

4-28-2018

Impact of Student Nurses' Clinical on the Workload of RN's on a Medical-Surgical Unit of a Critical Access Hospital

Reta Hamilton

Follow this and additional works at: https://digitalcommons.otterbein.edu/stu_doc

 Part of the [Perioperative, Operating Room and Surgical Nursing Commons](#)

Impact of Student Nurses' Clinical on the Workload of RNs on a Medical-Surgical Unit of a
Critical Access Hospital
Reta Hamilton, MSN

Doctor of Nursing Practice Final Scholarly Project

In Partial Fulfillment of the Requirements for the Degree

Doctor of Nursing Practice

Otterbein University

2018

DNP Final Scholarly Project Committee:

Jacqueline Haverkamp, DNP, MBA, RN, FNP-BC
Advisor's Name and Credentials

2nd Reader's Name and Credentials

Rachel Cummings, BSI, RN
Community Member's Name and Credentials

Executive Summary

A pilot study was conducted using a mixed-method approach to explore RNs' perceptions of the impact of student nurses' clinical on the workload of medical-surgical RNs in a Critical Access Hospital (CAH). With the increase in the number and size of nursing programs leading to a shortage of clinical sites, maintaining a positive relationship with clinical sites is extremely important to nursing programs (Davis, Kimble, & Gunby, 2014). Previous research has found that nurses with less than 10 years' experience have a more positive perception of student nurses than nurses with 10 years or more of experience. Little information is available regarding the impact of nursing students on the workload of RNs on medical-surgical units, with no studies specific to RNs in CAHs. Complex Adaptive Systems theory is utilized as a foundation for this project (Kramer, Brewer, Halfer, McGuire, Beausoleil, Claman, & Duchscher, 2013).

The quantitative portion of the study utilized an adapted version of the Nursing Students' Contributions to Clinical Agencies (Grindel, Patsdaughter, Babingron, & Medici, 2001) survey administered via Qualtrics®. The qualitative method consists of semi-structured interviews, which offered opportunities for RNs to more fully express their thoughts and suggestions related to student nurses on their medical-surgical unit. Findings from this pilot study, while not statistically significant, do support findings from previous studies in other acute care settings. For example, RNs with less than 10 years of nursing experience viewed students' contribution to the clinical agency more favorably than nurses with more than 10 years of nursing experience (Grindel, et al., 2001). While the findings from Grindel, et al. (2001, 2003) have been supported (Morrison & Brennaman, 2016), current research is needed to identify RNs' perceptions of student nurses' clinical on the RN workload in today's challenging healthcare environment. The difficulty many nursing programs are experiencing with clinical placement for their students

should emphasize the need for further research regarding ways to improve relationship with clinical sites.

Impact of Student Nurses' Clinical on the Workload of RNs on a Medical-Surgical Unit of a
Critical Access Hospital

The clinical learning environment (CLE) is a valuable component of student nurse education (Anthony, Yastik, MacDonald, & Marshall, 2014). Nursing programs today often face challenges with finding adequate clinical sites for their nursing students due to increased enrollments and competition for sites (Davis, et al., 2014). Staff nurses working in CLEs face many challenges while working with students including: a shortage of staff; increased patient-to-nurse ratios; high acuity patients. Staff nurses in the CLE are often working with students more days of the week, have students of varying skill levels, and may work with students and instructors from various types of nursing programs (Slaughter-Smith, Helms, & Burris, 2012).

Nursing programs in rural areas often utilize local rural hospitals as clinical sites, many of which are Critical Access Hospitals (CAHs). Rural hospitals, especially CAHs, have features and challenges that make their nurses' work environment unique. Rural hospitals are smaller than urban hospitals and more than half of the 2,000 rural hospitals in the United States are CAHs, which means they have 25 beds or less (American Hospital Association [AHA], 2011). Compared to urban hospitals, rural hospitals have less technology, fewer nurses per patients, nurses with less education, and serve populations with higher rates of major chronic diseases such as hypertension, emphysema, chronic bronchitis, cancer, and diabetes (AHA, 2011).

Background, Significance and Problem Statement

Cramer, Jones and Hertzog (2011) have provided research that supports the need for further study of RN workload in CAHs as “the RN shortage has been linked to workload issues such as dissatisfaction and turnover”, p. 342. In fact, the presence of student nurses in a CLE may be perceived positively, negatively, or both by RNs on a medical-surgical unit of a CAH and the

quality of the relationship between clinical nursing staff and student nurses in the CLE can have an impact on students' education (Morrison and Brennaman, 2016). Given the shortage of clinical sites and challenging work environment of nurses in rural CAHs it is vital that nursing programs, especially clinical nursing instructors, maintain a good relationship with CAH nurses to ensure a positive environment for students and staff (Davis, et al., 2014).

As a previous medical-surgical unit manager in a CAH and a current nursing faculty in an Associate Degree Nursing (ADN) program (which utilizes this same CAH as a clinical site for nursing students); given the scarce information available regarding student nurses' clinical experiences in CAHS, the author saw this topic as worthy of further investigation. There are limited studies which explore the impact of student nurses' clinical on the workload of RNs and even less conducted on medical-surgical units, none which address the perceptions of RNs working with student nurses in CAHs. Answering the question of how student nurses' clinical impact the workload of RNs on a medical-surgical unit in a CAH has potential value for both CAHs and the nursing programs which utilize them for student clinical rotations.

The review of literature that follows was conducted to identify how the presence of nursing students impact the workload of RNs on a medical-surgical unit of a CAH. The PICOT format utilized for the literature review was: the population is nurses on a medical-surgical unit of a CAH; intervention is the presence of nursing students; comparison is the days with no nursing students; time is not applicable to this search.

Literature Review

The literature offers a variety of information regarding nursing students' perceptions and experiences in the CLE showing that faculty, staff nurses, and physician's behaviors in the CLE impact the anxiety level of student nurses (Melincavage, 2011). Much less research is available

regarding staff nurses' perceptions of students in the CLE. Often the literature that is available focuses on the preceptorship or capstone experience where a student is paired with a staff nurse for several weeks of entire shifts (Morrison & Brennaman, 2016). In the traditional clinical experience, a nursing instructor assigns patients to students, training and evaluating them while supervising patient care. Essentially, students and their instructor work alongside the staff nurse who serves as a role model for the students (Morrison & Brennaman, 2016).

Research regarding nurses' perceptions of benefits and disadvantages of medical-surgical staff nurses working with students in CAHs could not be found. A search for "Critical Access Hospitals and nurs*" produced 39 articles with four of those identified as possibly useful, upon review these articles did not address nurses working with student nurses in a CAH. Expanding the search in Medline and CINAHL to rural hospitals in the United States between the years of 2000 - 2017 found 634 articles, thirty-four of which included CAHs. Upon review of the articles provided by the expanded search, the few that were applicable had been identified previously. Although CAHs are rural, they have specific mandates which make the work environment of nurses very unique. Many of these mandates or requirements are addressed in a later section.

A study by (Grindle, Bateman, Patsdaughter, Babington, & Medici, 2001) explored the contributions of undergraduate nursing students from the perspective of nurses on adult health/medical-surgical units and mental health/psychiatric care units. A component of this study was the development of a 54 items survey, Nursing Students' Contributions to Clinical Agencies (NSCCA) (Grindel, et al., 2001). The study results demonstrated that staff nurses from adult health/medical-surgical units and mental health/psychiatric care units agreed that nursing students make contributions to the clinical units, but the adult health/medical-surgical units rated those contributions higher. A possible reason for this difference was identified as, "students may

be able to manage the needs of difficult medical-surgical patients” better than difficult psychiatric patients (Grindel et al., 2001, p. 201). A similar study was conducted in 2003 using the NSCCA tool to explore adult health/medical-surgical nurses’ perceptions of students’ contributions to clinical agencies (Grindel, Patsdaughter, Medici, & Babington, 2003). Nurses on the adult-health/medical-surgical units identified that nursing students, most of which were from a baccalaureate nursing program (BSN), make valuable contributions to the clinical agencies during their clinical rotations, such as providing a recruitment pool, and giving nurses personal growth and satisfaction from teaching students (Grindel et al., 2003). A somewhat surprising finding from the Grindel et al., (2003) study is that nurses with less than 10 years of nursing practice experience viewed the contributions of nursing students to the clinical agencies significantly more favorable than did nurses with greater than ten years of experience. The authors found the more experienced nurses were more likely to view working with student nurses as taking too much time, and that students are not well received by patients (Grindel et al., 2003).

Multiple studies have been conducted utilizing the NSCCA tool developed by Grindel et al., (2001). In 2004 a “replication and extension” of the Grindel et al., (2001) study of the perceptions of staff nurses regarding benefits of having students from a BSN program work in clinical agencies was conducted using the NSCCA tool (Matsumura, Callister, Palmer, Cox, & Larsen, 2004, p. 297). The Matsumura et al., (2004) study utilized a 330-bed regional medical center, a 110-bed pediatric hospital, a 384-bed psychiatric hospital, and a community-based mental health agency with 3,565 patients annually with findings which supported those of the original researchers (Matsumura et al., 2004). The NSCCA tool was utilized in three other studies. In 2005 a study of 225 nurses from four different agencies and a variety of settings was conducted to identify how nursing students were perceived in the clinical agencies. (Palmer,

Cox, Callister, Johnsen, & Matsumura, 2005). The purpose of this mixed method study was to forge a greater commonality and collegiality in nursing education with results showing that “nurses have ambivalent feeling about the benefits of having students on the unit” (Palmer et al., 2005, p. 272). A 2011 study explored the benefits and limitations of nursing students in the clinical setting (Slaughter-Smith, Helms, & Burris, 2012). This study involved nurses and managers from three rural hospitals working with nursing students from a BSN program. Perceptions of the nurses were mostly positive but the nurses did identify working with non-assertive students as a challenge (Slaughter-Smith et al., 2012). Morrison & Brennaman, (2016) utilized the NSCCA tool to study causes of satisfaction and dissatisfaction for staff RNs working with nursing students in both a clinical rotation and a preceptorship rotation. Nurses from six hospitals who worked with students from both ADN and BSN programs were surveyed with similar results for each program. The results identified nurse satisfiers, “such as enhancement of their professional development and acknowledging dissatisfies as increased demand on time and increased workload” (Morrison & Brennaman, 2016, p. 34).

A 2009 phenomenological study was conducted which consisted of interviews with six nurses who worked with BSN students in the clinical setting (Hathorn, Machtmes, & Tillman, 2009). The purpose of the study by Hathorn et al., (2009) was to understand nurses’ attitudes toward student nurses, especially negative attitudes. The two most common themes identified as contributing to negative attitudes by nurses to nursing students were increased workload for nurses, and communication issues between the nurses, instructors and students (Hathorn et al., 2009).

One-fourth of the general hospitals in the U. S. are CAHs and nurses working in these facilities face unique challenges (Cramer, Jones, & Hertzog, 2011). These 1320 CAHs have

“low patient acuities, low but rapidly fluctuating patient volume and a low incidence of adverse events” (Cramer et al., 2011, p. 336). In times of nursing shortages CAHs often rely on Licensed Practical Nurses (LPNs) and unlicensed assistive personnel (UAP) to provide patient care, which add to the challenges faced by nurses in CAHs (Cramer et al., 2011). In a study of ten CAHs, nine of ten hospitals reported that in one-fourth of total inpatient days, RN-to-patient ratios exceeded, “and sometimes greatly exceeded” 1:8, which was considered the norm (Cramer et al., 2011, p. 339). The RN-to-patient ratios underestimate the nursing workload because ratios alone do not address the full range of activities RNs provide which benefit their patients (Cramer et al., 2011).

Of the nine studies included in the literature review, two did not directly relate to nurses’ perceptions of student nurses. Cramer et al. (2011) studied nursing students impact on quality of care in the clinical setting and information from this article was chosen for review because it also offered insight into the work setting of nurses in CAHs. Information contained in the Melincavage (2011) study was useful because it offered insight into the impact nurses’ perceptions have on student learning in the clinical setting. Of the remaining seven studies none were conducted in a CAH. One study involved rural hospitals but did not specify medical-surgical units (Slaughter-Smith et al., 2012). While four studies did identify all nurses studied were RNs, only one study focused on RNs from a medical-surgical unit only (Grindel et al., 2003). The most common finding related to nurses’ perceptions of student nurses in the clinical setting was the ambivalence nurses often feel when working with students. The most common positive contribution was enhanced professional development such as mentoring opportunities (Matsumura et al., 2004), while negative contributions identified were increased workload or demand on nurses (Morrison & Brennaman, 2016).

Theoretical Framework

Complex Adaptive System (CAS) theory provides guidance for this study of student nurses' clinical impact on the workload of staff RNs. Utilizing CAS theory to study medical-surgical RNs' perceptions of student impact on RN workload in the clinical setting is appropriate due to the nature of medical-surgical units. The use of CAS theory is supported by findings noted by Kramer et al. (2013) that suggest clinical units, agents and hospitals can be viewed as CASs because complex systems originate from larger systems, and interactions between multiple CASs results in feedback that notes the behavior of individual components of CASs as related to the whole. In addition, complexity science contradicts traditional scientific views that the universe is stable, closed, and predictable and instead states, "CASs are unstable, non-linear, flexible, and continually evolving and self-organizing in response to feedback" (Kramer et al., 2013, p. 696). As a previous medical-surgical nurse, manager of CAH medical-surgical unit and current medical-surgical clinical instructor in a CAH, the author finds the Kramer et al., (2013) description of a medical-surgical unit fitting.

Findings from a systematic review found that although it has been used for quantitative studies, the majority of the studies using complexity theory are qualitative case studies "involving nursing and medicine in long-term care and primary care" (Thompson, Fazio, Kustra, Patrick, & Stanley, 2016, p. 13). This finding supports the use of CAS theory for the purpose of a mixed method study. The addition of nursing students and their instructor into a medical-surgical unit adds more complexity into the already challenging and complex work environment of the medical-surgical RN. Complexity science focuses on the relationships within a CAS, how the CAS is sustained, how the CAS self-organizes, and how outcomes emerge (Chaffee & McNeil, 2007). Complexity science offers nursing another method of studying interactions and

functions of various systems within the healthcare system. “It offers nurses a powerful opportunity to design research, leadership decisions, policy, and clinical practice in new ways” (Chaffee & McNeil, 2007, p. 240). Each of these roles is within the sphere of influence of the Doctor of Nursing Practice (DNP) nurse. This further supports the appropriateness of CAS theory for studying the impact of student nurses’ clinical on the workload of medical-surgical RNs in a CAH. One of the benefits of CAS theory is its focus on the adaptability of the unit which would also make the theory useful for guiding change within the unit (Chaffee & McNeil, 2007).

In addition, CAHs have unique features that make their environment more complex, especially for RNs working on a medical-surgical unit. Adding nursing students and a clinical instructor into this already complex system may require further adaptation by the nurses and other staff. While there is limited research regarding student impact or contribution to clinical settings from the view of staff nurses, no studies were identified which looked at this issue specific to RNs in a CAH. CAHs must be located in a state with a State Flex Program, which was developed in 1997 as part of the Balanced Budget Act to provide access to health care for persons in rural areas (Cramer et al., 2011). As an incentive and to help struggling rural hospitals provide this care, CAHs receive cost-based reimbursement from Medicare, and some of the Medicare requirements, such as non-payment for hospital acquired conditions are either not applicable or delayed (Cramer et al., 2011). Other requirements for CAHs include; location in a rural area, provide 24-hour emergency services, have no more than 25 inpatient beds (which may include swing beds, also known as skilled nursing beds), have an average length of stay of 96 hours or less, be located at least 35 miles from the closest hospital or more than 15 miles when accessible by mountainous terrain or secondary roads (Rural Health Information Hub [RHIIhub],

2016). CAHs have also been found to utilize LPNs and increase unlicensed assisted personnel (UAP) when they experience a nursing shortage, which usually hits rural areas the hardest (Cramer et al., 2011). CAHs may also keep patients in observation status and they may or may not count in the 25 total inpatient beds depending on the location of the observation beds. “Any hospital-type bed which is located in, or adjacent to, any location where the hospital bed could be used for inpatient care counts toward the 25-bed limit” (RHHub, 2016, p. 2). The CAH utilized for this study has 25 beds, which includes medical inpatients, swing beds, and observation patients, and is staffed by RNs, LPNs, and UAPs. It is the author’s opinion, based on experience with this CAH, that LPNs are usually given the more stable swing bed patients which increases the acuity of patients in the RNs’ workload. Therefore, the workload of RNs is increased even if nurse-to-patient ratios remain unchanged, due to RNs caring for the sicker patients, covering the LPNs’ patients for IV pain medications and any serious complication that may arise. RNs in CAHs must be able to constantly adapt, and do so quickly, to the many roles and responsibilities they face. It is the author’s opinion that anyone who has worked on a medical-surgical unit in a CAH would agree that a CAS is an accurate description, although adaptation may take significant time to occur depending on the stimuli contributing to the complexity of the unit.

Project Implementation and Measures

Project Objectives

As previously noted, answering the question of how student nurses’ clinical impact the workload of RNs on a medical-surgical unit in a CAH is a worthy project endeavor as information gained has potential value for both CAHs and the nursing programs that utilize them for student clinical rotations. Table 1 as follows details the objectives of this DNP project as well as where within this DNP project document objective outcomes can be found:

Table 1: Project objective and outcomes

	Objective	Sections Where Outcomes are Located
1	Identify RNs’ perceptions of the impact of student nurse clinical on the workload of staff RNs on a medical-surgical unit of a CAH.	Analysis and Outcome Evaluation
2	Develop recommendations based on findings from this project, disseminating all findings but focusing on positive aspects of the effect student nurse clinical rotations have on staff RNs, students, the clinical agency and the nursing program.	Conclusion and Recommendation
3	Disseminate findings from the study to increase understanding of the impact of nursing students on the workload of RNs in CAHs which may be beneficial not only to nursing programs and instructors utilizing CAHs, but possibly to those utilizing medical-surgical units in other hospital types.	Summary

Method

A mixed-method, descriptive design was utilized to explore nurses’ perceptions of the impact of student nurse clinical on the workload of RNs on the medical-surgical unit of a CAH. A descriptive study is useful when there is lack of research or available literature in the area of interest to researchers (Terry, 2015). A mixed method approach consists of both a quantitative and a qualitative phase (Terry, 2015). The quantitative portion of the study consists of an electronic adaptation of the NSCCA survey tool developed by Grindel et al. (2001). The qualitative portion consists of RN interviews in an attempt to gain a deeper understanding of RNs’ perceptions of student nurses’ clinical on the medical-surgical unit (Melnik & Overholt, 2015).

Target Population and Sample

The population for this project are RNs on a medical-surgical unit of a CAH in an Appalachian area of the U.S. The medical-surgical unit of this CAH has been utilized by the same local ADN nursing program for many years and many of the RNs on the medical-surgical unit are graduates of this program. The local ADN program has been the only nursing program utilizing this unit for student nurse clinical rotations for at least six years. A convenience sample of day shift RNs on the medical-surgical unit was utilized as these are the nurses who work most closely with student nurses and the nursing instructor during the clinical rotations. CAHs by their definition, 25 or less inpatients, have a small number of staff nurses. There are ten regularly scheduled day-shift RNs working on the medical-surgical unit in this CAH. The target participation rate was at least 40% for both the quantitative and qualitative components of the study. A response rate of less than 40% may not be generalizable to the targeted population (Seers & Critelton, 2001).

Instruments and Data Collection

It was expected that recruitment of participants would be aided by the author's relationship with the staff as a previous employee and current nursing instructor using their unit for student clinical rotations. Institution Review Board approval (Appendix A) was obtained from Otterbein University where the author is a student in the Doctor of Nursing Practice (DNP) program. Participants were informed of and asked to participate in the study by personal invitation, including a letter of explanation (Appendix B) which was distributed to each regularly scheduled, day-shift RN on the medical-surgical unit. The author was present on the unit at multiple times to answer questions the RNs may have regarding the study. The survey was distributed anonymously and participants were instructed to e-mail the author after completion of

the survey to receive a \$5.00 gift card to a local fast food restaurant. An incentive is used to acknowledge an appreciation of the RNs time and opinions ((Then, Rankin, & Ali, 2014).

The quantitative portion of the study consists of an adaptation of the NSCCA survey tool developed by Grindel et al. (2001) (with a Cronbach's alpha of .95) using Qualtrics® as the electronic format. One of the advantages of the NSCCA is its previous use in multiple studies (Grindel et al., 2001; Grindel et al., 2003; Matsumura et al., 2004; Palmer et al., 2005; Slaughter-Smith et al., 2011; Morrison & Brennaman, 2016). Attempts to gain permission for utilization of the NSCCA were unsuccessful. Therefore, an adapted, shortened version of the NSCCA survey tool was developed. Working in an organization that utilizes an electronic health record for patient care documentation ensures participants have access to computers and have at least a basic comfort level with computers. The RNs have completed employee satisfaction surveys using an electronic format which should increase their familiarity with this method.

The first several items of the adapted NSCCA survey administered consists of a 5-point Likert scale with a range from (0) strongly disagrees, to (4) strongly agrees (Grindel et al., 2001). The final item of the NSCCA is a global indicator of nurses' perceptions of students' contributions to the clinical agency ranging from (-5) extremely negative, to (+5) extremely positive (Grindel et al., 2001). The electronic version of the adapted NSCCA survey developed for this study included participant demographic information, such as age, years of nursing experience, and nursing educational program (Grindel et al., 2001). Distribution of the 38-item survey was through participants' work e-mails with the approval of CAH's administration.

Participants were identified as regularly scheduled day-shift RNs on the medical-surgical unit of the CAH. Ten regularly scheduled, day-shift RNs were identified from the unit's staffing schedule. An explanatory letter and consent form were distributed to the RNs with a two-week

time frame for survey completion. Each participant signed an informed consent before completing the survey. Ten, RNs completed the electronic survey, which reflected 100% participation. RNs reported that completion of the survey took approximately 5 minutes to complete and this short completion time may have contributed to the 100% participation rate.

The qualitative portion of the study consisted of individual interviews using semi-structured, open-ended questions with the goal of prompting the RNs to share their thoughts regarding student nurses on the medical-surgical unit (Melnyk & Overholt, 2015). The author had planned conducting focus group interviews. However, due to the busy work environment of the RNs, only one participant was able to leave the unit at a time, thus necessitating individual interviews. The RN interviews were scheduled on two separate days, during the RNs' lunch time, with lunch provided. Staff on the medical-surgical unit work 12 hour-shifts, therefore, scheduling interviews during lunch time, limiting the interviews to approximately 30 minutes, and providing lunch was predicted to be the most convenient option to facilitate participation. The RN interviews were conducted in a quiet room away from the medical-surgical unit to avoid distractions and interruptions. The interviews were audio recorded and transcribed at a later time. A nurse from the case management/quality improvement department was an observer during the interviews as she holds a non-managerial role. The role of the observer is to observe reactions and/or interactions of participants during the discussions and offer clarification to the interviewer if needed (Then, Rankin, & Ali, 2014). The observer does not participate in the discussions but observes the behaviors and non-verbal communication of the participants, which provides added insight (Then et al., 2014).

Project Timeline

Table 2: Project time-line

Time Frame	Activity	Responsible Person	Completed
Summer semester 2017	Secure approval for project from CAH	DNP Student	Yes
	Recruit community partner		Yes
	Develop project proposal		Yes
	Complete IRB		Yes
	Complete grant application		Yes
	Explore available grants		Yes
	Explore electronic survey tool for quantitative survey		Yes
Fall semester 2017	Develop electronic survey	DNP student	Yes
	Distribute electronic survey	DNP student	Yes
	Analysis quantitative data	DNP student	Yes
	Begin RN interviews	DNP Student	No
Spring semester 2018	Complete RN interviews	DNP student with assistant	Yes
	Analysis qualitative data		
	• Recordings to transcriptionist	DNP student	Yes
	• Transcripts back from transcriptionist	DNP student	Yes
	• Second reviewer reviews transcripts and meet to compare findings	DNP student & assistant	Yes
	Write up of findings	DNP Student	Yes
	Disseminate findings to stakeholders	DNP Student	
Complete final presentation	DNP Student		

Budget

No expense was incurred by participants as the survey was completed during the RNs work hours. Costs to the CAH were very minimal due to the short-time (approximately five minutes) required to complete the survey and the small number of participants. There was no

expense for the student in utilization of Qualtric® for survey distribution due to existing access to the program. The budgeted and actual expenses for the study are listed in Table 3.

Table 3: Project budget

Item	Explanation	Estimated Costs	Actual Costs
\$5.00 Gift cards for 10 RNs	Incentive for RNs completing electronic survey	\$60.00	\$50.00
Food	For focus group lunches	\$250.00	\$105.69
Supplies	Paper, pens, highlighters	\$20.00	\$10.00
Transcriptionist	Transcribing audio recordings	\$120.00	\$80.40
Gifts	For observer/assistant and community member	\$100.00	\$100.00
Statistician	Fee or gift for statistical consult	\$100.00	
Total		\$650.00	346.09

Analysis and Outcome Evaluation

Data Analysis

Due to the small sample size ($n = 10$) descriptive statistics were utilized to provide summaries of the sample and findings from the studies (Then et al., 2014). Participants were regularly scheduled day-shift RNs on the medical-surgical unit of a CAH. All participants were females, ranging in age from 23 to 55 ($M = 38.5$, $SD = 11.43$) with years of nursing experience ranging from 1 year to 28.5 years ($M = 8.25$, $SD = 8.54$). One RN had several years of medical-surgical experience but had recently moved into a nurse practitioner position (NP) on the unit. The NP was identified as appropriate for the study due to her many years of experience as a staff nurse on the unit working with students and her very recent change to the NP role on the same unit. All participants received their initial RN degree from an ADN program, with 2 currently

having a BSN, and 1 MSN. Type of nursing student clinical rotations on the medical-surgical unit are ADN students from one local nursing program.

The survey items with the highest positive results were able to assist with patient care ($M = 3.7$, $SD = 0.48$); allow opportunities for mentoring ($M = 3.7$, $SD = 0.48$); become a source of recruitment ($M = 3.6$, $SD = 0.52$); interact with patients ($M = 3.6$, $SD = 0.69$) and instructor is a resource for decision making ($M = 3.3$, $SD = 0.48$). Negative findings were problem students can be frustrating ($M = 2.5$, $SD = 0.53$) and students are less assertive with important patient therapies ($M = 1.7$, $SD = 1.06$). On the global rating item, contribution to the clinical agency, ranging from -5 extremely negative to +5 extremely positive, the overall responses were positive ranging from +2 to +5 ($M = 3.9$, $SD = 0.99$) which addressed objective 1, regarding RNs' perceptions of student impact on RN workload. The scores for this item agree with findings from previous studies, although the sample size is too small to be statistically significant. RNs with more than ten years nursing experience ($N = 2$), ($M = 3$, $SD = 1.41$) rated student contribution slightly less positive than RNs with less than ten years nursing experience ($N = 8$), ($M = 4.1$, $SD = 0.83$). A comment section was provided for participants at the end of the survey but no participants commented. Further information regarding ratings for individual items are found in Tables 4 and 5 that follow:

Table 4

Positive worded items – the higher the M & SD, the more participants agreed with the item.

Items	M	SD
How would you rate student nurses' contribution to the clinical agency on a scale of -5 extremely negative to +5 extremely positive	3.9	0.99
Students allow opportunities for mentoring	3.7	0.48
Students are able to assist with patient care	3.7	0.48
Students interact with patients and families	3.6	0.69
Students become a source of recruitment	3.6	0.52
Students allow for reciprocal learning	3.6	0.52
Allows nurses to participate in student's professional development	3.5	0.53
Students stimulate staff intellectually	3.5	0.53
Students provide individualize support and care for patients	3.4	0.52
Students enhance the clinical setting as a learning environment	3.4	0.52
The instructor is a resource for clinical decision making	3.3	0.48
Nurses enjoy teaching students	3.0	0.67
Students participation empowers nurses	2.9	0.60
Students allow staff time to do extras	2.8	1.03
Students challenge staff to remain proficient	2.8	1.03
Students contribute to unit's standards of practice by increasing staff's awareness of current policies and procedures	2.8	0.92
Students give staff respite from difficult patients	2.0	2.0

Table 5

Negative worded items – the higher the M & SD, the more participants agreed with the item.

Item	M	SD
Problem students can be frustrating	2.5	0.53
Students are less assertive with important patient therapies	1.7	1.06
Students add to the confusion and noise on the unit	1.2	0.79
Students make staff insecure about their knowledge and skills	1.1	0.74
Students allow cost containment by decreasing overtime pay	1.1	0.74
Students are not well received by patients	0.9	0.52
Students do not appreciate support of staff nurses	0.8	0.75
Students impede the sharing of ideas	0.8	0.79
Students take too much staff time	0.8	0.63
Students spend less time with patients	0.7	0.48
Students threaten professional role development	0.7	0.48
Students are unable to contribute to the treatment plan	0.6	0.52
Assistive personnel are threatened by students	0.5	0.53

Participants for the qualitative portion of the study were a convenience sample of regularly scheduled RNs from the medical-surgical unit of the CAH. Participation rate for the interviews was 40% (4 RNs) which is more than adequate for a small population size. Informed consent was signed by each participant prior to the interviews. Interviews lasted between 15 and 30 minutes allowing participants the time they needed to discuss their thoughts and perceptions of nursing students' clinical.

After completion of the interviews the tapes were transcribed independently by a volunteer and by the author. Transcripts of the interviews were analyzed separately by the author and the observer to identify common themes and concepts from the transcripts and observations notes through repeated reading and analysis (Then et al., 2014). After repeated

individual review the two readers met to compare and discuss their findings, to identify common themes, and resolve any discrepancies (Then et al., 2014).

Findings from the qualitative portion of the study supported findings from the quantitative survey. The RNs enjoy having students on the medical-surgical unit and find their presence very helpful, identifying the students as helpful and lightening the RNs' workload. The following question offers the greatest insight into the RNs' perception of student nurses' clinical on the RN workload with a sample of other questions and responses provided in Table 5. On an average day, when you come into the facility and you find you are going to have students there that day and they are going to be helping your patients. How does that make you feel?

(Nurse 1) "I'm excited, I am excited. Because especially like I said today. If I have 5 or 6 patients it helps so much. Because day-shift you know we do the 3 med passes, the 3 Accu Checks, we have to round with the doctors, you have all the departments calling you. I have worked night shift and it can be busy but it is not as busy so if you have any extra helping hands I mean, I am grateful, I am just overly excited about it."

(Nurse 2) "The other morning I came in and there were 2 students, I was like yeah we have 2 students today. I mean I really, it really doesn't bother me. I mean I guess um I try to take it in stride, and I like helping you know. I mean it's like oh it's great you know if they help me do this, I can do that."

(Nurse 3) "Usually I feel relieved. Like I said they usually spend more time with the patients than I would have. I mean they are usually pretty good about coming and saying this is going on, what do you want me to do or anything like that? It kind of relieves my workload. And in the afternoon, I pick up where they left off."

(Nurse 4) "Happy. I'd be hoping you guys have some of mine."

Table 6: Sample RN interview questions and responses

Questions	Responses
Do you feel overall, students contribute positively to the unit and being on the floor or overall are they more of a hinderance?	(Nurse 1) "Not a hinderance at all". (Nurse 2) "I think it's positive. I don't think there is anything negative about it".
Do you have any issues such as communication? Does the instructor communicate effectively with you and keep you informed of what is going on?	(Nurse 3) "I feel like they do". (Nurse 4) "They are very good at communicating with us".
What recommendations, if any, do you have to improve the working relationship between the nursing students, their instructor and the staff? Because even if things are going well, sometimes there are suggestions and ideas to make it better.	(Nurse 1) "Just don't be afraid to ask questions". (Nurse 2) "Um, I think everybody's great at what they are doing and I can't think of anything to make it better than what it is." (Nurse 3) "I don't really have anything, no I feel like it is set up pretty well."

Conclusion and Recommendations

One indicator of success was participation rate. A response rate of 100% was achieved for the electronic survey portion of the study and four RNs participated in the interview portion. This is a good participation rate for a small population of day-shift RNs. As previously stated, CAHs by their very nature have smaller number of RNs than other hospitals. The high participation rate of RNs in this CAH shows their eagerness to be a part of research that may contribute to a greater understanding of their work environment.

Limitations to the study are the small sample size for the quantitative study and potential bias due to the relationship of the staff to the author. While the small sample size works well for

interviews or focus groups, it makes the quantitative findings less applicable to other medical-surgical units. Utilizing a mix-method approach for this project with the qualitative findings supporting the quantitative findings adds more validity to the study. Another potential limitation, is possible bias due to the relationship of the author with the RNs which may limit the nurses' honest feedback. As a previous manager for this medical-surgical unit, some of the RNs worked for and were hired by the author. All of the RNs in the study have shared their patients with the author and her clinical students. There was no way for the author to remove 100% of the potential bias of the relationship with the RNs but the impact of this potential bias was decreased by having an objective observer present during the interviews to monitor RNs' body language and interaction with the author for signs of bias. The time frame for conducting the project could have been a barrier as the medical-surgical unit is usually busier in the winter months. Given the high participation rates it appears the busier unit may have been a benefit to the study as it provided more RNS on the unit to increase possible participants.

Conducting this project as part of a DNP program provided resources that otherwise would not be available to the author, such as faculty members and a project advisor to provide oversight. Another significant facilitator is the author's strong relationship with the staff and management of the CAH utilized for the project. Having the support of the CNO aided in access to the staff and the facility. Knowing the RNs and having a good relationship with them may also have been a significant facilitator in getting participants to complete the survey and attend the interviews.

Positive implications for those involved in the DNP project were participation in the generation of new knowledge to increase understanding of the impact of student nurses' clinical on staff RNs' work-load. Information from this project has potential value to healthcare systems

and nursing programs across the country. Many hospitals have nursing students from multiple programs within their facilities. A greater understanding of the impact of these students on RN workload has the potential to increase RN satisfaction thus increasing RN retention. Increased RN retention has a positive impact by decreasing the expenses associated with RN turnover, increasing patient satisfaction and quality of care through care provided by experienced RNs. Implications for nursing programs are real-life experiences for students, increased availability of preceptors and mentors for students, and potential increased enrollment due to adequate access to clinical sites.

Objective 2 for this DNP project is addressed as the author recommends further research into the impact of student nurses' clinical on the work environment of RNs on medical-surgical units, especially in CAHs. Further research is also needed to identify the best approach to student nurses' clinical on a medical-surgical unit. One factor which may have contributed to the RNs positive response to the student presence on their medical-surgical unit is the limited number of nursing programs and students. This limited number of programs, instructors, and students may be an advantage to the RNs. One RN who was interviewed for the study previously worked at another facility with multiple students and instructors from multiple programs put it this way "they would swap out every two or three weeks. Here we get to at least see the same people for semesters. And of course, just meeting someone each time, you don't know what level they're on or what skills they have. Here you see them through the process. Here one week they do vitals the next week they are doing meds. There you would have so many students you wouldn't have a clue of what's going on."

The work environment of RNs is complex and complicated. Further research is needed to identify ways to give students the clinical practice they need without overwhelming or burning

out the RNs who work with them. The author strongly recommends further research to identify ways to improve collaboration between the clinical instructors and staff during students' clinical rotations. It has been the author's experience as a previous medical-surgical manager with students and instructors on the unit, and as a current clinical instructor, that not all clinical instructors approach student clinical experiences in the same manner. The current clinical instructors at the CAH involved in this study, are very hands on and work closely with the students to provide the majority of care to the patients assigned to the students. Other clinical instructors may assign each student to a RN who has the bulk of the responsibility for answering the students' questions. As a previous manager, the author often found staff nurse complained they felt they were doing the instructors work for them as well as the own work. As it becomes more difficult for nursing programs to increase or even maintain adequate clinical sites, more research into the best practice for collaboration between instructors and staff would be very beneficial.

Maintaining or improving the collaborative relationship between clinical sites and nursing programs have benefits for all involved. CAHs face unique challenges with RN recruitment, often due to their rural location and limited resource, which make nursing students a valuable source for recruitment (AHA, 2011). Therefore, CAHs and nursing programs should be committed to keeping a strong working relationship between students, staff, and instructors. It is expected that insights into the perceptions of staff RNs working with clinical students and their instructors will strengthen collaboration between all involved. Adequate numbers of prepared students impact access to care by decreasing the nursing shortage, especially in rural areas where CAHs are located.

Summary

This was the author's first experience in utilizing a mixed-method design for a scholarly project. As expected going into this project, the data analysis proved to be the most challenging, although these challenges were overcome by identifying appropriate resources. The results of the study were consistent with the author's expectation, although confirmation adds to the author's understanding of effective communication as one of the greatest assets for a clinical instructor. The author had expected that the RNs in this study would have an overall favorable perception of student nurses' clinical based on her experience with the facility and the staff. The RNs had frequently commented regarding the helpfulness of the students. Likewise, students have commented how welcoming the staff are in this CAH as compared to other facilities in which the students have clinical rotations. The author attributes this to two major factors; particularly being the only nursing program utilizing the facility, and also the manner in which student nurses' clinical are conducted by this nursing program. The relationship built between the staff, instructors, and students adds a sense of ownership to all involved.

In addition, while the findings from this pilot study found RNs view students' and instructor presence positively, the author realizes these findings may not be generalizable to all medical-surgical units as the clinical instructor is a vital key to maintaining a positive relationship for all those involved in the nursing students' clinical experience. It is the author's hope that further research will be conducted which will explore the most effective way for clinical instructors to conduct medical-surgical student nurses' clinical experience. Objective 3 for this project is met as the author plans to disseminate findings through a presentation at Otterbein University, the CAH where the study was conducted, and through a poster presentation for the Ohio Council of A.D.N. Education Administrators (OCADNEA).

References

- American Hospital Association. (2011). *Trend Watch: The opportunities and challenges for rural hospitals in an era of health reform*. Retrieved from American Hospital Association: <http://www.aha.org/research/reports/tw/11apr-tw-rural.pdf>
- Anthony, M., Yastik, J., MacDonald, D. A., & Marshall, K. A. (2014, January/February). Development and validation of a tool to measure incivility in clinical nursing education. *Journal of Professional Nursing, 30*(1), 48-55. doi.org/10.1016/j.profnurs.2012.12.011
- Chaffee, M. W., & McNeil, M. M. (2007, September/October). A model of nursing as a complex adaptive system. *Nursing Outlook, 55*(5), 232-241.
- Cramer, M. E., Jones, K. J., & Hertzog, M. (2011, October - December). Nurse staffing in Critical Access Hospitals: Structural factors linked to quality care. *Journal of Nursing Care Quality, 26*(4), 335-343. doi.org/10.1097/NCQ.0b013e318210d30a
- Davis, A. H., Kimble, L. P., & Gunby, S. S. (2014, February 19). Nursing faculty use of high-fidelity human patient simulation in undergraduate nursing education: A mixed-methods study. *Journal of Nursing Education, 53*(3), 142-150. doi.org/10.3928/01484834-20140219-02
- Grindel, C. G., Bateman, A. L., Patsdaughter, C. A., Babington, L. M., & Medici, G. (2001, July/August). Student contributions to clinical agencies a comparison of adult health and psychiatric staff nurses' perceptions. *Nursing and Health Care Perspectives, 22*(4), 197-202.
- Grindel, C. G., Patsdaughter, C. A., Medici, G., & Babington, L. M. (2003, April). Adult-health/medical-surgical nurses' perceptions of students' contributions to clinical agencies. *Medsurg Nursing, 12*(2), 117-123.

- Hathorn, D., Machtmes, K., & Tillman, K. (2009, June). The lived experience of nurses working with student nurses in the clinical environment. *The Qualitative Report, 14*(2), 227-244.
- Hooven, K. (2015). Nursing student' qualitative experience in the Medical-Surgical clinical learning environment: A cross-cultural integrative review. *Journal of Nursing Education, 54*(8), 421-429. doi.org/10.3928/01484834-20150717-01
- Kramer, M., Brewer, B. B., Halfer, D., McGuire, P., Beausoleil, S., Claman, K., & Duchscher, J. B. (2013). Changing our lens: seeing the chaos of professional practice as complex. *Journal of Nursing Management, 21*, 690-704.
- Matsumura, G., Callister, L. C., Palmer, S., Cox, A. H., & Larsen, L. (2004, November/December). Staff nurse perceptions of the contributions of students to clinical agencies. *Nursing Education Perspectives, 25*(6), 297-303.
- Melincavage, S. M. (2011). Student nurses' experiences of anxiety in the clinical setting. *Nurse Education Today, 785-789*. doi.org/10.1016/j.nedt.2011.05.007
- Melnyk, B. M., & Overholt, E. F. (2015). *Evidence-based practice in nursing & healthcare a guide to best practice* (3rd ed.). Philadelphia, PA: Wolters Kluwer Health.
- Morrison, T. L., & Brennaman, L. (2016). What do nursing students contribute to clinical practice? The perceptions of working nurses. *Applied Nursing Research, 32*(), 30-35. doi.org/10.1016/j.apnr.2016.03.009
- Palmer, S. P., Cox, A. H., Callister, L. C., Johnsen, V., & Matsumura, G. (2005, November/December). Nursing education and service collaboration: Making a difference in the clinical learning environment. *The Journal of Continuing Education in Nursing, 36*(6), 271-276.

- Rural Health Information Hub. (2016). *Critical Access Hospitals (CAHs)*. Retrieved from website Rural Health Information Hub: <https://www.ruralhealthinfo.org/topic/critical-access-hospitals>
- Seers, K., & Critelton, N. (2001). Quantitative research: Designs relevant to nursing and healthcare. *Nursing Times*, 6(1), 487-500
- Slaughter-Smith, C., Helms, J. E., & Burris, R. (2012). Nursing staff perceptions of student contributions in clinical settings. *Journal of Nursing Education*, 51(1), 54-57.
doi.org/doi:10.3928/01484834-20111130-02
- Terry, A. J. (2015). *Clinical research for the doctor of nursing practice* (2nd ed.). Burlington, MA: Jones & Bartlett Learning.
- Then, K. L., Rankin, J. A., & Ali, E. (2014, Winter). Focus group research: What is it and how can it be used? *Canadian Journal of Cardiovascular Nursing*, 24(1), 16-22. Retrieved from researchgate.net
- Thompson, D. S., Fazio, X., Kustra, E., Patrick, L., & Stanley, D. (2016). Scoping review of complexity theory in health services research. *BioMed Central Health Services Research*, 1-16.

Appendix A

Institution Review Board Approval

Otterbein University
Institutional Review Board

Office Use:
Protocol No.
Date Received:

Cover Page for
SUMMARY SHEETS

Principal Investigator(s):
(If student, list advisor's
name first)

Jacqueline Haverkamp
Name

Reta Hamilton
Name

Name

Jacqueline Haverkamp
Signature

Reta Hamilton
Signature

Signature

PI Academic Title: Faculty

Phone No. (614) 823-1628

Department: Nursing

Campus Address: Science Center 445C, Westerville, Ohio
(Faculty Member's Campus Address)

PROPOSAL TITLE:

Impact of Student Nurses' Clinical on the Workload of Nurses on a Medical-Surgical Unit of a Critical
Access Hospital

Are you applying for expedited review? If so, indicate, **by number**, the category from the Guidelines
material entitled "Research Eligible for Expedited Review" which best describes your project.
45 CFR Part 46.110 (15)

Is there outside funding for the proposed research? If so, please indicate the source:
Unknown at this time

When do you plan to begin collecting data? November, 2017

When do you plan to finish collecting data? January, 2018

Appendix B

Explanatory Letter

To: Day-shift RNs on Medical-Surgical Unit

This letter is to inform you of a research study that will be conducted on your medical-surgical unit, and to ask for your participation. The purpose of the study is to explore RNs perceptions of the impact of nursing students' clinical on RN workload on a medical-surgical unit of a Critical Access Hospital. Your participation is strictly voluntary and if you participate your individual responses will be kept confidential. The study is limited to regularly scheduled, day-shift RNs on the medical-surgical unit as these are the nurses who work most closely with the students and their instructor during student clinical hours. Preceptorship hours are not included in this study. This study is important to you because it gives you a chance to have input into what happens on your unit. It also gives you a voice in the training of new nurses which may work with you in the future, and an opportunity to offer insights useful not only to your unit but also to other RNs, especially in rural and Critical Access Hospitals. The study will consist of two parts. You may choose to participate in one, both, or neither part, but it is my hope that all those eligible will participate. Part one is an electronic survey which will be made available to you through your work E-mail in November, 2017. A consent form will be included with the survey, which must be signed before you take the survey. The survey is anticipated to take approximately 15 to 20 minutes to complete. Notify the study investigator after completing the survey and you will receive a small gift as appreciation.

Part two of the study consists of focus groups which will meet for 30 minutes during lunch time starting in January, 2018. Lunch will be provided for those choosing to participate and each participant only attends one time. There are plans to have someone cover your patients while you attend the meeting. Stephanie Sparks and I will be in the focus group meetings. Semi structured, open-ended question will be asked to encourage you to share your experiences and give you an opportunity to more fully express your thoughts than the survey allowed. Stephanie will be there only as an observer and to operate the audio recorder. You will be assigned code names for the meeting so your identity will be known only to Stephanie and I, although there is no expectation of sensitive information being discussed. The tapes will be transcribed by an independent transcriptionist who will return all the information to me.

I will also be available on the unit multiple times to answer questions you may have. This is an opportunity we rarely have in rural area. I encourage you to take advantage of this opportunity to make a difference and have your voices heard. Contact me at the number below for further information. Thank you for your time and consideration.

Sincerely,

Reta Hamilton MSN, RN

Phone: 937-763-5303

E-mail: reta.hamilton@otterbein.edu

Appendix C

Informed Consent

The Graduate Nursing Department of Otterbein University supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in a focus group.

The purpose of this focus group is to allow Registered Nurses (RNs) to discuss, in their own words, their perceptions of the impact of nursing students' clinical rotation on the workload of RNs on the Medical-Surgical unit of a Critical Access Hospital. The interviews will consist of a 30-minute discussion. Multiple interviews will be scheduled as needed to allow for increased participation. The interviews will be scheduled during lunch time with lunch provided by the investigator. Those eligible to participate in the study are regularly scheduled, day-shift RNs on the Medical-Surgical unit. These RNs are asked to participate due to the majority of student nurses' clinical hours being completed on day-shift on the Medical-Surgical unit. Preceptorship hours are not addressed in this study.

Your participation is solicited although strictly voluntary. Your name will not be associated in any way with the research findings. The information will be identified only by a code number.

If you would like additional information concerning this study before or after it is completed, please feel free to contact me by phone or E-mail.

Sincerely,

Reta Hamilton MSN, RN, Principal Investigator Otterbein University

Phone: 937-763-5303

E-mail: reta.hamilton@otterbein.edu

With my signature I affirm that I am at least 18 years of age and consent to participation in the study.

Participant Signature _____

Date _____