Infusing Telehealth into Advanced Practice Registered Nurse Curriculum

Designing and Implementing Telehealth into Course Work for Nurse Practitioner Students

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UNIVERSITY OF CINCINNATI
COLLEGE OF NURSING

UC CoN Vision Statement:

Through the creative leveraging of technology, the CoN will lead the transformation of health care in partnership informed by the people we serve.
College of Nursing

Student Population 2013-2014

Undergraduates: 1028
MSN: Distance Learners 1161
On Campus 378
DNP: 46
PhD: 29
Total: **1604**

ADVANCED PRACTICE REGISTERED NURSES

APRN Specialties
Focus of practice beyond role and population focus linked to health care needs.
Examples include but are not limited to: Oncology, Older Adults, Orthopedics, Nephrology, Palliative Care

POPULATION FOCI
Family/Individual Across Lifespan
Adult-Gerontology
Neonatal
Pediatrics
Women’s Health/Gender-Based
Psychiatric-Mental Health

APRN ROLES
Nurse Anesthetist
Nurse-Midwife
Clinical Nurse Specialist
Nurse Practitioner
APRN PROGRAMS AT UC

Onsite Programs

- Adult-Gero Acute Care NP
- Adult-Gero Primary Care NP
- Family NP
- Nurse Anesthesia
- Occupational Health
- Ped NP - Acute Care
- Ped NP - Primary Care

Online & Hybrid Programs

- Adult-Gero CNS
- Adult-Gero Primary Care NP
- Family NP
- Neonatal NP Hybrid
- Nurse Midwifery
- Nursing Administration
- Women's Health

The Essentials of Master's Education in Nursing

I. Background for Practice from Sciences and Humanities
II. Organizational and Systems Leadership
III. Quality Improvement and Safety
IV. Translating and Integrating Scholarship into Practice
V. Informatics and Healthcare Technologies
VI. Health Policy and Advocacy
VII. Interprofessional Collaboration for Improving Patient and Population Health Outcomes
VIII. Clinical Prevention and Population Health for Improving Health
IX. Master's-Level Nursing Practice

American Association of Colleges of Nursing
Acknowledging Leaders in Education in Nursing

University of Cincinnati
ADVANCED PRACTICE REGISTERED NURSES

With over 267,000 advanced practice registered nurses (APRNs) in the U.S, APRNs represent a powerful force in the health care system.

(ANCC, 2013)

FUTURE OF HEALTH CARE

- **Population growth**: The U.S. Census Bureau projects the population to increase by 13% between now and 2025.
- **Population aging**: The first baby boomers turned 65 in 2011, and by 2030, 70 million U.S. residents (20%) will be 65 or older.
  
  A significant impact of that trend is that those 65 or older use twice as many physician resources as those less than 65.
- **Chronic disease growth**: By 2030, half the population will have one or more chronic conditions.
  
  Studies have shown that patients with chronic disease average more than twice as many physician visits per year as patients without a chronic condition.

*The Global Institute for Emerging Healthcare Practices*
The Inadequate Growth of Caregiver Supply

- Caregiver aging
- Flat medical school attendance
- Medical school costs
- Declining primary care interest
- Physician job dissatisfaction
- Nurse and nurse practitioner faculty shortages
- Regional Disparities
EFFORTS TO ADDRESS THE SHORTAGE

1. Increasing U.S. medical school enrollment
2. Encouraging primary care residencies and careers
3. Expanding mid-level provider (nurse practitioner, physician assistant, nurse mid-wife) care delivery
4. Exploring ways to more effectively use caregiver resources

THE FUTURE OF NURSING

IOM Recommendations

1. Remove scope-of-practice barriers
2. Expand opportunities for nurses to lead & diffuse collaborative improvement efforts
3. Implement nurse residency programs
4. Increase the proportion of nurses with a BS degree to 80% by 2020
5. Double the number of nurses with a doctorate by 2020
6. Ensure that nurses engage in lifelong learning
7. Prepare & enable nurses to lead change to advance health care
8. Build an infrastructure for the collection & analysis of interprofessional health care workforce data
Knowledge and skills in information and health care technology are critical to the delivery of quality patient care in a variety of settings

- IOM Report, 2003

As the use of technology expands, the master’s-prepared nurse must have the knowledge and skills to use current technologies to deliver and coordinate care across multiple settings, analyze point of care outcomes, and communicate with individuals and groups (ANCC, 2012)
PREPARING FOR THE FUTURE

Graduates of master’s-level nursing programs must have competence to determine the appropriate use of technologies and integrate current and emerging technologies into one’s practice and the practice of others to enhance care outcomes (ANCC, 2012).

APRN Courses where Telehealth has been Introduced

- Adult-Gerontology Primary Care Nurse Practitioner
  - On-site course
  - Academic year 2013-2014
- Family Nurse Practitioner
  - Distance learning course
  - Academic year 2013-2014
- Adult-Gerontology Acute Care Nurse Practitioner
  - On-site course
  - Academic years 2012-2013 & 2013-2014
- Doctorate of Nursing Practice
  - Hybrid course
  - Academic year 2013-2014
ADULT GERONTOLOGY PRIMARY CARE NURSE PRACTITIONER PROGRAM

TeleHealth introduced into at the on-site Seminar I Course:

- Students visited the Collaboratory and had an Introduction to TeleHealth by Dr. Debi Sampsel.
- They were given an opportunity to interact with the robots and technology.
- Given articles to read and posted abstracts and personal thoughts on BB Learn.
TeleHealth introduced into the DL Seminar I Course:

- Students viewed the Collaboratory and the introduction to TeleHealth by Dr. Debi Sampsel as captured on video.
- Given articles to read and posted abstracts and personal thoughts on BB Learn.

In patient population that the AG-ACNP will care for, additional challenges must be considered when planning the delivery of health care in acute and critical settings.
The cost of providing critical care in the U.S. has escalated 44% (from $56.6 to $81.7 billion) between the 2000 and 2005 and will continue to escalate if there is no reform (Halpern & Pastores, 2010).

Despite the evidence that patients experience improved outcomes while being medically managed by those with critical care training, these health care providers direct the care of only about 1/3 of the intensive care unit patient population in the U.S. (Gutsche & Kohl, 2007).
Cardiology Workforce Crisis

Cardiovascular workforce needs to double in number to fill the needs of the projected population with cardiovascular disease by 2025 = increase of **16,000** practitioners

<table>
<thead>
<tr>
<th>Cardiology Subspecialty</th>
<th>Current Shortage</th>
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<tbody>
<tr>
<td>General cardiology</td>
<td>1,686</td>
</tr>
<tr>
<td>Cardiac electrophysiology</td>
<td>660</td>
</tr>
<tr>
<td>Interventional ( coronary + peripheral)</td>
<td>1,944</td>
</tr>
<tr>
<td>Pediatric</td>
<td>127</td>
</tr>
</tbody>
</table>

Table 1. Current Shortage for Cardiologists by Subspecialty, 2008


The elderly are the leading consumers of critical care services and Medicare expects an increase in enrollment by 50% over the next 30 years (Angus et al., 2000)
Scholarly Project: Special Topics in Acute Care II Course

- Utilization of SLOs to focus on the use of special technology in the care of the acutely ill or injured patient population
- Introduction of TeleHealth in the CoN Collaboratory /Simulation Center by expert Debi Sampsel
- Literature search for TeleHealth topics
- Assigned reading
- Assigned topics to present
- Tele-ICU rotation (added second year)
- Development of presentation or case scenario development
- Delivery of presentations
STUDENT LEARNING OUTCOMES

- Analyze current systems for tracking the outcomes of interventions while continuing to improve the quality of care
- Critique research related to therapeutic nursing interventions used in advanced nursing practice
- Demonstrate appropriate therapeutic nursing intervention utilized to reduce or alleviate symptoms
- Advocate appropriate use of cost-effective interventions in the care of acutely ill patient

TELEHEALTH INTRODUCTORY CLASS

Presentation on:
- What TeleHealth is and how it is currently being used
- CoN sponsored interprofessional innovation collaboratory
- Robot research

Hands on experiences:
- Learn to drive V-go
- Mental health consult role play
- Learn to drive Flo-Bot and see patients
- Experience a variety of settings in Santa Barbara, Ca.
- Utilized the Mini bot controlled with iPad
- Visit with vendors of TeleHealth technology
TELEHEALTH TOPICS EXPLORED

1. Evidence for the use of TeleHealth
2. Effectiveness of TeleHealth
3. Legal scope of practice using TeleHealth
4. Reimbursement Ohio vs a state with independent practice
5. Client reaction to TeleHealth
6. Family reaction to TeleHealth
7. Staff/health care provider reaction to TeleHealth
8. Models of TeleHealth delivery in different setting
9. How is TeleHealth used where you work
TELE-ICU ROTATION

Cincinnati Veteran’s Administration Medical Center
SHARING THE LESSONS LEARNED

Year 1:

Powerpoint presentations presented to the class

Effectiveness of TeleHealth
Kim DeBord
Ray Barrows
Chelsea Popowski
University of Cincinnati
College of Nursing
AG-acute Care Nurse Practitioner
Advanced Topics II

Reimbursement in Telehealth
Andrea Bashor
Susan Pasicke
Michelle Schoettmer

Telehealth in Alaska
CHAP Program Alaska
Arctic Care 2013
Jason S. Peng

WHAT IS A CHAP?
COMMUNITY HEALTH AIDE/PRACTITIONER
550 Medical CHAPs in 170 rural Alaskan villages
Receive medical training in Anchorage, Bethel, Nome and Sitka
16 week training program
CEU’s 144 hours every 6 years
Telehealth coordinated through the Maniilaq Health Clinic with MD/NP/PA

CHAP PROGRAM ALASKA
Introduction of Telehealth into the Adult-Gerontology Acute Care Nurse Practitioner Program

Kathleen A. Balman, DNP, RN, ACNP-BC; Debi Sampsel, MSN, BA, RN; Andrea Bashor, RN; Jennifer S. Radcliffe, RN; Michelle Schoettmer, BSN, RN.

**College of Nursing: VISION Scholarly Project**
- Utilization of SLOs to focus on the use of special technology in the care of the acutely ill or injured patient population
- Literature search for Telehealth topics
- Assigned reading
- Assigned topics to present
- Introduction of telehealth in the Collaboratorium/Simulation Center by expert Debi Sampsel
- Development of presentation
- Delivery of presentation

**Telehealth Topics**
1. Evidence for the use of telehealth
2. Effectiveness of telehealth
3. Legal scope of practice using telehealth
4. Reimbursement (e.g., is it a state with independent practice
5. Client reaction to telehealth
6. Family reaction to telehealth
7. Staff/health care provider reaction to telehealth
8. Models of telehealth delivery in different settings

**Introductory Class**
- What telehealth is and how it is currently being used
- College-sponsored interprofessional innovation collaborative
- Robot research
- Needs assessment
  1. Learn to drive VZgo
  2. Mental health consult role play
  3. Learn to drive the FloZBot
  4. Experience a variety of settings in Santa Barbara, CA
  5. Strengths and limitations for teaching staff when observing students in free clinics

**AG/ACNP Course**
**Special Topics in Acute Care II**

**Student Learning Outcomes**
- Analyze current systems for tracking the outcomes of interventions while continuing to improve the quality of care
- Critique research related to therapeutic nursing interventions used in advanced nursing practice
- Demonstrate appropriate therapeutic nursing interventions utilized to reduce adverse patient outcomes
- Advocate appropriate use of cost-effective interventions in the care of acute illness patient

**Process**
- Scholarly Project
- Telehealth Topic
- Introductory Class

**Year 2: Poster Presentations**
- Poster presentations given to the entire CON and guests during the Capstone Celebration

**Outcomes**
- Presentations given to the entire class
- Open discussion and advanced understanding of telehealth
- Students meet with Senator Kearney and open discussion about reimbursement for telehealth
- Student discussion for use in a doctoral capstone project
Evidence for the Use of Telehealth

Lee Schuermeyer RN, BS, CCIN
Krisin Flipse RN, BS, CCIN

UTILIZING TELEHEALTH FOR CLINICAL SITE VISITS
DANIEL DRAKE CENTER

Post-Acute Care Center

- Acute-Gero Care NP students clinical site with Hospitalist Group
- Introduced to the use of Telehealth
- Faculty/Preceptor/Student visit via Telehealth
OUTCOMES

- Prepare AG-ACNP students for the future of healthcare
OUTCOMES

• Presentations opening discussion and enhanced understanding of the impact of TeleHealth

OUTCOMES

• Students met with Senator Eric Kearney (D)
  District 9 Ohio Senate
  Ranking Minority Member
  Criminal Justice Committee Member: Workforce and Economic Development Committee, Insurance and Financial Institutions Committee
  and opened discussion supporting reimbursement for TeleHealth
OUTCOMES

· Streamlines NP clinical site visits

· Student application for use in Doctoral Projects
DNP Capstone Project

Problem Statement:
Do veterans served by the Spinal Cord Injury/Disorders (SCI/D) clinic at the Cincinnati VA Medical Center (VAMC) enrolled in a clinical video telehealth (CVT) program, have increased access to health care services and experience a decrease in costs associated with providing health care services?

PICO Question:
P: (population)—SCI/D patients at the Cincinnati VAMC
I: (intervention)—implementation of CVT
C: (comparison)—veterans not enrolled in CVT (usual care)
O: (outcome)—evaluation of increased access to health care services and decreased costs of health care services (i.e. transportation)

DNP Curriculum

NDNP 9001 Informatics for DNP Practice Autumn Semester 2013

FlipBoard (https://flipboard.com/) is an interactive iPad application that allows users to create interactive magazines for multiple purposes.

Most recently- it allows for others to contribute to creative process. For this assignment- you will works in groups of 3 or 4 to develop an informatics FlipBoard that is inclusive of at least three topics from this terms. The FlipBoard must have up to date resources, be interactive, be visually stimulating and show purpose.
DNP Curriculum

Check out **Telehealth** by Holly Wasserman [http://flip.it/WgUTR](http://flip.it/WgUTR)

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The Future

**Designing and Implementing Telehealth into Course Work for Nurse Practitioner Students**
What is Next?

Start early:
• Introduced and integrated into BSN curriculum
What is Next?

- Integrate into MSN Core Curriculum
- Integrate into the APRN Core Curriculum
- Advanced Health Assessment Course
- Differential Diagnosis
- Competencies in the clinical courses
- Incorporate more sites using telehealth into the clinical rotations.
REFERENCES


