

# 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

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## 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

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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

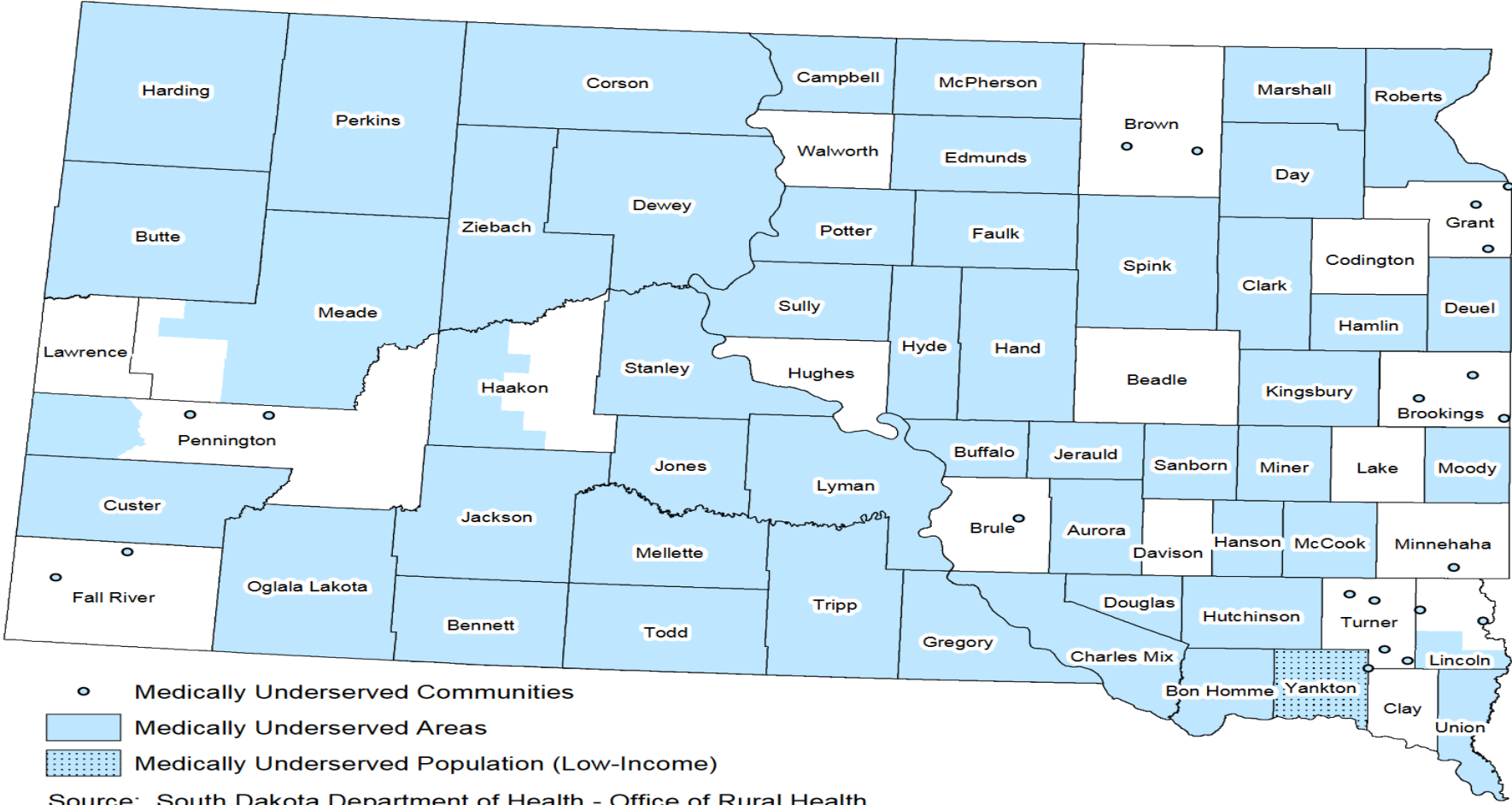
- Weather
- Travel
- Lack of primary and specialty care
- Increased risk for substance abuse, obesity, motor vehicle fatalities, suicide, nicotine addition, and death from unintentional injury



<http://sd.gov/postcard.aspx>

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

# SOUTH DAKOTA MEDICALLY UNDERSERVED AREAS/POPULATIONS June 2016



<https://doh.sd.gov/documents/Providers/RuralHealth/MUA.pdf>

# Definition of Telehealth

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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](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

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## Support

### Satisfaction of services

- Rural and frontier providers
- Patients
- Families

### Improved relationships

- Between primary care clinicians, specialists, and patients.

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



# Impact of Telehealth

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## 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

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## 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

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## 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?

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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

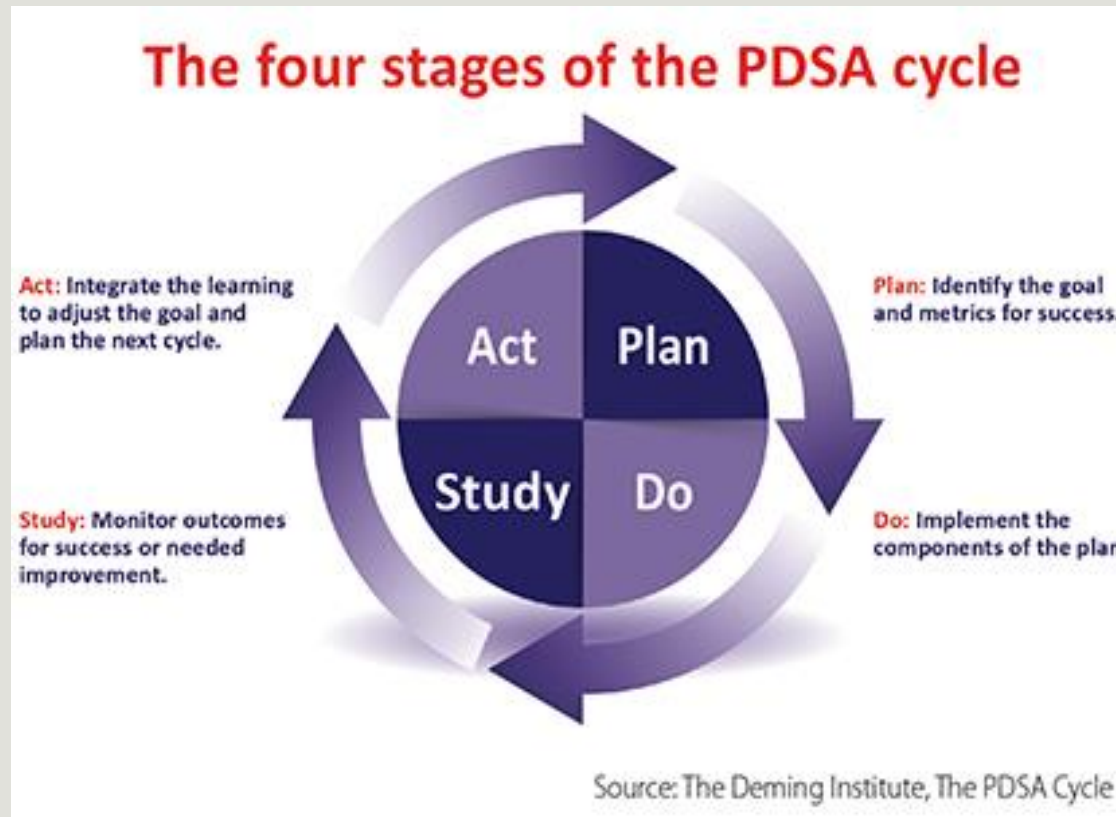
- Telehealth is increasingly being utilized in practice settings

(National Council of State Legislatures, 2015)

# Guiding Theory of the Project

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Plan-Do-Study-Act



<https://www.deming.org/theman/theories/pdsacycle>

# Curriculum Development-Phase 1

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## 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

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## 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

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## 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

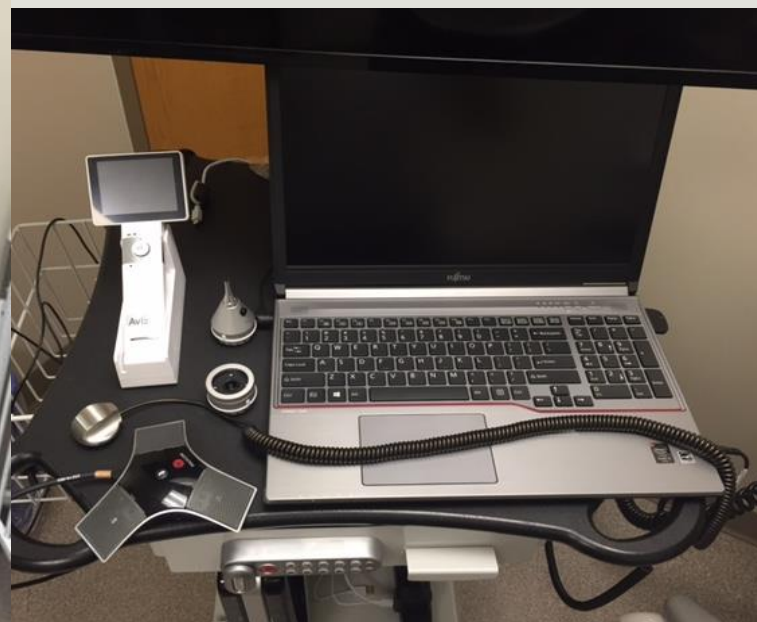


Photo Credit to Dr. Robin  
Arends

# Curriculum Development-Phase 2

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## 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

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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

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## Development of student learning objectives and competencies

- Identify key measures that students should achieve in each practicum
  - 1<sup>st</sup> practicum- Appropriate use and technique of equipment
  - 2<sup>nd</sup> practicum- Ability to perform the tasks of the rural provider
    - Report to another provider
    - Take instruction from another provider
    - Identify appropriate patients for telehealth
  - 3<sup>rd</sup> practicum- Ability to perform the tasks of the urban or specialty provider
    - Able to guide the visit and provider in the rural setting

# Curriculum Development-Phase 2

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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

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## Development of curriculum based on the competencies assigned to a course

- Progressive over 3 semesters
- 1<sup>st</sup> practicum
  - Overview of telehealth, purpose of telehealth, on camera considerations, telehealth visit overview
- 2<sup>nd</sup> practicum
  - Billing, reimbursement, rural health use
- 3<sup>rd</sup> practicum
  - Legislation, enhancing patient outcomes, urban (hub) use, future trends

## Telehealth equipment

- Faculty orientation
- Student orientation

# Curriculum Development-Phase 3

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## 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



Photo credits to South Dakota State University  
Marketing and Communications



# Evaluation of Curriculum

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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

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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

# Contact Information

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