse specialists. In 2008, the Medicare Improvements to Patients and Providers Act extended the 101% reimbursement rate to include clinical lab services provided to Medicare beneficiaries. In 2009, the American Recovery and Reinvestment Act established payment incentives for CAHs to invest in health information technology by allowing CAHs to load multiple years of electronic health record depreciation costs into one year (American Hospital Association, 2010). Collectively, these acts have substantially supported the financial viability of rural hospitals (Holmes, Pink, & Friedman, 2013).

While conversion to CAH designation has contributed to the financial viability of many rural hospitals, CAH status does not guarantee a better financial situation (Rural Health Information Hub, 2016). A large-scale study recently was conducted to examine differences between rural hospitals (including CAHs) that closed from 2010 to 2014 and rural hospitals that remained open (Kaufman et al., 2016). Factors that were within the hospital's control (e.g., liquidity, revenue, utilization, and staffing) were found to be better predictors of remaining open than market factors

outside of the hospital's control (e.g., population, socioeconomic status, or distance to other hospitals). Hospitals that remained open had higher utilization, and thus revenue, generated from outpatient care and health clinic services, and higher full-time equivalents and staffing salaries (Kaufman et al., 2016). Because CAHs frequently offer only limited services, rural residents may bypass them in search of larger hospitals or health clinics that can meet their specific needs (Weinhold & Gurtner, 2014). However, findings from the Kaufman et al. (2016) study suggest that factors associated with CAH closure may be modifiable by careful attention to the types of services offered to patients, as well as staffing ratios and salaries.

The Flex Program not only focuses on conversion of eligible rural hospitals into CAHs, but also on improving the quality of care provided by CAHs (Casey et al., 2011). Evidence suggests that CAH patient outcomes are mixed. In a study of 89 hospitals in rural Iowa, CAH conversion was associated with better performance on risk-adjusted rates of iatrogenic pneumothorax, hospital acquired infections, and accidental puncture or laceration, but had no significant impact on lowrisk mortality rates, retention of foreign body during surgery, or pressure injury rates (Li et al., 2007). A retrospective review of 500 surgical cases in one Illinois CAH found an overall complication rate of 4%, which exceeded all benchmarks in the surgical literature (Rossi, Rossi, Rossi, & Rossi, 2011). However, in a large hospital-compare study, CAHs scored lower on most quality patient outcome measures (i.e., pneumonia, heart failure, and myocardial infarction) compared to prospective payment system, rural and urban hospitals (Casey et al., 2011). These findings further were supported by a retrospective, comparative analysis of 2,351,701 patient admissions to 4,738 U.S. hospitals (Joynt, Harris, Orav, & Jha, 2011). Moreover, CAHs in this study had significantly higher 30-day mortality rates for patients with pneumonia, heart failure, and myocardial infarction as compared to non-CAHs. Collectively, these studies indicate that while some CAHs are performing above established benchmarks, substantial challenges remain for the clear majority of CAHs seeking to achieve high quality care.

Challenges Faced by CAH Nurse Executives

NEs working in CAHs face considerable challenges in the management of complex chronic and acute care needs that often extend beyond the facility's capacity and competency (Weinhold & Gurtner, 2014). A review of the literature identified four areas that are particularly challenging:

(a) recruitment, retention, and appropriate staffing ratios; (b) need for nursing staff who are flexible, confident, and possess multispecialist knowledge (proficiency to care for a variety of patients across the continuum of acute care needs); (c) fewer baccalaureate-prepared nurses; and (d) lack of financial and human resources to support new graduate nurse transition, continuing education, evidence-based practice, and professional development. Each of these areas is examined in further detail below.

Recruitment, retention, and appropriate staffing ratios. NEs in CAHs and other rural hospitals face extensive challenges in recruiting and retaining nursing staff, physicians, and other care providers (Collins, 2016; Joynt et al., 2011; World Health Organization, 2010). Although approximately 50% of the world's population lives in rural areas, only 38% of nurses and fewer than 25% of physicians work in these settings (World Health Organization, 2010). Thus, identifying successful strategies for attracting and retaining nurses is one of the greatest challenges faced by CAH NEs. Factors that contribute to the shortage of nurses and other care providers in rural areas include: resistance within the provider's family to live in a rural area, long travel distances to work, worries of social isolation, and an unsuitable work-life balance (Weinhold & Gurtner, 2014).

NEs in CAHs also face unique challenges related to maintaining appropriate staff-to-patient ratios. CAHs maintain 25 or fewer acute care and swing beds and are staffed with few nurses, which leaves them exposed to significant challenges of fluctuations in patient census (Hunsberger, Baumann, Blythe, & Crea, 2009). To illustrate, an increase or decrease of four patients to a 28-bed obstetrics unit at a large academic medical center would generate a 14.3% fluctuation in unit patient census. Yet, the same increase or decrease of four patients to a 4-bed CAH obstetrics unit would generate a 100% fluctuation, resulting in either an empty unit or one with patient overflow that may extend beyond the hospital's ability to provide safe care. To address fluctuating patient census, NEs in CAHs often hire a large proportion of part-time staff who work on-call, a practice that rural staff nurses report as disruptive to their personal lives (Hunsberger et al., 2009).

Nursing staff with multispecialist knowledge. The skill set needed for nursing practice in rural settings often is underestimated. While staff nurses in rural hospitals frequently are viewed as *generalists*, they are more accurately described as requiring multispecialist knowledge (MacLeod, Browne, & Leipert, 1998) to care for complex, diverse patient populations, often with minimal support or resources (Harmon, 2013; Hunsberger et al., 2009). As only one of a small staff, each nurse often cares for pediatric, geriatric, emergency, critically ill, and psychiatric patients all in the same shift (Harmon, 2013; Hurme, 2009; Seright & Winters, 2015). Further, CAHs often operate in communities where no mental health services are available, resulting in patients seeking mental health services in CAH emergency rooms that are ill equipped to provide them (Hartley et al., 2007). These demands require rural nurses to be highly flexible, self-confident, and proficient in a variety of patient population specialties (Keahey, 2008).

Fewer baccalaureate-prepared nurses. Research indicates that hospitals with higher percentages of baccalaureate-prepared (BSN) registered nurses (RNs) have better patient outcomes

and lower mortality rates (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Estabrooks, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Friese, Lake, Aiken, Silber, & Sochalski, 2008; Tourangeau et al., 2007). Based on this evidence, the IOM (2011) recommended increasing the number of BSN-prepared RNs in the workforce to 80% by 2020. RN workforce analyses indicate that rural areas tend to have fewer highly educated RNs compared to urban areas (Baernholdt & Mark, 2009; Brewer & Watkins, 2011; U.S. Department of Health and Human Services, 2010). Increasing the number of BSN-prepared RNs in CAHs poses a significant challenge to NEs due to limited educational opportunities in rural areas (Baernholdt & Mark, 2009).

However, evidence suggests that rural RNs who can return to school are more likely to complete a BSN than urban-based RNs. In a longitudinal study of 917 associate degree-prepared (AD) RNs, residing in a rural area was a significant (P = .002, OR = 2.46, 95% CI = 1.37-4.39) and positive predictor of completing a BSN or higher degree (Kovner, Brewer, Katigbae, Djukic, & Fatehl, 2012). Kovner et al. (2012) state that the goal of an 80% BSN-prepared workforce by 2020 cannot be attained by increasing the number of BSN graduates alone; transitioning AD-prepared RNs to BSNs also will be required. Most RNs returning to school need to continue to work while they advance their education, placing an even greater demand on CAH NEs as they look for ways to support an RN's ability to attend class while also ensuring the hospital is adequately staffed (Kovner et al., 2012).

Financial and human resources. Compounding these challenges are lacks of financial and human resources to support new graduate nurse transition and continuing education (CE). New graduate nurses in all settings require sufficient time, training, and support to acquire basic skills in providing safe and competent care (IOM, 2011; Joint Commission on Accreditation of Healthcare Organizations, 2002). Hospitals in urban settings commonly provide the new graduate

with support through nurse residency programs. However, few residency programs exist in rural hospitals (Keahey, 2008). CAH NEs also are challenged to provide access to CE and professional development opportunities due to budgetary constraints and lack of adequate staffing that enable nurses to attend CE offerings (McCoy, 2009).

Access to and use of research to inform evidence-based practice is another challenge faced by NEs in rural areas (Jukkala, Greenwood, Ladner, & Hopkins, 2010). Staff nurses in a rural U.S. western state reported several barriers in this area including: lack of knowledge of research methods, lack of time and access to computers or the Internet, poor computer literacy skills, diminishing financial support from employers, long travel distances to attend conferences, and a lack of research literature specific to rural practice (Winters et al., 2007). Nurses in this study used the term *research* to refer to a general gathering of information, and their preferred method of obtaining information was asking a colleague. Overall, the lack of financial and human resources may result in nursing staff who lack critical thinking and prioritization skills, patient safety and discharge education concerns, and practice environment issues (e.g., poor communication, lack of professionalism, bullying, and burnout) (Fairchild et al., 2013).

Nurses, including NEs working in CAHs, are called to lead change to improve care quality (IOM, 2011). Yet CAH NEs are faced with significant challenges to doing so, including: (a) recruitment, retention, and appropriate staffing ratios; (b) the need for nursing staff with multispecialist knowledge; (c) fewer baccalaureate-prepared nurses; and (d) a lack of financial and human resources to support new graduate nurse transition, continuing education, evidence-based practice, and professional development. The remainder of this article will offer Waverly Health Center, the first independent CAH to achieve Magnet designation, as a successful rural health model for CAH NEs seeking to improve CAH quality outcomes. Permission to use the CAH name

in this report was obtained from Waverly Health Center's Chief Nursing Officer (CNO). An introduction to the hospital and their journey to Magnet designation is provided, followed by a list of measurable outcomes Waverly achieved as a result of that journey. Finally, we offer recommendations for CAH NEs seeking to improve quality outcomes using the journey to Magnet standards as a blueprint for leading change. These recommendations were developed from interviews with Waverly Health Center clinicians and administrators (N = 27) as part of a larger qualitative, index case study of Waverly's journey to Magnet designation (Nelson-Brantley et al., 2018). The study was approved by the primary author's academic medical center institutional review board (IRB) (protocol #STUDY00003523).

Waverly Health Center: A Model of Success

Waverly Health Center is a 25-bed CAH located in a rural Midwestern U.S. town of 9,874 (Waverly Health Center, 2013). In 2014, the hospital became the first independent CAH to achieve Magnet designation. Waverly Health Center is one of the top employers in the community. In 2014, Waverly had 444 employees, including 131 RNs (Waverly Health Center, 2014). That year the hospital cared for a total of 901 inpatients and 55,877 outpatients. Daily operations costs averaged \$132,003 (Waverly Health Center, 2014).

Waverly Health Center has remained independently operated for over 100 years, a factor considered essential to their ability to provide a multitude of health care services (e.g., birthing center, health clinics, cardiac rehabilitation, outpatient surgery, lab services, complementary integrative therapies) that meet the needs of the local community and surrounding areas (Waverly Health Center, 2013). Like most CAHs, Waverly frequently refers patients to other hospitals for services beyond their scope of service. The hospital has used this opportunity to build a strong network of external supports, including a community hospital, a large academic medical center,

and the world-renowned Mayo Clinic. The relationship with these external supports goes beyond patient referral to include educational opportunities for the staff of Waverly.

Although nurse staffing measures vary greatly (American Nurses Association, 2017; Spetz, Donaldson, Aydin, & Brown, 2008) making comparisons across settings challenging, nurses at Waverly Health Center report better nurse-patient staffing ratios (typically 1:4 on the medical-surgical unit and 1:2 in the birthing center) than most CAHs and other rural hospitals that commonly have fewer nurses per patient (Hunsberger et al., 2009). Nursing staff and interprofessional care providers alike report that there is true collaboration, mutual support, and a winning mindset that make their jobs truly enjoyable. They can spend sufficient time providing individualized and comprehensive care to all patients. In addition, the hospital is supported by nearly 300 community volunteers. In 2008, Waverly began what would become a 6-year journey to Magnet designation. Table 1 shows the improved nurse, patient, and organizational outcomes that have been achieved because of this journey. The table was constructed from study findings reported elsewhere (Nelson-Brantley et al., 2018).

Table 1
Waverly Health Center Patient, Nurse, and Organizational Outcomes Attributed to the Journey to Magnet

Outcome Level	Outcome
Patient	 Outperformed NDNQI® mean fall rate in CAHs for 8 consecutive quarters. Zero hospital-acquired pressure injuries in 2015. Zero catheter associated urinary tract infections in 2015. Zero restraint usage in 2015. Zero central line associated blood stream infections in 2015. HCAHPS patient satisfaction scores above the state and national mean in all 11 categories in 2015.
Nurse	 Staff RN participation in shared governance: leadership, professional development, practice, and quality councils. Staff RN increased knowledge, skills, and appreciation for QI, research, and EBP.

- Staff RN satisfaction scores above NDNQI mean for all participating hospitals in 2015.
- 17 (13%) of RNs seeking advanced education (9 BSN; 8 MSN) in 2014.
- Exceeding state average of BSN-prepared nurses in 2016.
- 100% BSN-prepared nurse manager staff as of 2016.

Organization

- Increased physician, nurse, and student recruitment.
- Completed and published two research studies; one underway.
- QI documentation tool recognized as a best practice.
- Professional practice model centered on shared decision making, EBP, and patient-centered care.
- Preferential hiring of BSN-prepared staff RNs as of 2016.
- Tuition reimbursement provided to RNs seeking advanced education.
- BSN degree added to criteria for reaching Level 2 on Nursing Career Ladder in 2016.
- Nurse residency program for new graduate RNs.
- Leadership development and succession planning through Emerging Leaders Program.

Note. NDNQI = National Database of Nursing Quality Indicators. CAHs = critical access hospitals. HCAHPS = Hospital Consumer Assessment of Healthcare Providers and Systems. RN = registered nurse. QI = quality improvement. EBP = evidence-based practice. BSN = Bachelor of Science in Nursing. MSN = Master of Science in Nursing.

Recommendations for CAH Nurse Executives Considering Magnet Designation

As part of a larger study (Nelson-Brantley et al., 2018), Waverly staff RNs (n = 5), nurse managers (n = 9), interprofessional care providers (n = 7), and hospital executive leaders (n = 6) were asked what recommendations they would offer to other CAHs interested in pursuing Magnet designation. Five recommendations emerged from those discussions: (a) secure administrative leadership support; (b) strategically plan for small, incremental change; (c) build shared governance structures, quality improvement (QI) capacities, research networks, and highly educated nursing staff; (d) harness collective power through open communication, education, and direct involvement in the change process; and (e) believe and stay committed to the purpose of improving staff and patient care. Table 2 provides specific action steps for achieving each of the five recommendations. The recommendations and action steps are further discussed within the context of what worked well for Waverly Health Center.

Table 2

Recommendations and Action Steps for CAH Nurse Executives Seeking Magnet Designation

Recommendation	Action Step
Secure administrative leadership support.	 Build a strong case for seeking Magnet designation driven by empirical evidence of Magnet-hospital outcomes (nurse recruitment, retention, job satisfaction, and patient outcomes). Present hospital board and executive leadership with costs associated with replacing one staff nurse compared to costs of applying for Magnet designation. Communicate to hospital board and executive leadership that journey to Magnet is a long-term commitment to advancing the organization, not just nursing.
2. Strategically plan for small, incremental change.	 Conduct a thorough gap analysis. Identify and prioritize goals and measurable outcomes. Develop an action plan. Incorporate the plan into the hospital's 5-year budget. Identify and appoint a strong taskmaster to keep the process organized and hold everyone accountable. Document as you go. Evaluate progress and adjust as needed.
3. Build shared governance, QI, research, and education.	 Explore Waverly Health Center's Professional Practice Model for developing shared governance; customize to suit your organization's mission and values. Build nursing councils to: (a) engage staff in shared decision making; (b) increase knowledge, skills, and appreciation for QI, EBP, and research; and (c) promote leadership development. Train and involve frontline nursing staff directly in the collection and analysis of quality outcomes data, and developing QI projects to improve outcomes. Network with larger hospitals to provide research support. Collaborate with others (e.g., physicians) within your hospital to develop mutually-beneficial projects. Work with an external IRB, if necessary, to ensure your research will meet all criteria necessary for the protection of human subjects and publication. Support higher levels of education for nursing staff: preferential hiring of BSN-prepared RNs, tuition reimbursement, career ladder advancement based on BSN.
4. Harness collective power.	 Focus on culture first. Culture must support staff and patient care. Educate nurse managers, staff nurses, and all non-nursing staff about Magnet and why it is important to them and the organization. Identify and focus everyone on meaningful intrinsic rewards.

- Engage <u>all</u> staff in identifying stories, writing Magnet application, and preparing for Magnet site visit.
- Communicate frequently in an open, transparent manner, explaining the rationale, the benefits, and the downfalls/challenges.
- Consider hiring a Magnet consultant who can bring you expertise, knowledge, and coaching during your journey.
- 5. Believe and stay committed.
- If after you have completed a thorough gap analysis and have determined your organization can meet the Magnet criteria, go for it!
- Be flexible, but stick to the plan. Do not let other priorities creep in.
- Instill a positive, enduring sense of hope.
- Do not discount your stories, no matter how small.
- Do not let others influence your belief that it is possible.
- Remember why you are doing this. Focus on improving staff and patient outcomes, not the 'plaque on the wall'.

Note. CAH = critical access hospital. QI = quality improvement. EBP = evidence-based practice. IRB = institutional review board. BSN = Bachelor of Science in Nursing. RNs = registered nurses.

Secure administrative support. Senior leadership and hospital board support are needed to establish and sustain a long-term budget that provides necessary financial and human resources for the journey to Magnet designation. The CAH NE should present a strong business case for Magnet built on evidence of Magnet hospital outcomes, including improved patient outcomes and staff nurse retention. The NE then should link the data by comparing the costs associated with nurse turnover to the costs of applying for Magnet designation. This information can help senior administrators see that while the journey to Magnet designation will require significant resources, the return on investment (e.g., nurse retention) will outweigh the associated costs. Further, a strong message should be conveyed through both words and action that Magnet is not just about nursing; it is about achieving a desired future for improved staff and patient outcomes.

Strategically plan for small, incremental change. Once senior leadership has given their full support, the CAH NE should use the nursing process as a model for strategically planning, implementing, and evaluating the journey to Magnet designation. A thorough gap analysis should be performed that includes whether the organization's values align with the Magnet standards,

individuals' knowledge about Magnet, and the organization's current performance on meeting the Magnet standards. The NE should work with nursing and other directors to identify and prioritize goals and measurable outcomes based on the results of the gap analysis. An essential step should be to engage all stakeholders in the planning process. The NE should seek diverse perspectives, including frontline staff, nurse managers, ancillary staff, interprofessional care providers, and executive leadership (e.g., chief executive officer [CEO], chief financial officer [CFO]). Engaging all members helps build knowledge, enthusiasm, and commitment to the journey.

An action plan that includes who is going to do what and by when is essential. The plan should be reasonable, understanding that the journey to Magnet could take five years or more to complete. Once the plan is established, it should be incorporated into the hospital's 5-year budget, specifying both the financial and human resources needed (e.g., Magnet application, Magnet consultant, flexible scheduling for staff nurses to attend shared governance councils, IRB costs, Magnet site visit, and time and expenditures for staff to attend Magnet workshops or conferences). The NE should identify and appoint a strong taskmaster who can keep the process organized and hold everyone accountable for completing their tasks on time. The Magnet application requires that hospitals provide three years' worth of data (ANCC, 2013). As such, it is essential to document QI projects and outcomes as you go; do not wait until you begin to write the application. Finally, routinely evaluate the hospital's progress and adjust as needed.

Build shared governance, QI, research, and education. To achieve Magnet designation, hospitals must present evidence that they have shared governance structures and actively engage nurses in QI and research (ANCC, 2013). CAH NEs can expect to spend considerable time building shared governance councils, QI capacities, and research if none of these structures exist within the organization. Waverly Health Center spent three years of its 6-year journey to Magnet

designation building such structures. The NE should explore various shared governance models, including Waverly Health Center's Professional Practice Model, and customize them to suit their organization's mission and values. Building nursing councils that engage frontline staff in shared decision making for nursing practice, leadership, professional development, and QI will help increase staff knowledge, skills, and appreciation for the Magnet standards. Collaborate with others (e.g., physicians) within your hospital to develop mutually-beneficial research projects. Network with larger hospitals, or work with an external IRB if necessary, to provide research support to ensure that your research will meet all criteria necessary for the protection of human subjects and eventual publication.

In addition to shared governance, QI and research, hospitals applying for Magnet designation must provide evidence that the NE and all nurse managers hold a BSN or higher degree (ANCC, 2018a). The NE should lead by example; they are instrumental in establishing a clear and consistent message that the hospital values education (Orsolini-Hain, 2012). As was done at Waverly Health Center, the NE should work with the CEO and CFO to develop an incremental plan to add flexible scheduling to support staff returning to school, tuition reimbursement, and eventually moving to a preferential hiring of BSN-prepared RNs. A BSN degree should be required for advancement up the career ladder, rather than advancements being based solely on years of experience (Orsolini-Hain, 2012).

Harness collective power. While the CAH NE may see significant challenges to achieving Magnet designation due to limited resources, an open mind will help them recognize and tap into one of their greatest strengths—the strong sense of community that exists within their hospital. Similar to other studies of nurses working in rural hospitals (Lockhart, 2009), nurses at Waverly found their work satisfying because they are part of a close-knit community. They described their

work environment as less cumbersome because there are fewer hierarchies that interfere with their ability to bring about change. CAH NEs should use this strength to harness the collective power necessary for achieving Magnet designation. Unlike larger hospitals that often pay one or more individuals to work full-time on preparing the hospital for Magnet, CAHs most likely do not have the financial means to take this approach. Therefore, engaging all stakeholders in the preparation of applying for Magnet designation was essential for success. The benefits of doing so were increased commitment of the entire organization and appreciation for the work that occurs throughout the hospital. It is essential that the NE communicate frequently, openly, and transparently to internal and external stakeholders, explaining the rationale, the benefits, and the downfalls or challenges they encounter along the way. In addition, the NE should consider hiring a Magnet consultant who can develop their knowledge and expertise related to the Magnet process, and provide coaching to prepare them for the Magnet appraisers.

Believe and stay committed. The NE should anticipate varied levels of skepticism and doubt, both from external and internal stakeholders alike. Achieving Magnet designation is a difficult prospect for a hospital of any size, but may be particularly difficult for CAHs to envision. For Waverly Health Center, skepticism and doubt were replaced with enthusiasm and commitment as the staff interacted with their NE who instilled a consistent, positive, and enduring sense of hope. The Waverly NE encouraged other CAH NEs seeking Magnet designation to never let others negatively influence their belief that they can achieve it, to stay committed the purpose of improving staff and patient outcomes, and to be a cheerleader to help others in the organization stay focused on achieving what truly matters. She encouraged others to remember that it is not about the plaque on the wall; it is about providing exceptional patient care.

Discussion

Nurses have been called to lead change in transforming hospitals to provide more efficient, safe, high quality care (IOM, 2011). Although CAH designation has provided much needed access to care for rural residents, CAH NEs continue to face significant challenges to ensuring their organizations provide high quality care. These challenges point to the need for NEs to identify successful strategies for increasing recruitment and retention of highly educated, flexible, and confident nurses who possess multispecialist knowledge to care for diverse and complex patients. These demands require adequate financial and human resources to support new graduate nurse transition, continuing education, evidence-based practice, and professional development. Much may be learned from Waverly Health Center as an example of a CAH that successfully led change to achieve improved nurse outcomes and high quality care.

Waverly Health Center has taken a multifaceted approach to ensuring their financial viability and advancing nurse and patient outcomes. They have built a strong foundation of care services that extend beyond their 25 inpatient beds and emergency room. In fact, only 901 individuals received inpatient care as compared to 55,877 who received outpatient care services in 2014. Offering outpatient surgery and a variety of health clinics (e.g., walk-in, women's health, and orthopedic) has generated increased liquidity, revenue, and utilization, key factors that have been associated with greater likelihood of remaining open (Kaufman et al., 2016). In addition, Waverly offers clinical lab services, which enables them to capitalize on government financial incentives (American Hospital Association, 2010). Waverly has developed a strong external network with larger hospitals that provide Waverly staff with CE and training. Collectively, these approaches help secure the financial stability of a CAH; however, additional approaches are needed to attract and retain high quality staff and to ensure patients are receiving high quality care. For Waverly

Health Center, the journey to Magnet designation proved to be an effective approach to meeting these challenges.

NEs in CAHs may consider the journey to Magnet designation as a blueprint for attracting and retaining quality staff, increasing the educational preparation of their nursing workforce, engaging frontline staff in shared decision making, and improving patient outcomes. Particular consideration should be given to: (a) securing administrative leadership support, (b) strategically planning for small, incremental change, (c) building shared governance, quality improvement, research, and education, (d) harnessing collective power, and (e) believing and staying committed to the purpose of improving staff and patient outcomes. These recommendations are offered for CAH NEs to consider within the context of their own organizations.

We recognize that each CAH is unique, and as such there likely are aspects of our recommendations that will not work for every CAH. If the CAH is part of a larger system, we recommend the CAH NE build relationships with other NEs in the system that are mutually beneficial. By partnering with NEs from larger hospitals, the CAH NE may advance their knowledge of evidence-based practice, technology, and research, as well as that of their staff. This will ensure that they are able to meet the increasingly complex health care needs of their community. Likewise, NEs working in larger hospitals must appreciate that CAH NEs know best the needs of their community; they should support them in advocating on behalf of the CAH to maintain local decision making that includes types of care services provided. This will ensure the long-term viability of the CAH and add to the financial wellbeing of the larger hospital system.

We recognize that Waverly Health Center may have had advantages in their efforts to lead change due to the additional outpatient services and external networks that they had established.

These factors may be beyond the reach of other CAHs with even greater resource limitations.

Regardless of whether the CAH seeks actual Magnet designation, we recommend that CAH NEs carefully consider and work toward leading change to achieve Magnet standards. Evidence shows that this journey will likely lead to significant improvements for staff, patients, and the organization (Hess et al., 2011; Nelson-Brantley et al., 2018).

Conclusions

CAHs are essential to the provision of health care and economic security of rural populations (Doeksen et al., 2016; Moss et al., 2015). NEs, whether leading a 25-bed hospital or a 1,500-bed hospital, are called to lead change to improve patient, nurse, and organizational outcomes. This report offers lessons learned from the journey of the first independent CAH to achieve Magnet designation, how those lessons can be applied to similar hospitals, and what positive outcomes may be realized from pursuing Magnet designation. The pursuit of Magnet is a commitment to improving staff and patient outcomes; it is not about the plaque on the wall. Regardless of actual designation, Magnet standards should be every NE's goal.

Supporting Agency

Dr. Nelson-Brantley received funding for this study from the Taunton Scholars program and the Delta Chapter of Sigma Theta Tau International.

Acknowledgements

The authors thank Dr. Kristin Stegenga, Dr. Robert Lee, Dr. Sally Barhydt, and Jennifer Nelson-Brantley for their review of the manuscript. Dr. Nelson-Brantley obtained written permission from the CNO of Waverly Health Center to use the hospital name in this published manuscript.

Conflicts of Interest and Source of Funding

Dr. Nelson-Brantley received funding for this study from the Taunton Scholars program and the Delta Chapter of Sigma Theta Tau International. No conflicts of interest are declared by the authors.

References

- Aiken, L. H., Clarke, S. P., Cheung, R. B., Sloane, D. M., & Silber, J. H. (2003). Educational levels of hospital nurses and surgical patient mortality. *JAMA*, *290*(12), 1617-1623. https://doi.org/10.1001/jama.290.12.1617
- Aiken, L. H., Smith, H. L., & Lake, E. T. (1994). Lower medicare mortality among a set of hospitals known for good nursing care. *Medical Care*, 771-787. https://doi.org/10.1097/00005650-199408000-00002
- American Hospital Association. (2010). CAH legislative history. Retrieved from https://www.aha.org/2006-02-27-critical-access-hospitals
- American Nurses Association. (2017). Optimal nurse staffing to improve quality of care and patient outcomes: Executive summary. Retrieved from http://info.nursingworld. org/staffingwp/
- American Nurses Credentialing Center. (2018a). Initial Magnet designation. Retrieved from http://www.nursecredentialing.org/magnet-initial-designation
- American Nurses Credentialing Center. (2018b). Magnet Recognition Program® overview.

 Retrieved from http://nursecredentialing.org/Magnet/ProgramOverview
- American Nurses Credentialing Center. (2013). *The Magnet Model® components and sources of evidence: Magnet Recognition Program®* (Revision 1.0 ed.). Silver Spring, MD: American Nurses Credentialing Center.

- Baernholdt, M., & Mark, B. A. (2009). The nurse work environment, job satisfaction and turnover rates in rural and urban nursing units. *Journal of Nursing Management*, 17(8), 994-1001. https://doi.org/10.1111/j.1365-2834.2009.01027.x
- Bergquist-Beringer, S., Dong, L., He, J., & Dunton, N. (2013). Pressure ulcers and prevention among acute care hospitals in the United States. *Joint Commission Journal on Quality and Patient Safety*, 39(9), 404-414. https://doi.org/10.1016/S1553-7250(13)39054-0
- Brewer, C. S., & Watkins, R. (2011). A regional analysis of the 2008 National Sample Survey of Registered Nurses. *New York State Area Health Education Center System Report*. Albany, NY.
- Casey, M. M., Burlew, M., & Moscovice, I. S. (2011). *Critical access hospital year 6 hospital compare participation and quality measure results*. Retrieved from http://www.flexmonitoring.org/publications/bp28/
- Collins, C. (2016). Challenges of recruitment and retention in rural areas. *North Carolina Medical Journal*, 77(2), 99-101. https://doi.org/10.18043/ncm.77.2.99
- Doeksen, G. A., St. Clair, C. F., & Eilrich, F. C. (2016). *The economic impact of a critical access hospital on a rural community*. Retrieved from https://www.ruralhealthinfo.org/resources/8347
- Estabrooks, C. A., Midodzi, W. K., Cummings, G. G., Ricker, K. L., & Giovannetti, P. (2005). The impact of hospital nursing characteristics on 30-day mortality. *Nursing Research*, *54*(2), 74-84. https://doi.org/10.1097/00006199-200503000-00002
- Everhart, D., Schumacher, J. R., Duncan, R. P., Hall, A. G., Neff, D. F., & Shorr, R. I. (2014).

 Determinants of hospital fall rate trajectory groups: A longitudinal assessment of nurse staffing and organizational characteristics. *Health Care Management Review*, 39(4), 352.

https://doi.org/10.1097/HMR.0000000000000013

- Fairchild, R. M., Everly, M., Bozarth, L., Bauer, R., Walters, L., Sample, M., & Anderson, L. (2013). A qualitative study of continuing education needs of rural nursing unit staff: The nurse administrator's perspective. *Nurse Education Today*, 33(4), 364-369. http://dx.doi.org/10.1016/j.nedt.2012.05.023
- Friese, C. R., Lake, E. T., Aiken, L. H., Silber, J. H., & Sochalski, J. (2008). Hospital nurse practice environments and outcomes for surgical oncology patients. *Health Services Research*, *43*(4), 1145-1163. https://doi.org/10.1111/j.1475-6773.2007.00825.x
- Gardner, J. K., Thomas-Hawkins, C., Fogg, L., & Latham, C. E. (2007). The relationships between nurses' perceptions of the hemodialysis unit work environment and nurse turnover, patient satisfaction, and hospitalizations. *Nephrology Nursing Journal*, *34*(3), 271-282.
- Gerardi, T. (2015). Rural health: Finding creative solutions together. Retrieved from https://campaignforaction.org/resource/rural-health-academic-progression-meeting-summary/
- Harmon, L. M. (2013). Rural model dedicated education unit: Partnership between college and hospital. *Journal of Continuing Education in Nursing*, 44(2), 89-96. https://doi.org/10.3928/00220124-20121217-62
- Hartley, D., Ziller, E. C., Loux, S. L., Gale, J. A., Lambert, D., & Yousefian, A. E. (2007). Use of critical access hospital emergency rooms by patients with mental health symptoms. *Journal of Rural Health*, *23*(2), 108-115. https://doi.org/10.1111/j.1748-0361.2007.00077.x
- Hess, R., DesRoches, C., Donelan, K., Norman, L., & Buerhaus, P. I. (2011). Perceptions of nurses in Magnet[®] hospitals, non-Magnet hospitals, and hospitals pursuing Magnet status.

- Journal of Nursing Administration, 41(7/8), 315-323. https://doi.org/10.1097/NNA.0b013
 e31822509e2
- Holmes, G. M., Pink, G. H., & Friedman, S. A. (2013). The financial performance of rural hospitals and implications for elimination of the critical access hospital program. *Journal of Rural Health*, 29(2), 140-149. https://doi.org/10.1111/j.1748-0361.2012.00425.x
- Hunsberger, M., Baumann, A., Blythe, J., & Crea, M. (2009). Sustaining the rural workforce:

 Nursing perspectives on worklife challenges. *The Journal of Rural Health*, 25(1), 17-25.

 https://doi.org/10.1111/j.1748-0361.2009.00194.x
- Hurme, E. (2009). Competencies for nursing practice in a rural critical access hospital. *Online Journal of Rural Nursing and Health Care*, 9(2), 67-81.
- Institute of Medicine. (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: The National Academies Press.
- Joint Commission on Accreditation of Healthcare Organizations. (2002). *Health care at the crossroads: Strategies for addressing the evolving nursing crisis*. Retrieved from https://www.jointcommission.org/assets/1/18/health-care at the crossroads.pdf
- Joynt, K. E., Harris, Y., Orav, E. J., & Jha, A. K. (2011). Quality of care and patient outcomes in critical access rural hospitals. *JAMA*, 306(1), 45-52. https://doi.org/10.1001/jama.2011.902
- Jukkala, A., Greenwood, R., Ladner, K., & Hopkins, L. (2010). The clinical nurse leader and rural hospital safety and quality. *Online Journal of Rural Nursing and Health Care*, 10(2), 38-44.
- Kaufman, B. G., Thomas, S. R., Randolph, R. K., Perry, J. R., Thompson, K. W., Holmes, G. M., & Pink, G. H. (2016). The rising rate of rural hospital closures. *The Journal of Rural Health*, 32(1), 35-43. https://doi.org/10.1111/jrh.12128

- Keahey, S. (2008). Against the odds: Orienting and retaining rural nurses. *Journal For Nurses In Staff Development*, 24(2), E15-E20. https://doi.org/10.1097/01.NND.0000300875.10684.be
- Kelly, L. A., McHugh, M. D., & Aiken, L. H. (2011). Nurse outcomes in Magnet® and non-Magnet hospitals. *The Journal of Nursing Administration*, 41(10), 428-433. https://doi.org/10.1097/NNA.0b013e31822eddbc
- Kovner, C. T., Brewer, C., Katigbae, C., Djukic, M., & Fatehl, F. (2012). Charting the course for nurses' achievement of higher education levels. *Journal of Professional Nursing*, *28*(6), 333-343 311p. https://doi.org/10.1016/j.profnurs.2012.04.021
- Kutney-Lee, A., Stimpfel, A. W., Sloane, D. M., Cimiotti, J. P., Quinn, L. W., & Aiken, L. H. (2015). Changes in patient and nurse outcomes associated with Magnet hospital recognition.

 Medical Care, 53(6), 550-557. https://doi.org/10.1097/MLR.0000000000000055
- Lacey, S. R., Cox, K. S., Lorfing, K. C., Teasley, S. L., Carroll, C. A., & Sexton, K. (2007).

 Nursing support, workload, and intent to stay in Magnet, Magnet-aspiring, and non-Magnet hospitals. *Journal of Nursing Administration*, 37(4), 199-205. https://doi.org/10.1097/01.NNA.0000266839.61931.b6
- Li, P., Schneider, J. E., & Ward, M. M. (2007). Effect of critical access hospital conversion on patient safety. *Health Services Research*, 42(6p1), 2089-2108. https://doi.org/10.1111/j.1475-6773.2007.00731.x
- Lockhart, L. (2009). The gate still swings both ways in rural Texas. *Journal of Nursing Management*, 17(1), 35-37 33p. https://doi.org/10.1111/j.1365-2834.2008.00965.x
- MacLeod, M., Browne, A. J., & Leipert, B. (1998). International perspective: Issues for nurses in rural and remote Canada. *Australian Journal of Rural Health*, *6*(2), 72-78. https://doi.org/10.1111/j.1440-1584.1998.tb00287.x

- McClure, M. L., Poulin, M. A., Sovie, M. D., & Wandelt, M. A. (1983). Magnet hospitals:

 Attraction and retention of professional nurses. American Academy of Nursing task force on nursing practice in hospitals.
- McCoy, C. (2009). Professional development in rural nursing: Challenges and opportunities.

 **Journal of Continuing Education in Nursing, 40(3), 128-131 124p. https://doi/org/10.3928/00220124-20090301-08
- McHugh, M. D., Kelly, L. A., Smith, H. L., Wu, E. S., Vanak, J. M., & Aiken, L. H. (2013). Lower mortality in Magnet hospitals. *Medical Care*, 51(5), 382-388. https://doi.org/10.1097/MLR.0b013e3182726cc5
- Moss, K., Holmes, M., & Pink, G. H. (2015). *Do current medicare rural hospital payment*systems align with cost determinants? Retrieved from https://www.ruralhealthinfo.org/publications/documents/10719
- Nelson-Brantley, H. V., Ford, D. J., Miller, K. L., Stegenga, K. A., Lee, R. H., & Bott, M. J. (2018).

 Leading change: A case study of the first independent critical access hospital to achieve Magnet® designation. *Journal of Nursing Administration*, 48(3), 141-148.

 https://doi.org/10.1097/NNA.00000000000000588
- Orsolini-Hain, L. (2012). Mixed messages: Hospital practices that serve as disincentives for associate degree–prepared nurses to return to school. *Nursing Outlook*, 60(2), 81-90. http://dx.doi.org/10.1016/j.outlook.2011.05.007
- Rossi, A., Rossi, D., Rossi, M., & Rossi, P. (2011). Continuity of care in a rural critical access hospital: Surgeons as primary care providers. *The American Journal of Surgery*, 201(3), 359-362. http://dx.doi.org/10.1016/j.amjsurg.2010.08.026

- Rural Health Information Hub. (2018). Critical access hospitals (CAHs) resources. Retrieved https://www.ruralhealthinfo.org/topics/critical-access-hospitals/resources
- Rural Health Information Hub. (2016). Critical access hospitals (CAHs). Retrieved from https://www.ruralhealthinfo.org/topics/critical-access-hospitals
- Seright, T. J., & Winters, C. A. (2015). Critical care in critical access hospitals. *Critical Care Nurse*, 35(5), 62-67. https://doi.org/10.4037/ccn2015115
- Smith, S. A. (2014). Magnet hospitals: Higher rates of patient satisfaction. *Policy, Politics, & Nursing Practice, 15*(1-2), 30-41. https://doi.org/10.1177/1527154414538102
- Spetz, J., Donaldson, N., Aydin, C., & Brown, D. S. (2008). How many nurses per patient?

 Measurements of nurse staffing in health services research. *Health Services Research*, *43*(5 Pt 1), 1674-1692. https://doi.org/10.1111/j.1475-6773.2008.00850.x
- Stimpfel, A. W., Rosen, J. E., & McHugh, M. D. (2014). Understanding the role of the professional practice environment on quality of care in Magnet[®] and non-Magnet hospitals. *Journal of Nursing Administration*, 44(1), 10-16. https://doi.org/10.1097/NNA.000000000000000015
- Tourangeau, A. E., Doran, D. M., Hall, L. M., O'Brien Pallas, L., Pringle, D., Tu, J. V., & Cranley, L. A. (2007). Impact of hospital nursing care on 30-day mortality for acute medical patients.

 **Journal of Advanced Nursing, 57(1), 32-44. https://doi.org/10.1111/j.1365-2648.2006.04084.x
- U.S. Department of Health and Human Services. (2010). *The registered nurse population:*Findings from the 2008 national sample survey of registered nurses. Retrieved from https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/rnsurveyfinal.pdf

- United States Census Bureau. (2014). Urban and rural universe: Housing units 2010 census summary file 1. Retrieved from http://factfinder.census.gov/faces/tableservices/jsf/pages/
 productview.xhtml?pid=DEC 10 SF1 H2&prodType=table
- Waverly Health Center. (2018). *Accreditation & quality*. Retrieved from https://www.waverly healthcenter.org/about-us/accreditation-quality/
- Waverly Health Center. (2013). Magnet documentation 001.
- Waverly Health Center. (2014). *Report to the community: July 2013 June 2014*. Retrieved from https://www.waverlyhealthcenter.org/about-us/annual-reports/
- Weinhold, I., & Gurtner, S. (2014). Understanding shortages of sufficient health care in rural areas.

 Health Policy, 118(2), 201-214. http://dx.doi.org/10.1016/j.healthpol.2014.07.018
- Winters, C. A., Lee, H. J., Besel, J., Strand, A., Echeverri, R., Jorgensen, K. P., & Dea, J. E. (2007). Access to and use of research by rural nurses. *Rural And Remote Health*, 7(3), 758-758.
- Wolf, G., Triolo, P., & Ponte, P. R. (2008). Magnet recognition program: The next generation.

 **Journal of Nursing Administration, 38(4), 200-204. https://doi.org/10.1097/01.NNA.0000312759.14536.a9
- World Health Organization. (2010). *Increasing access to health workers in remote and rural areas*through improved retention. Retrieved from http://www.who.int/hrh/retention/guide
 lines/en/
- World Health Organization. (2014). *Twelfth general programme of work: Not merely the absence of disease*. Retrieved from http://www.who.int/about/resources planning/twelfth-gpw/en/