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Alternative Strategies for Providing Clinical Experiences in a Family Nursing Course

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ABSTRACT

Clinical competency is essential for nursing student preparation although acute clinical experiences are limited. An innovative pedagogical strategy was utilized to meet curricular requirements in a Family Health Nursing course. National Council Licensure Examination-Registered Nurse (NCLEX-RN), Health Education Systems Incorporated (HESI) exit and HESI maternity examination scores increased, and student feedback and faculty satisfaction improved. Program outcomes were not negatively affected by elimination of the acute care clinicals. Community clinical experiences with obstetrical simulation may be utilized as a feasible strategy to meet program outcomes.

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Introduction

The nursing profession is the largest segment of the U.S. workforce (Institute of Medicine [IOM], 2011; U.S. Department of Labor, 2018). The IOM, renamed the National Academy of Medicine, considered the nursing profession critical to the health care of America in their 2010 report, *The Future of Nursing: Leading Change, Advancing Health* (IOM). This report significantly impacted nursing in several ways, one of which was the availability of clinical sites for associate degree nursing (ADN) programs (U.S. Department of Health and Human Services, 2018). The American Association of Colleges of Nursing (AACN) considers limited clinical sites a barrier to quality nursing education (AACN, 2008). Clinical experiences facilitate critical thinking, clinical judgment, implementation of the nursing process, and skill performance (Tanner, 2006), although the limited availability of acute pediatric and obstetrical clinical settings currently pose a significant nationwide challenge (AACN, as cited in Benner, Sutphen, Leonard, & Day, 2010, p. 5; Lippincott Nursing Education, 2017). The availability of acute clinical opportunities for ADN students in our local geographic region is limited by the lack of a nursing shortage, further increasing the competition for job opportunities (Aiken, 2014; U.S. Department of Health and Human Services, 2018). Baccalaureate students receive preferential placement for clinical opportunities to ADN students. Bachelor of Science in Nursing (BSN) graduates are hired before ADN graduates, and of those institutions

who hire ADN graduates, the following requirements have been established: pursuit of a BSN degree, earning a BSN within a 3-year time frame, or current employment at the institution. Many institutions agree to hire ADN graduates although refuse clinical or capstone opportunities to these students. Questions have recently emerged in the literature regarding the value of traditional acute clinical experiences to improve critical thinking; students typically wait for extended periods to administer medications, yet remain unable to provide direct nursing care (McNelis et al., 2014). A radical transformation in nursing education is recommended to reconsider whether the time spent in acute clinical experiences sufficiently prepares students to meet the demands of clinical practice (Benner et al., 2010). Community-based clinicals have recently been recommended as a feasible strategy to improve the quality of nursing education (IOM, 2011; McNelis et al., 2014).

Concept-Based Curriculum

The nursing curriculum in a community college ADN program with robust student enrollment was revised to become entirely concept based, beginning in Fall 2013. A concept-based curriculum provides students with the opportunity to rethink clinical objectives (Giddens & Brady, 2007; Giddens, Caputi, & Rodgers, 2015). All curricular revisions were linked to the National Council Licensure Examination (NCLEX) Test Plan (National Council of State Boards of Nursing [NCSBN], 2013). Shortly following the curriculum revisions, in Spring Semester 2014, two of the five ongoing acute obstetrical rotations were no longer available. The loss of these clinical experiences created barriers in maintaining course objectives. To meet the challenge of

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limited acute care obstetrical clinical availability, the faculty developed an innovative strategy in the Family Health Concepts I course. These strategies included; relocating the clinical sites from acute settings to the community; increasing didactic rigor, obstetrical simulation scenarios, and additional laboratory skills; and enhancing student support.

The content in Family Health Concepts I emphasizes nursing care across the life-span and is offered during the second semester of the program. A second course, Family Health Nursing II, is offered in the third semester and includes mental health nursing content. A total of 64 hours are required for the clinical component of Family Health Concepts I: 32 for the community experiences and 32 for obstetrical simulation. Pediatric content is threaded throughout Family Health Concepts I, pathophysiology and medical–surgical nursing. All obstetrical didactic content and pediatric and obstetric clinical requirements are in Family Health Concepts I.

Linkage to National Council Licensure Examination, Registered Nurse (NCLEX-RN) Client Needs Category

The six concepts that align with the content in Family Health Concepts I include; development, reproduction, culture, immunity, health promotion, and family dynamics. Each of these concepts are consistent with the NCLEX-RN Client Needs Category, Health Promotion and Maintenance accounting for 6% to 12% of NCLEX-RN items (NCSBN Test Plan, 2016). Health Promotion and Maintenance has been defined by the following: care the nurse provides and directs to the client, family, and/or significant others to incorporate knowledge of expected growth and development principles; prevention; and/or early detection of health programs, in addition to strategies for achieving optimal health (NCSBN, 2016). Content from Family Health Concepts I that aligns with Health Promotion and Maintenance includes; the Aging Process, Ante/Intra/Postpartum and Newborn Care, Developmental Stages and Transitions, and Health Promotion/Disease Prevention. Course content consistent with the NCLEX-RN Program Report (NCSBN) involves the content dimensions of Human Functioning and Health Alteration, and subcategories, Growth and Development and Health Alteration, and the subcategory Reproduction (NCSBN, 2016).

Community Clinical Experiences and Integration of Critical Thinking

The community clinical settings in Family Health Concepts I were highly diverse. The participants were from a variety of ethnic backgrounds and all ages; pediatrics through adulthood. The clinical skills encountered in these community clinicals included either a 12-lead electrocardiogram (ECG), manual blood pressures, glucose screenings, or intramuscular injections. Critical thinking was reinforced through writing assignments and by instructors during community clinical visits. Following each experience, students were required to reflect in writing on how the clinical experience challenged them in their role as a student nurse and then integrate three concepts from Family Health Concepts I and one from a previous nursing course. Examples of the community settings along with opportunities for critical thinking at each setting include the following:

1. A county program where students observed interdisciplinary health promotion for targeting women, infants, and children.
 - o Health promotion involving short-term and long-term goals for all members of the family, along with an education regarding community resources from psychologists, social workers, dietitians, and nurses. Students may participate in home visits.
2. A local pediatric clinical where students observe well or sick child care visits.
 - o Students observe the assessments and treatments while learning new skills performed by members of the health care team.
3. An Asian Senior Center where students perform blood pressure screenings.
 - o Students obtain blood pressures and educate individuals of all ages and various cultural backgrounds about glucose levels, diabetes, sodium consumption, stroke, and heart disease risk factors at a local mosque.
4. Senior health fairs where students obtain blood pressures and educate clients on lifestyle modifications related to hypertension.
 - o Students take a manual blood pressure and educate seniors from various cultural backgrounds about sodium consumption, stroke, and heart disease risk factors.
5. A local mosque where students perform blood pressures and glucose screenings.
 - o Students perform blood glucose and blood pressure assessments at a local mosque. Family dynamics, culture, health promotion, and development are reinforced as students have the opportunity to interact with individuals of all ages and various cultural backgrounds.
6. A local Young Men's Christian Association (YMCA) where students:
 - o Assess blood pressures and educate seniors from various cultural backgrounds about sodium consumption, stroke, and heart disease.
 - o Two developmental theorists are defined, and physical and psychosocial development of the child is analyzed according to each theory as a clinical writing requirement.
7. Students write an article about health promotion for a local agency's website.
 - o The article is reviewed by the instructor and published on the website once accepted by the agency.
8. A community special education department where students observe nursing care for children with special needs in a school setting.
 - o Students learn advanced skills with complex assessments for medically fragile children in a special education classroom. Education and ongoing emotional support are also incorporated into nursing care.
9. Health fairs where students provided health promotion and patient education on:
 - o Testicular cancer awareness, breast cancer awareness, and ovarian cancer awareness.
 - o Health promotion involves educating male and female participants from a variety of ages and cultural backgrounds on the topics of ovarian and testicular cancer awareness.
 - o Breast cancer screening awareness and education at The Susan G. Komen Breast Cancer Foundation (KOMEN) events.
10. A flu shot clinic at local health departments and parishes where students are able to administer flu vaccinations.
 - o Students complete orientations on the topics of the flu, flu vaccine, and skill of administering intramuscular injections. Students administer flu shots in parishes or at a community site to individuals of all ages.
11. Local high schools where students participate in cardiovascular screening by obtaining 12-lead ECGs.
 - o Students attend a workshop and learn basic ECG facts, how to do a 12-lead ECG, and then complete a brief demographic and baseline screening form from several high school students prior to obtaining a 12-lead ECG.
12. County Program aimed at obesity prevention through lifestyle behaviors where children educate children through play.
 - o Students play a game with children of all ages and incorporate developmentally appropriate questions about healthy lifestyle behaviors.

Integration of Course Concepts With Community Clinical Experiences

Each community clinical experience aligned with at least one concept from Family Health Concepts I and two of the experiences aligned with all six concepts (Table 1).

Clinical Writing Assignments

Two writing assignments were required for the clinical component of Family Health Concepts I, each requiring interviews. The Developmental Assessment requires a student observation of a preschool-aged child at a local YMCA, with the application of two developmental theories. The Family Cultural Assessment requires the student interview an individual from a different culture and develop a plan of care that considers the individual within the context of their culture. A third optional writing assignment, the Writing Workshop, involves writing a blog article for a local volunteer-based organization that was established to address the health problem of pediatric obesity. The articles are written on the topic of health promotion and published on the organization's website.

Table 1
Integration of course concepts in Family Health Concepts I with community clinical experiences

Concepts	Community clinical experience
Health promotion	<ul style="list-style-type: none"> • A local county program targeting women, infants, and children • Pediatric clinic visits • ECG screenings • Flu shot clinics • YMCA blood pressure screenings • Asian Senior Center • Glucose and blood pressure screening at a local mosque • Senior health fairs • County childhood obesity program • Writing workshop • KOMEN Foundation opportunities
Family dynamics	<ul style="list-style-type: none"> • Testicular cancer and ovarian screening (NOCC) awareness • A local county program targeting women, infants, and children • Pediatric clinic visits • Observation of nursing care provided to medically fragile children in a special education classroom • County health promotion program to prevent childhood obesity • Asian Senior Center • County childhood obesity program • YMCA blood pressure screenings
Culture	<ul style="list-style-type: none"> • A local county program targeting women, infants, and children • Pediatric clinic visits • ECG assessments • Observation of nursing care provided to medically fragile children in a special education classroom • Glucose and blood pressure screening at a local mosque • Asian Senior Center • YMCA blood pressure screenings • Testicular cancer and ovarian screening (National Ovarian Cancer Coalition (NOCC)) awareness
Development	<ul style="list-style-type: none"> • A local county program targeting women, infants and children • Pediatric clinic visits • ECG assessments • Observation of nursing care provided to medically fragile children in a special education classroom • Testicular cancer awareness and ovarian screening (NOCC) awareness • Preschool developmental observations at a local YMCA • Blood pressure screening at an Asian Senior Center • County childhood obesity prevention program
Immunity	<ul style="list-style-type: none"> • A local county program targeting women, infants, and children • Pediatric clinic visits • Flu shot clinics • Department of education with nursing care for special needs children
Reproduction	<ul style="list-style-type: none"> • Glucose and blood pressure screening at a local mosque • A local county program targeting women, infants, and children • Pediatric clinic visits • Testicular cancer awareness and ovarian screening (NOCC) awareness

Simulation

Obstetrical simulation (32 hours) scenarios were utilized to reinforce the concept, reproduction, and content from Family Health Concepts I involving; antepartum, intrapartum, neonatal, and postpartum nursing care (Table 2).

Effects on Longitudinal Testing

The Health Education Systems, Inc. (HESI) maternity scores demonstrated the highest mean score from the most recent testing in Fall 2018. An increased trend was observed between Spring 2015 and Fall 2018. The lowest scores in Spring 2015 were shortly following the curricular changes (Table 5).

An increased trend was also observed in the mean HESI exit scores (Table 6) between Fall 2016 and Fall 2018. Only the Fall 2016 Version 2 score was higher than the most recent score from Fall 2018.

Effect on Student Satisfaction

Student feedback from course evaluations indicated most of the students (80% to 90.5%) were satisfied with the community clinical experiences. Students considered the clinical experiences beneficial

Table 2
Maternal–newborn simulation scenarios

Simulation scenario	Focus of obstetrical content
Maternal–newborn family	Routine postpartum and newborn assessment and care
Preeclampsia	Management of a preeclamptic patient in labor; management of an eclamptic seizure
Postpartum hemorrhage	Management of a postpartum hemorrhage because of uterine atony
Preoperative care for an elective C-section patient	Admission and preoperative care of a patient scheduled for a C-section
Gestational diabetes/preterm labor	Management of a patient with gestational diabetes who develops preterm labor
Newborn resuscitation	Implementation of Neonatal Resuscitation Program (NRP) guidelines in a delivery room scenario
Perinatal loss	Delivery and care of the family experiencing the stillbirth of their full-term infant

for learning, although they would like to perform more skills (60% to 80%) and observe a live birth (Table 7).

The feedback from students in the Fall 2018 cohort included the following:

- Able to see and perform what we learn in class and bring the concepts together
- I would recommend every one of my clinical experiences to future student nurses. They each provided an opportunity to observe and learn many aspects of being a nurse or educator.

The feedback from students in the Spring 2018 cohort includes the following:

- Although this was a completely different set of community clinicals, I think that they were so beneficial in this class.
- WIC was great in seeing the social work side that nursing offers and requires, while DMG was one that allowed us to see the medical side in a doctor's office type setting.

The clinical requirements involved 32 hours of simulation. Student feedback from the Fall 2018 cohort indicated they considered the clinical objectives to be met from simulation (97%), although fewer students (69.2%) agreed in Spring 2018. In 2018, all students recommended simulation experiences (100%) and nearly all students believed simulation was beneficial for learning (84.6%–100%). Interestingly, according to student feedback, nearly all indicated they had an opportunity to practice skills during simulation (92.3%–100%, Table 8).

Following the Spring 2018 simulation experience, students provided the following comments:

- Got to make mistakes in a safe place and learn from them.
- I believe a strength of mine was taking feedback from my peers in a positive way and not letting it affect me personally. I learned a lot from the debriefing and believe it strengthened my knowledge of how to handle tough nursing situations. The staff were also very helpful when any of us were confused or needed assistance during the SIM.
- Implementing critical thinking skills, hands on experience, and a lot of debriefing which is very helpful. Practicing nursing knowledge and interventions in a real-world situation was beneficial in helping me apply critical thinking skills. The mannequins simulating seizures/cyanosis were a nice surprise.

Table 3
HESI maternity scores (specialty examination)

Time period	M	Range
Fall, 2018	890	561–1171
Spring, 2018	832	602–1174
Fall, 2017	844	571–1107
Spring, 2017	859	479–1109
Fall, 2016	851	540–1159
Spring, 2016	791	508–1176
Fall, 2015	782	433–1236
Spring, 2015	692	368–972
Fall, 2014	789	542–1098

- Helped me implement all kinds of skills that I had learned throughout the program so far. It is definitely less stressful practicing on a mannequin than an actual patient.
- The SIM scenarios mirrored what we were learning in class so it was great to read about, be taught on, and then physically have to treat and deal with the different situations
- I loved SIM this term, I really benefitted from this experience. I wouldn't have changed a thing.

Effect on Program Outcomes Accreditation Commission for Education in Nursing (ACEN)

The pedagogical strategies, implemented in Fall 2014 demonstrated improvement in several program outcomes. Three items are required by the Accrediting Commission for Education in Nursing in the systematic plan for evaluation (ACEN, 2018): NCLEX-RN pass rates, program completion rates, and job placement data. The most compelling outcome was the significant increase in NCLEX-RN pass rates.

NCLEX-RN Pass Rates

The NCLEX-RN pass rates demonstrated a significant 5-year upward trend between 2013 and 2018 (Table 3). The 2018 pass rate of 94% was the same as in 2012, prior to the curricular change. The lowest pass rate of 62% occurred in 2015, by the first cohort to take NCLEX following the change to a concept-based curriculum (Table 3). Table 4 presents the NCLEX-RN pass rates by cohort since the curricular revisions in 2014.

Program Completion Rates

A summary of the 3-year program completion rates are presented in Table 5, demonstrating a decreased in enrollment from 80 to 70 students between 2013 and 2015.

Table 4
Registered Nurse exit HESI scores Fall 2015 to Fall 2018

Time period	M	Range
Fall, 2018 Version 2	865	540–1119
Fall, 2018 Version 1	826	567–1107
Spring, 2018 Version 2	824	590–1056
Spring, 2018 Version 1	861	501–1139
Fall, 2017 Version 2	847	541–1160
Fall, 2017 Version 1	828	577–1164
Spring, 2017 Version 2	855	588–1197
Spring, 2017 Version 1	826	572–1102
Fall, 2016 Version 2	871	618–1108
Fall, 2016 Version 1	815	605–1161
Spring, 2016 Version 2	813	602–1048
Spring, 2016 Version 1	709	355–909
Fall, 2015 Version 2	788	525–1042
Fall, 2015 Version 1	740	536–1041

Table 5
2018 Community clinical experience student agreement

Criterion	Spring	Fall
The community agency provided the opportunity to practice clinical skills	80%	60%
This community experience was beneficial to my (or my students') learning	80%	90.5%

Table 6
Simulation experience percentage agree

Criterion	Spring 2018	Fall 2018
The simulated experience provided the opportunity to meet the clinical objectives	69.2%	97%
The simulated clinical experience provided the opportunity to practice nursing skills	92.3%	100%
The simulated clinical experience was beneficial to my learning	84.6%	100%
I would recommend simulated clinical experiences to other students	100%	100%

Job Placement

Job placement data are minimal with the tabulated percentages based on the number of surveys returned presented in Table 10. Job placement data feedback is extremely difficult to obtain from students after graduation.

Discussion and Nursing Implications

The implementation of the pedagogical strategies in Family Health Concepts I demonstrated improvements in outcomes of the ADN program. The magnitude of benefit from the change to community clinical experiences is not known. Clinical experience is an essential component in a nursing curriculum (Hartigan-Rogers, Cobbett, Amirault, & Muise-Davis, 2007); however, the didactic strategies and simulation also contributed to the improved outcomes. Health promotion was embedded in the majority of the clinical experiences, and reproduction was the most difficult concept to reinforce in the community settings. Development across the life-span was integrated into several of the community experiences, in addition to family dynamics and culture. Immunity, as a concept, aligned with only a few settings but was highly relevant at those sites.

The HESI maternity scores and student feedback suggest the use of simulation reinforced obstetrical content and nursing care and successfully met the course requirements in spite of a lack of acute obstetrical experiences. The hours allocated for simulation in Family Health Concepts I met the requirements for allowable simulation hours, an issue in many nursing programs experiencing the threat of eliminating obstetrical or pediatric clinical rotations from the curriculum. Consistent with the combined use of simulation along with the clinical experiences in Family Health Concepts I, an NCSBN (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014) study demonstrated equivalent outcomes when up to 50% simulation was combined with clinical, compared with solely clinical experiences in a nursing curriculum. Our program is equipped with state-of-the-art facilities, resources, trained support staff to manage

simulation sessions, and realistic vignettes and incorporates a theoretical model for debriefing as suggested for an effective use of simulation (Alexander et al., 2015).

A consistent upward trend in NCLEX-RN pass rates was observed following the 2015 changes to the curriculum. The magnitude of effect in NCLEX-RN pass rates from the community clinicals is not known; however, the decreased results in 2013 occurred following the increased NCLEX-RN passing standard (NCSBN, 2013). The decreased pass rates were simultaneous to the curricular revisions implemented during Fall 2013. Expert consults (Giddens & Brady, 2007) estimated a 10-point decrease in NCLEX pass rates after the concept-based curriculum was implemented; however, a greater decrease was observed. Of interest is the fact that the lowest NCLEX-RN pass rates were observed in 2013 when an acute obstetrical clinical rotation was part of the Family Health Concepts I course. Furthermore, the increase in NCLEX-RN pass rates coincide with increased HESI exit and HESI maternity scores (Tables 3, 5, and 6). Prior to Fall 2016, the HESI exit scores and HESI maternity scores averaged less than 800 and have consistently increased since that period. Therefore, the program outcomes are only partly because of the logit change (NCSBN). From a faculty perspective, the implementation of the community clinicals contributed to the improved NCLEX and HESI outcomes. (See Tables 3, 4, 7 and 9.)

On average, the student feedback is positive regarding the clinical component (community clinical and simulation) of Family Health Concepts I. The feedback from Fall 2018 was most the most positive and the most negative. Community clinicals have been considered among the least favorite by nursing graduates (Hartigan-Rogers et al., 2007), possibly because of a lack of skill involvement, a common problem during clinical experiences (O'Flanagan & Dajee, 2002). Student feedback indicated they would prefer more opportunities to perform skills during clinicals. Skill performance during clinical is typically an expectation of students, but depends on patient acuity and other demands in the clinical setting (Mayne et al., 2004). Students did indicate, however, skill opportunities were sufficient during simulation.

Table 7
NCLEX-RN pass rates between 2012 and 2018

Year	Pass rate
2018	94% ^a
2017	89%
2016	76%
2015	62%
2014	79%
2013	71%
2012	94%

^a Third Quarter 2018.**Table 8**
Three-year program completion rates.

Graduating term	%
Fall 2017	71
Spring 2017	71
Fall 2016	71
Spring 2016	73
Fall 2015	96
Spring 2015	85
Spring 2014	83

Table 9
Job placement summary.

Cohort	#Graduates	Placement%	*Employment%	^Education%	#Surveys
Fall 2016	60	73	100	75	4
Spring 2016	59	90	90	70	10
Fall 2015	76	88	88	44	16
Spring 2015	68	93	93	60	15
Spring 2014	118	100	100	43	23

* Currently working as a nurse.

^ Currently advancing education.

Three items are required as part of the ACEN systematic plan for evaluation. These include; NCLEX–RN pass rates, program completion rates, and job placement rates. The program completion rates progressively decreased because of increased rigor during 2015, whereas NCLEX–RN pass rates increased because of increased rigor during the same period. Similarly, a consistent increase in NCLEX–RN scores was observed in 2013 paralleling a decrease in student enrollment from 80 to 70 students. Data from the most recent ACEN report indicated 253 students were enrolled in Fall 2017 with a capacity of 280 students.

Accurate job placement data are difficult to obtain. Methods have been instituted in the program to obtain these data, although it remains difficult. In the local vicinity where the college is located, securing a position in obstetrics or pediatrics is difficult because of low attrition of staff nurses, especially in obstetrical settings. The majority of acute care agencies refuse to hire new graduates for employment in acute obstetrical environments and require, at a minimum, that newly graduated nurses are BSN prepared. Student feedback to date has not indicated graduates are prevented from securing a position in obstetrics because of the lack of an acute care clinical experience.

Limitations

Limitations existed in this analysis of program outcomes. One apparent and obvious limitation was the lack of student exposure to acute care clinical experiences and opportunities for skill performance in the clinical setting. Although the extent in which the lack of exposure deters student preparedness was not clearly established, student feedback indicates a desire to witness the birth process. The ability to parse the NCLEX and HESI scores from the community clinical experiences or program outcomes is not possible. Missing data regarding graduate employment in obstetrical or pediatric acute clinical settings since the curricular changes are warranted in future reports and a limitation.

Conclusion

The American Association of Colleges of Nursing considers change in nursing education a priority. Integrity is necessary to maintain the quality standards required for accreditation, and limited clinical site availability threatens clinical integrity. Community clinical experiences pose a reasonable alternative to address the current lack of acute clinical opportunities, especially in ADN programs. The use of pedagogical strategies including a variety of community clinical experiences demonstrated significant improvements in program outcomes. A consistent increased NCLEX–RN pass rates, HESI exit and HESI maternity scores, clinical affiliation agreements increased, and positive feedback from community sites and students resulted. Critical thinking opportunities and skill performance were also incorporated in clinical experiences. These strategies may provide a model for associate degree programs, although they also have implication for BSN and master-entry level programs considering the lack of acute clinical setting availability. Additional strategies involving efficient and effective student preparation to meet the evolving demands of clinical practice are warranted.

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