Incorporating Telehealth in Advanced Practice Registered Nurse Curriculum to Impact Rural and Frontier Population Health

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## Faculty Disclosures

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Goals and Objectives

Session Goal
◦ The purpose of this session is to identify methods to increase Family Nurse Practitioner student knowledge on the utilization of telehealth modalities to impact rural and frontier population health

Session Objectives
◦ At the end of this session, the participant will be able to:
  ◦ 1) explain the importance of telehealth as a healthcare delivery method
  ◦ 2) discuss rationale for educating nurse practitioner students on telehealth modalities
  ◦ 3) identify methods to incorporate telehealth concepts into a family nurse practitioner curriculum
South Dakota

Frontier and rural counties are present in the state

Frontier - less than 7 people per square mile
Rural - less than 1000 people per square mile

Frontier and rural counties face unique challenges

- Weather
- Travel
- Lack of primary and specialty care
- Increased risk for substance abuse, obesity, motor vehicle fatalities, suicide, nicotine addition, and death from unintentional injury

(https://www.ruralhealthinfo.org/topics/frontier)

http://sd.gov/postcard.aspx
Definition of Telehealth

Federation of State Medical Boards (2014) defines telehealth as:

“the practice of medicine using electronic communications, information technology or other means between a licensee in one location, and a patient in another location with or without an intervening healthcare provider.”

(https://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/FSMB_Telemedicine_Policy.pdf)

American Telemedicine Association (2012) defines telehealth as:

“the use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status, including an increasing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology”

(http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.V2QmYTWVFPg)
Impact of Telehealth

Support

Satisfaction of services
- Rural and frontier providers
- Patients
- Families

Improved relationships
- Between primary care clinicians, specialists, and patients.
  (Banbury, Roots, & Nancarrow, 2014; Lu, Chi, & Chen, 2014; Perle & Nierenberg, 2013)
Impact of Telehealth

Efficiency

- Providers and resources

Reduced hospitalizations and readmissions

Reduced healthcare costs

Improved healthcare outcomes

(Banburry, Roots, & Nancarrow, 2014; Lu, Chi, & Chen, 2014; Perle & Nierenberg, 2013)
Challenges of Telehealth

Skills
- Telehealth providers rely on information from staff at remote site for assessment findings that are not feasible over video
- Need to develop trust and an authentic, professional relationship over technology

Space
- Equipment takes up space in the clinic setting
- Patient rooms may not have been designed to allow space for telehealth equipment

(Banburry, Roots, & Nancarrow, 2014; Sebesan, Allen, Caldwell, Loh, Mozer, ...Grabinski, 2014; Sabesan, Simcox, & Marr, 2011)
Challenges of Telehealth

Equipment
- Does not always work correctly
- Maintenance, updates, and replacement
- May be cost prohibitive for some providers, clinics, and/or healthcare organizations

Providers
- Apprehensive that telehealth providers will take over the care of their patient
- Not comfortable in admitting there are certain areas/specialties they are not knowledgeable in when caring for their patients
- Telehealth providers need licensure in several states

(Banburry, Roots, & Nancarrow, 2014; Sebesan, Allen, Caldwell, Loh, Mozer, ...Grabinski, 2014; Sabesan, Simcox, & Marr, 2011)
Why educate students on telehealth?

10% of healthcare providers work in rural areas whose population may not have access to specialty care

Education of nurse practitioner students and practicing providers
- Emerging telehealth skills concepts
- Benefits and challenges of telehealth modalities

Nurse practitioners need to understand and be able to utilize telehealth modalities in practice
- Specialty access
- Consultation
- Hub providers

Comfort and competence is essential
- Telehealth is increasingly being utilized in practice settings

(National Council of State Legislatures, 2015)
Guiding Theory of the Project

Plan-Do-Study-Act

https://www.deming.org/theman/theories/pdsacycle
Curriculum Development-Phase 1

Tour of regional systems to review current practice
- 3 regional healthcare systems toured
  - Each system used telehealth differently with different focus
- Identified best practices at each facility
- Identified key personnel from each facility
  - Ask questions
  - Gain experience with various uses of telehealth

Purchase of equipment for student use
- Reviewed goals of equipment use
- Researched equipment for best fit in the healthcare systems along with meeting curriculum goals
Curriculum Development-Phase 1

Literature review
- Determine best practices
- Identify key themes related to telehealth

Attend telehealth conferences and seminars
- Conferences to determine what is being taught in other schools and training programs
- Compared with education of NP, PA, MD, and DO

Attend PDSA information meeting
- Information meeting to determine how to utilize PDSA within the project
- Improvement of the curriculum in a quick manner to respond to needs
Curriculum Development-Phase 1

Select a Consultant to guide curriculum process

- Educator and user of telehealth with curriculum experience

Development of a DNP advisory board

- Providers at both urban and rural settings
- Insurance representatives
- Board of Nursing
- Administration
- Educators
Equipment

Photo Credit to Dr. Robin Arends
Curriculum Development-Phase 2

Creation of guidelines for equipment use and cleaning
- Rules and guidelines for use of the telehealth equipment
- Protocol for cleaning equipment
- Protocol for maintenance of equipment

Creation of the purpose and vision of the telehealth curriculum
- Guide competency and curriculum

Literature review to determine best practices for competencies of telehealth providers
- Variety of competencies are available but none spoke to nurse practitioners
Curriculum Development-Phase 2

Development of student learning objectives and competencies

- Identify key measures students should achieve in each practicum
  - 3 practicum courses that progress in complexity in the Family Nurse Practitioner Plan of Study
  - Telehealth competencies progress in complexity similar to the course content
Curriculum Development-Phase 2

Development of student learning objectives and competencies

- Identify key measures that students should achieve in each practicum
  - 1st practicum - Appropriate use and technique of equipment
  - 2nd practicum - Ability to perform the tasks of the rural provider
    - Report to another provider
    - Take instruction from another provider
    - Identify appropriate patients for telehealth
  - 3rd practicum - Ability to perform the tasks of the urban or specialty provider
    - Able to guide the visit and provider in the rural setting
Discussed competencies with key personnel from healthcare organization to determine alignment of competencies with expectations of telehealth provider

Pre- and Posttest surveys created based on the established competencies

- Likert scale to determine competency in use of telehealth
- Pre-test with 3 post tests to determine if competency increased throughout the 3 practicums
Curriculum Development-Phase 3

Development of curriculum based on the competencies assigned to a course
- Progressive over 3 semesters
  - 1st practicum
    - Overview of telehealth, purpose of telehealth, on camera considerations, telehealth visit overview
  - 2nd practicum
    - Billing, reimbursement, rural health use
  - 3rd practicum
    - Legislation, enhancing patient outcomes, urban (hub) use, future trends

Telehealth equipment
- Faculty orientation
- Student orientation
Curriculum Development-Phase 3

Simulation
- Progressive to follow the curriculum
  - Introduction- basic use of the equipment
  - Rural provider- speaking on camera, presenting a patient case
  - Urban provider- leading the telehealth visit

Clinical Placement
- Chance to use skills established in simulation and curriculum
Evaluation of Curriculum

Competency evaluation decreased after simulation and clinical

- Follows research that states:
  - Students will overestimate their abilities on a given subject
  - Tend to rate themselves high on self assessments
  - Once faced with an actual experience, student perceptions may change

(Austin & Gregory, 2007)

Question added to survey to determine increased desire for rural health

Number of clinical experiences used in clinical setting increased from 0 to 7
Next steps

Development of Preceptor Modules to enhance orientation and telehealth skills of providers in practice

Orientation of additional nursing faculty
  ◦ Possibility of extending to undergraduate students

Review and revision of current curriculum to enhance education of students
  ◦ Direct to Consumer telehealth

Review and revision of simulation experiences to prepare students for the clinic setting
  ◦ Simulation of Direct to Consumer telehealth experiences

Increased preceptor experiences in the rural and urban setting
  ◦ Urban and rural settings
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References


References


