Spring 5-2-2020

REPORT: Creating and Piloting a Survey to Determine Readiness in Rural Populations in Ohio

Annie Bowen
annie.bowen@otterbein.edu

Kay Ball
Otterbein University, kball@otterbein.edu

Telehealth Survey For Rural Populations in Ohio

By

Annie Bowen, MSN, RN, NE-BC, CPN

Doctor of Nursing Practice Final Scholarly Project

In Partial Fulfillment of the Requirement for the Degree

Doctor of Nursing Practice

Otterbein University

2020

DNP Final Scholarly Project Team:

Dr. Kay Ball, PhD, RN, CNOR, CMLSO, FAAN, Adjunct Professor

Mr. Kim Wortman, Community Partner

Executive Summary

Telehealth which operates on a cellular platform is the newest trend in access to healthcare. Many telehealth satisfaction surveys exist, but where is the pre-telehealth survey information for readiness and is telehealth a one size fits all approach? There are 1.4 million rural people in Ohio living in a health provider shortage area. In 2010, the Affordable Care Act (ACA) was passed and over 750,000 Ohioans had access to health insurance. The ACA didn't provide for access to healthcare providers only payment for services to the healthcare provider. Therefore, the 1.4 million people living in a health provider shortage area may have insurance, but no access to a healthcare provider. Most of the 1.4 million people of Ohio live in rural areas which leads to the question of how to have true access to a healthcare provider in an affective and cost-effective manner. These questions led to a PICO question: How do rural people with a lack of access to healthcare perceive telehealth? With the use of appreciative inquiry and health promotion model, a framework was developed to create a telehealth survey for three rural counties in southern Ohio. The purpose of the telehealth survey was to determine the perceptions of people to telehealth and to the barriers associated with utilizing telehealth in people who live in a rural area to the use of telehealth. A telehealth survey was created with recommendations/adjustments of questions by the local health department faculty. The survey was posted online and in paper format for all residents in Meigs, Jackson, and Vinton Counties for two months. The telehealth survey received 80 completed responses to 31 questions regarding perceptions of telehealth and any barriers perceived of telehealth. The results identified three themes; a knowledge gap related to telehealth, infrastructure, and a desire for closer access to healthcare. The recommendations following the telehealth survey consist of an educational plan to educate residents in Meigs, Jackson, and Vinton Counties regarding

telehealth and its ability to bring doctors locally through a cellular platform. Once the knowledge gap is bridged, telehealth is a viable option to increase access to healthcare and would be a cost-effective measure to preventative health in rural people in Ohio.

Telehealth Survey for Rural Populations in Ohio

All people have a right to quality care which is easily accessible and affordable. Ohio has 1,458,554 people living in health provider shortage areas (HPSA) (Henry J. Kaiser Family Foundation, 2019). Health disparities have always existed in rural and underprivileged areas within the United States, where access to care and care coordination are severely lacking. The 2017 National Healthcare Quality and Disparities Report explains that the health disparities gap, while improving in some areas, overall is widening for the poor and uninsured (U.S. Department of Health and Human Services, 2018, p.1). People living in rural areas utilize urgent care centers and emergency rooms for routine care instead of traveling for primary care. Preventative care is key to reducing the spread of chronic disease. Nursing has deep roots in patient advocacy, access to healthcare, and preventative care as evidenced by Lillian Wald's Henry Street Settlement which began on the lower East Side of New York in an effort to reach the poor and disfranchised with gaining better health (Buhler-Wilkerson, 1993).

The target population for this Doctor of Nursing Project are the residents living in Meigs, Jackson, and Vinton Counties all rural counties in southern Ohio. Vinton County is highlighted as the highest primary care ratio in the state of Ohio at 13,239:1 (Vinton County Community health Assessment, 2015, p.2). There are no urgent care or hospital facilities in Vinton County. Residents must travel to a neighboring county for specialty care or to Columbus which is approximately a two-hour drive one way.

Medical specialists, such as cardiologist and pulmonologists, are not available in Vinton County. Holzer Health System in the neighboring county of Jackson has limited specialties, but no cardiologist and no pulmonologist. Adena Regional Medical Center is approximately 45 minutes from Vinton County and offers cardiology services, but for a pulmonologist, residents of

Vinton County must travel to Columbus which is approximately two hours away. Two goals have been established in the 2017-2020 Vinton County Community Health Improvement Plan (VCCHIP) under access to health care: "expand transportation options for Vinton County home health patients and expand capacity of current health care providers" (p. 24-25).

Telehealth has been utilized by the Veteran Affairs (VA) since 2014 and has a growing and sustainable program (U.S. Department of Veterans Affairs, 2018). John Peters from the Office of Telehealth for Veterans Affairs reports that telehealth offers veterans access to more services which are not always available in rural communities, capacity in the sense that more veterans are seen by specialists even if the specialists are in other areas of the state, and quality as more research and universities are in the urban areas and through telehealth all veterans have access to these experts (personal communication, October 3, 2018). Vinton County could meet the two goals of the 2017-2020 Vinton County Community Health Improvement Plan related to access to healthcare through the use of telehealth.

Telehealth and telemedicine have been used interchangeably and are defined by the American Telemedicine Association (ATA) as "the use of medical information exchanged from one site to another via electronic communications to improve patients' health status" (ATA, 2018). Synchronous telehealth occurs when the appointment is occurring in real time where a patient is having a visit with a provider. Asynchronous telehealth is when the information is forwarded to the provider to review or acknowledge at a later time (L'Esperance & Perry, 2016, p. 311). Theodore, Shree, Reddy, and Kuriokose (2016) found:

> In some settings, the nonavailability of experts (disparate distribution) can be overcome through telemedicine consultations. Telemedicine is an effective method for the delivery

> of health services when there is an inequitable distribution of services, for example, distribution of health resources in urban and/or rural areas. (p. 2)

The Institute of Medicine (IOM) (2011) says, "Providing care for underserved populations in community settings has long been a major goal of the nursing profession" (p. 64). Telehealth is a proven method to provide safe and equitable quality care in a cost-effective manner to the underserved population living in Meigs, Jackson, and Vinton Counties.

Multiple telehealth satisfaction surveys have been conducted by VA with a high satisfaction rating, but no telehealth survey exists to assess the readiness of a rural population prior to the implementation of a telehealth program. Telehealth is trending as a new technology which can increase access to healthcare. For a successful implementation, an assessment must be completed to determine if the population to receive telehealth is receptive to this technology. Therefore, to appropriately assess readiness a telehealth survey was created to determine the perceptions of telehealth and barriers associated with utilizing telehealth in people living in rural areas of Ohio.

Problem Statement

Telehealth is a viable option for rural populations in Ohio to increase access to healthcare and reduce health disparities. *The Rural Health Care Access: Research Report* (RHARR) (2019) reports that "31.2% of rural respondents support telemedicine" (Appalachian Rural Health Institute, 2019, p. 17). The meaning PICO question for this Doctor of Nursing project is: How do rural people with lack of access to healthcare perceive telehealth? A telehealth survey designed to assess the perceptions and barriers perceived by populations living in rural Ohio would allow nurses to understand perceptions and assist in removing barriers to allow for greater access of healthcare. A telehealth survey of perceptions and barriers is appropriate to determine

readiness to participate in telehealth and enable solutions to barriers for rural populations within Ohio.

Access to care is not easy for rural residents who must travel long distances to receive care. *The Rural Healthcare Access: Research Report* (RHARR) (Appalachian Rural Health Institute, 2019) states "More than 20% of rural residents. . . .travel 20 miles and 50 minutes to see a specialist" compared to "less than 5% of non-rural" residents (p. 7). Not only must rural residents travel to receive basic care, but transportation can be a barrier to preventative services.

Background and Significance

The aim of the literature review was to synthesize the best available evidenced-based research and outcomes on rural populations who have participated in surveys on perceptions of telemedicine or telehealth.

Search Methods

The search strategy was defined using PICO elements: rural populations; Interest: surveys or questionnaires on telemedicine or telehealth. International electronic databases Cochrane Database of Systematic Reviews (CDSR), PubMed (MEDLINE), and CINAHL (Ebsco) were searched using the following phrases or keywords: telemedicine, rural populations, surveys, telemedicine or telehealth, surveys and/or questionnaires, rural areas and communities. The search was limited to years 2015-2019.

The evidenced-based literature search began in the Cochrane Database of Systemic Reviews (CDSR) which is the "gold standard" of evidence-based literature reviews (Melnyk and Fineout-Overholt,2015, p. 58). A full Cochrane review decreases the amount of time for the researcher as the critical appraisal and synthesis of primary articles are included. The researcher limited the date range from January 1, 2015 to May 26, 2019 and used the title abstract keyword

search field. The keywords used were: telemedicine and surveys and rural populations. These keywords produced ten trials in CDSR. Six articles were from PubMed and four articles were in CENTRAL. The all text search field with the same keywords produced fifteen Cochrane Reviews, ten Cochrane Protocols, and eleven trials. After reviewing the abstracts in CDSR, the researcher made a decision to search the PubMed database to further review the six articles from PubMed. The National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM) maintains a broad free database known as PubMed which offers access to full text articles and automatic term mapping. The search in PubMed produced 108 results and used MeSH (telemedicine and rural populations and surveys and questionnaires) terms with automatic term mapping. All 108 articles were reviewed to determine if the articles were appropriate for the PICOT question. After reviewing articles in PubMed, the researcher decided to search the CINAHL database which "retrieves content from journals, books, drug monographs, and dissertations and includes images that are often difficult to locate in other databases" (Melnyk and Fineout-Overholt,2015, p. 60). The researcher used the keywords telemedicine or telehealth and rural areas or communities and surveys or questionnaires to expand the search. CINAHL produced 81 results. Five articles have been selected to synthesize and review with the results listed in Table 1.

Bradford, Caffery, and Smith (2015) report geography, time, and distance compromise the equity of access to healthcare (p. 1). Bradford et al., (2015) conducted semi-structured interviews with 47 participants who live in rural Queensland, Australia. The participant sample was taken from three rural towns where populations are similar in size and residents must travel from one hour to two hours for specialty care. Only six participants (13%) had actually used telehealth while 28 participants (60%) had heard of telehealth (Bradford, et al., 2015). Three

themes were identified: an expectation of traveling for healthcare service, limited awareness of telehealth and the potential benefits for improved outcomes, and trust. "Telehealth is intended to provide clinical support and improve health outcomes by overcoming geographical barriers through connecting patients and clinicians who are not in the same physical location" (Bradford, et al., 2015, p. 2). This study concludes that "lack of community awareness of the availability of telehealth may be another important barrier" (Bradford, et al., 2015, p. 8).

The article by Ray et al. (2017), "Clinician attitudes toward adoption of pediatric emergency telemedicine in rural hospitals," examined attitudes of 48 stakeholders through semi-structured interviews with 104 clinicians. Ray et al. (2017) reports three domains: "perceived usefulness of telemedicine, perceived ease of use of telemedicine, and contextual factors (i.e., factors influencing both perceived usefulness and perceived ease of use)" (p. 251). Respondents were positive regarding telemedicine if the clinician perceived that the facility could offer high quality care to pediatric emergencies. "Only 46% of respondents believed that their institution had all of the necessary expertise and skills for pediatric emergencies" which reveals that clinician attitudes can be a barrier to the adoption of telemedicine in pediatric emergencies (Ray et al., 2017, p. 252). Analysis of the data concludes significant desire of nurses (80%) for pediatric education and use of telemedicine compared to emergency department physicians (37%), as nurses realized that telemedicine has the potential to decrease pediatric transfers which reduced the familial burden created by distance (Ray et al., 2017, p. 252). This article notes more education of clinicians regarding the benefits and potential use of telemedicine is needed for adoption of telemedicine in pediatric emergencies.

The article "Using alternatives to face-to-face consultations" reports general practitioners as being skeptical of the benefits of telehealth and a concern of increased workload instead of

focusing on potential to reach more patients to ensure better outcomes (Brant et al., 2016, p. 460). Brant et al. (2016) sent postal surveys to several primary care facilities to include practice managers and general practitioners (GPs) throughout Bristol, Oxford, Lothian, and the Highlands and Islands of Scotland (p. 460). The results of the study show that 79% of GPs offer telephone consultations, but only 6% had used email consultations with over half of the practices having no plans to pursue email consultations or other alternative methods of face to face consultations. The GPs also expressed concerns regarding privacy and confidentiality which could place the clinic at legal risk to become a financial burden (Brant et al., 2016, p. 463). The concerns discussed above illustrate the continued need for clinician education regarding the use of telemedicine.

The article "Analyzing older users' home telehealth services acceptance behavior-applying an Extended UTAUT model," explored the perceptions of the patient (Cimperman, Brencic, and Trkman, 2016). Cimperman, et.al., (2016) surveyed 400 participants older than 50 in both rural and urban Solvenia. Home telehealth in older users had six relevant predictors confirmed as having significance on the behavioral intent which determined the learning the technology was … "more essential than the perceived benefit and usefulness of the system" (Cimperman et al., 2016, p.22). This study reveals that older users will need support from clinicians regarding the technology being used and the expectations regarding the technology versus just telling the user the benefits of telehealth. The clinician attitude will need to be aligned to supporting the user's through the technology adjustment to improve patient outcomes.

In the article "Attitudes towards the use and acceptance of eHealth technologies: a case study of older adults living with chronic pain", a survey was sent to 168 participants with a 40% respondent rate (Currie, Phillip, and Roberts, 2015). Currie et al. (2015) report that

infrastructure can affect use of technology in some rural areas. eHealth technology use can be viewed as both a barrier which excludes the patient and a way for older patients living alone to connect or feel included. Currie et al., (2015) found that "acceptance of technology therefore relates to existing levels of personal and social contact, and appears to be greater where technological help is not perceived to be replacing in person care" (p. 10).

Five articles reviewed and synthesized (Appendix A) about clinician perceptions and patient perceptions regarding telehealth found that both perceptions of clinicians and patients are relevant for the adoption of telehealth in rural populations. A knowledge gap related to telehealth exists for the clinicians and patients who participated in the above surveys. However, patients expressed a desire for increased healthcare which could be achieved if education and demonstrations on telehealth were more readily available. As healthcare technology evolves, telehealth could be a viable solution for rural communities who are within healthcare provider shortages areas and open opportunities for providers to achieve positive healthcare outcomes for all patients. This literature review confirmed the nonexistence of any readiness to telehealth surveys which would be helpful for a successful implementation of telehealth in any setting. Therefore, a telehealth survey to assess perceptions of telehealth and barriers associated with telehealth in people living in rural areas in Ohio is appropriate for a Doctor of Nursing Project.

Project Description and Design

Theoretical Framework

Health Promotion Model (HPM) and Appreciative Inquiry (AI) were combined into a workable framework used in the process for this telehealth survey. Pender's philosophy reflects her metaparadigm as "reciprocal interaction world view in which humans are viewed holistically, but parts can be studied in the context of the whole. Human beings interact with

their environment and shape it to meet their needs and goals" (Pender, 2011, p. 2). The World Health Organization (WHO) says, "Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings" (WHO, 2018). Pender's Health Promotion Model (HPM) views persons as holistic and responsive to the individual's environment and attitudes (behaviors) as persons are not just a disease process. Pender's HPM is a significant nursing theory as is has been utilized in multiple studies regarding health promotion and behavior changes for over 27 years. The metaparadigm concepts fully express the significance of the philosophical claims that persons are whole beings with unique personalities and interact within the environment to achieve their needs (Pender, 2011, p. 2). "Pender's health promotion model (HPM) is one of the widely used models to plan for and change unhealthy behaviors and promote health" (Khodaveisi, Omidi, Farokhi, and Soltanian, 2017, p. 166). HPM was used to determine the barriers in rural populations regarding telehealth and effect proactive health behavior change.

AI has been utilized as a change model in many settings such as the military, businesses, educational systems, and communities; however, appreciative inquiry is not frequently used in healthcare settings. Richer, Ritchie, and Marchionni (2010) conducted a literature review and found that although healthcare organizations may start the AI process, the results have been hard to follow up on in regards to appreciative inquiry studies (p. 169). AI was used to educate and motivate local health department faculty into a greater awareness of telehealth and potential benefits to access to healthcare which create buy in for facilitation of the telehealth survey in the three rural counties; Jackson, Vinton, and Meigs. AI has four phases which have HPM incorporated within those four phases in the telehealth survey process (see Appendix B).

Discovery

1. Buy in from local health departments

2. Educate healthcare providers regarding telehealth
3. Listen
4. Ask questions

Dream
1. Individual characteristics and experiences (HPM)
2. Behavior-specific cognitions and affect (HPM)
3. Question assumptions
4. Buy in from local healthcare providers

Design
1. Create telehealth survey
2. Experiment (get suggestions from local health departments and healthcare providers)
3. Commit to a plan of action
4. Interpersonal influences

Destiny
1. Interpret data from survey
2. Look for solutions to barriers
3. Behavioral outcome
4. Evaluate survey

These four phases of AI are evident in the (discovery) response and facilitation of the local health department staff who assisted with facilitation of the survey to Meigs, Jackson, and Vinton counties, (dream) recommendations of questions which are related to characteristics, experiences, and cognitions, and (design) commitment to this telehealth survey. In the design phase, the researcher was able to form interpersonal relationships which opened doors to achieve the required buy-in from local health department staff and local populations. The destiny phase which is the data interpretation reveals a knowledge gap related to telehealth, infrastructure, and a desire for increased access with a willingness to try telehealth. The four phases of AI were completed in the process of developing and implementing the telehealth survey. The implementation of telehealth in Meigs, Jackson, or Vinton Counties would be accepted by the residents and would increase their access to healthcare opening doors to better health and behavior outcomes.

Project Objectives

1. To determine the perceptions of people who live in rural areas to the use of telehealth.
2. To determine the barriers associated with utilizing telehealth among persons who live in rural areas.

Determining the perceptions of telehealth and barriers associated with utilizing telehealth in people who live in rural areas in Ohio is an important assessment to the readiness of a population which would increase access to healthcare and open other opportunities to strengthen an economically challenged area.

Methodology

The method of qualitative research will be utilized with interpretive phenomenology. "The interpretive approach proposes that the world in which a person lives influences the person to such an extent that his or her choices are confined by the specific conditions of his or her daily existence" (Terry, 2018, p. 92). Interpretive phenomenology correlates to HPM in health behavior change. The Doctor of Nursing Practice (DNP) Project consisted of developing and piloting a qualitative telehealth survey which will be available in an online format and a paper format for participants. On September 25, 2019, approval from the Institutional Review Board (IRB) of Otterbein University was received for this DNP project. The telehealth survey was developed by the researcher and reviewed by the researcher's academic advisor, Meigs, Jackson, and Vinton County Health Department staff, a nurse practitioner who practiced in a rural area within Ohio, and a nurse executive for relevant recommendations or amendments to the questions. The telehealth survey was then constructed through SmartSurvey a survey website which provided the website link for the survey and housed the survey responses. Once the telehealth survey was finalized and posted online, a recruitment flyer (Appendix C) was emailed to the three

participating health departments with a paper copy (Appendix D) and informed consent (Appendix E) for participants who wanted to use paper. An informed consent was embedded in the online version of the telehealth survey. The telehealth survey was advertised in three local newspapers; The Vinton County Courier, The Athens Messenger, and The Daily Sentinel. The ads were in newsprint with a copy of the online website link and the online version of these newspapers with a direct link to the survey website. These ads ran for the month of November 2019.

The target population was persons over the age of 18 who live in rural Ohio to include Vinton County, Jackson County, and Meigs County. Per the July 1, 2018 U.S. Census, the population of Vinton County was 13, 139, Jackson County 32,384, and Meigs County 23, 106 which totals 68, 629 (United State Census Bureau, 2018). In December of 2018, a one question telehealth survey from the Vinton County Health Department on Facebook media reached 0.03% of the population (Cassie Carver, personal communication, January 3, 2019). The telehealth survey utilized the three county populations as a convenience sample. The inclusion criteria were persons aged 18-80 who live in one of the three counties.

The original timeline projection for the DNP project consisted of research of survey tools which could be used or of survey tools which could be modified to meet the needs of this DNP project. The original timeline projected completion of the IRB process by August 2019, research in September 2019 with the creation of the survey in November 2019. The actual research time was the month of the August and September 2019 in which this researcher reviewed surveys, emailed journal article authors regarding the survey tools used in their research, and phone calls with authors who had used surveys in their research. The

IRB application was submitted at the beginning of September while concurrently researching to develop appropriate questions for the telehealth survey. A list of projected questions was submitted with the IRB application and approval was received September 25, 2019. In October 2019, the telehealth survey was created, adjusted, and developed into the actual survey tool which was posted for participation in November and December 2019. The original timeline projected the data analysis for February 2020, but the actual analysis occurred in January of 2020. The DNP project was completed ahead of schedule in a timely manner.

The original budget for the DNP project allowed for $50.00 for flyers and $100.00 for a Walmart gift card as a recruitment tool for participants. The actual budget for the DNP project was $10.00 for flyers as the researcher's computer and printer was used to make the flyer, $100.00 for the Walmart gift card as a recruitment tool, $250.00 for a month of advertising in The Vinton Courier and The Athens Messenger, $195.00 for advertising in The Daily Sentinel for a month, and $17.00 per month for the SmartSurvey tool which will be utilized until the end of the project for a projected cost of $674.00 at least. Therefore, the actual cost of the DNP project is estimated at $1,229.00.

Outcomes and Evaluation

The telehealth survey website was open to the public in Meigs, Vinton, and Jackson Counties from Oct. 25, 2019 until Dec. 31, 2019. A definition of telehealth was provided at the beginning of the telehealth survey. There were 18 partial responses and 79 completed responses. The partial responses were examined and only one partial response had continued beyond the first question. The partial response which answered the majority of the survey was forced to

completion and the other 17 partial responses were eliminated from the survey. Eighty completed responses were evaluated and are represented in this article.

The telehealth survey had three identifiable themes; a knowledge gap related to telehealth, infrastructure, and desire for closer access to healthcare. The theme of a knowledge gap related to telehealth is identifiable in the first four responses. The survey gave the definition of telehealth at the beginning of the survey as: Telehealth and telemedicine have been used interchangeably and is defined by the American Telemedicine Association (ATA) as "the use of medical information exchanged from one site to another via electronic communications to improve patients' health status" (ATA, 2018).

1. **Have you heard of telehealth?**

Responses	Total	Percentages
Yes	**39**	**50%**
No	**39**	**50%**

2. **Have you, a friend, or family member had a telehealth experience or seen a demonstration of telehealth?**

Responses	Total	Percentages
Yes	**11**	**13.92%**
No	**60**	**75.95%**
Saw a demonstration	**8**	**10.13%**

3. **Do you feel you have a good understanding of telehealth?**

Responses	Total	Percentages
Yes	**13**	**68.42%**
No	**5**	**26.32%**
I am unsure	**1**	**5.26%**

4. **If yes, what did you like about telehealth? (choose all you agree with)**

Responses	Total	Percentages
Easy to use	**13**	**81.25%**
Was seen by doctor quicker	**8**	**50%**
Could be seen locally	**8**	**50%**
Didn't have to drive far	**11**	**68.75%**
Felt like the doctor understood me	**2**	**12.50%**
Would use it again	**9**	**56.25%**
Other	**3**	**18.75%**

Question one shows 50% of the 80 respondents have heard of telehealth, but only 13.92% have had an actual experience with telehealth. This data shows a significant knowledge gap related to the definition and understanding of telehealth as a whole. Of the 39 respondents who answered yes to hearing of telehealth only 13 respondents felt they had a "good understanding" of telehealth. Eighty-one percent of respondents felt telehealth was "easy to use" followed by 68.75% which liked the fact they "didn't have to drive far" to be seen by a doctor. A response in the other category said "I was involved in a project for Holzer for Telehealth-what a great opportunity for our rural patients." The telehealth participants were asked how they would rate learning to use the telehealth technology which produced 23 comments of "haven't used it" or "haven't heard of it". One response was "We partnered with OSU and getting all the bugs worked out was time consuming but once up and running it was very intuitive and easy to do." These comments show a significant knowledge gap, but a willingness to try something new to increase their access to healthcare. The responses from these questions clearly show a need for telehealth and a desire for increased access, but reveal an underlying need for more education on telehealth and the many uses for access.

The theme of infrastructure is addressed in questions five and seventeen through twenty-one. Question five reveals that respondents don't feel transportation or cellular access to be a barrier with telehealth. In the 2019 Vinton County Community Health Assessment Report (VCCHAR) (2019), the Community Themes and Strengths Assessment (CTSA) identified "lack of access to transportation. . . as a major community health issue", but this survey underscores there is no transportation barrier with telehealth (Vinton County Community Health Report, 2019, p. 20).

5. What are some barriers you have identified with telehealth use? (choose all you agree with)

Responses	Total	Percentages
I don't trust it	**2**	**12.50%**
Not a face-to-face visit with a doctor	**8**	**50.00%**
The doctor doesn't know me	**12**	**75.00%**
No transportation	**0**	**0.00%**
No cellular access	**0**	**0.00%**
Afraid of technology	**1**	**6.25%**
Other	**1**	**6.25%**

17. Do you have access to a cell phone or have access to a cellular network?

Responses	Total	Percentages
Yes	**77**	**97.47%**
No	**1**	**1.27%**
Other	**1**	**1.27%**

There were zero percent of respondents who cited cellular access as a barrier to telehealth while the 2019 VCCHAR cites "the lack of countywide broadband internet service and reliable cell phone connectivity" as a factor in "residents' ability to get health information" (Vinton County Community Health Report, 2019, p. 61). On January 22, 2020, U.S. Representative Bill Johnson of Ohio's 6th District posted on his official Facebook page that he and Ajit Pat, Chairman of the

Federal Communications Commission (FCC) met with local broadbands providers, state and local representatives, and other stakeholders to discuss high speed broadband in the rural Ohio region (Johnson, 2020). The discussion centered around the Rural Digital Opportunity Fund (RDOF) which is a $20.4 million dollar fund to expand broadband access and increase high speed internet access in eastern and southern Ohio (Johnson, 2020). No respondents in the telehealth survey conducted cited cellular access as a barrier to telehealth, therefore one can conclude that all respondents have cellular access, but may lack direct access within the home as one respondent provided in the other comments of the telehealth survey.

18. Do you have transportation to your local doctor or health department?

Responses	Total	Percentages
Yes	**76**	**96.20%**
No	**1**	**1.27%**

An important part of infrastructure is transportation. Question eighteen reveals 96% of survey participants have transportation to local doctors or the health department. One comment said the participant uses transportation paid by Medicaid and another may have to borrow her mother's vehicle, but does go to appointments. Transportation is cited as a barrier to access to care, but the above information denotes no barrier related to transportation (VCCHNA, 2015, p. 18).

The next several questions ask survey participants about health information sharing and trust. Ninety-four percent of survey participants say they are truthful while 68% of participants trust their healthcare provider which speaks to the culture of Southern Ohio. In the 2015 VCCHNA, a few cultural and psychological barriers were apathy, independence/stoicism, and civic trust (VCCHNA, 2015, p. 23-24). The people living in Meigs, Jackson, and Vinton Counties have been a forgotten people for many years and have a developed a sense of looking

out for each other and mistrusting the government or "outsiders" who would tell them how to live (Mr. Wortman, personal communication, October 8, 2019). Fifty-three percent of survey participants think there would still be privacy with telehealth and 36% of survey participants believe the telehealth provider would care about them. These responses suggest that people living in Meigs, Jackson, and Vinton Counties desire an opportunity for increased access to healthcare providers and are willing to try telehealth.

The perception of people living in a rural area to the use of telehealth is positive with 70.5% saying they would consider making a telehealth appointment. Forty-two percent of the telehealth participants felt telehealth would increase access to doctors and 36% selected telehealth as a viable option to increase access to healthcare. This telehealth survey shows a readiness for telehealth which has not been examined before implementation of telehealth within any location. Telehealth survey participants (77.3%) responded they felt they would be able to have an uninterrupted conversation with a doctor in a telehealth appointment; 92% felt they would be respected; and 72.7% felt the doctor would understand their situation even if the doctor was not local. Telehealth is a viable solution for access to healthcare in rural areas as determined by the three identified themes of the telehealth survey; a knowledge gap related to telehealth, infrastructure, and desire for closer access to healthcare.

Barriers for telehealth which had previously been identified as transportation, lack of cellular access, and a mistrust of civic government have been dispelled by this telehealth survey. Most telehealth survey participants (27.85%) traveled 25-50 miles to visit a doctor. A significant portion (96.2%) of telehealth survey participants said they have transportation to a doctor which resolves the transportation barrier. Cellular access has long been a struggle in rural Ohio, but 97.47% of telehealth survey participants say they have cellular access which eliminates cellular

access as a barrier to telehealth. Civic trust is evident by 74.67% of telehealth survey participants lack of worry over the use of telehealth. The barriers previously associated with utilizing telehealth among persons who live in rural areas have been eliminated or resolved. Therefore, the implementation of telehealth in a rural area is an option which would significantly increase access to healthcare.

Conclusions and Recommendations

The purpose of this DNP project was to determine the perceptions of people to telehealth and to the barriers associated with utilizing telehealth in people who live in a rural area to the use of telehealth. The perceptions of telehealth in people living in a rural area in Ohio are identifiable in three themes: a knowledge gap related to telehealth, infrastructure, and a desire for closer access to healthcare. These perceptions can be overcome with an educational program to instruct residents regarding what telehealth is, what telehealth can provide, and what the benefits are associated with the use of telehealth to include increased access to healthcare providers. The infrastructure is available with regards to utilizing a cellular platform for telehealth and people are willing to drive the short distance to use telehealth to increase their access to a healthcare provider. The theme most significant in the telehealth survey is the desire for closer access to healthcare which can be resolved with a telehealth implementation which acknowledges the culture in rural Ohio, engages the population in education of telehealth and its multiple benefits, and is inclusive in the design and application of the telehealth project implementation. Telehealth has been promoted as a way to bring increased access to more people as related to distance and local access, but must be implemented in a way which bridges and fulfills the gap of healthcare without distancing the very people telehealth is meant to assist.

The recommendations of this researcher are to partner local healthcare providers with larger healthcare systems within Central Ohio for educational teaching regarding the use and benefits of telehealth. Once the local healthcare systems are partnered with a larger healthcare system within Central Ohio, educational meetings with residents of these three rural counties can begin to address what telehealth is and how it could benefit local residents. These educational sessions would also be a great opportunity to engage local residents about how they envision implementation of telehealth in their communities. The telehealth survey conducted proves the barriers associated with telehealth implementation have or are being eliminated.

Summary

Telehealth is a viable option for increased access to healthcare in rural area in Ohio and the residents have proven they are ready for telehealth. This DNP project has achieved its objectives with the three identified themes related to the perceptions of telehealth and resolved the barriers associated with utilizing telehealth in a rural area in Ohio. Therefore, the conclusion of this DNP project is the people living in a rural area in Ohio are ready for telehealth and the bridge it brings to increasing healthcare in rural areas.

References

American Telemedicine Association (2018). *Telemedicine glossary.* Retrieved from http://thesource.americantelemed.org/resources/telemedicine-glossary

Appalachian Rural Health Institute, Ohio University College of Health Sciences and Professions. (2019). *Rural Healthcare Access: Research Report*. Retrieved from https://catmailohiomy.sharepoint.com/personal/radomski_ohio_edu/_layouts/15/onedrive.aspx?id=%2Fpersonal%2Fradomski%5Fohio%5Fedu%2FDocuments%2FARHI%20Articles%2FResearch%20Report%20summary%20final%20sr%2Epdf&parent=%2Fpersonal%2Fradomski%5Fohio%5Fedu%2FDocuments%2FARHI%20Articles m

Bradford, N. K., Caffery, L. J., & Smith, A. C. (2015). Awareness, experiences and perceptions of telehealth in a rural Queensland community. *BMC health services research*, *15*, 427. doi:10.1186/s12913-015-1094-7

Brant, H., Atherton, H., Ziebland, S., McKinstry, B., Campbell, J. L., & Salisbury, C. (2016). Using alternatives to face-to-face consultations: a survey of prevalence and attitudes in general practice. *The British journal of general practice: the journal of the Royal College of General Practitioners*, *66*(648), e460–e466. doi:10.3399/bjgp16X685597

Buhler-Wilkerson, K. (1993). Bringing care to the people: Lillian Wald's legacy to public health nursing. *American Journal of Public Health,* 83(12), 1778-1786.

Cimperman, M., Brencic, M. M., & Trkman, P. (2016). Analyzing older users' home telehealth services acceptance behavior-applying an Extended UTAUT model. *International Journal of Medical Informatics*, *90*, 22–31. https://doi-org.ezproxy.otterbein.edu/10.1016/j.ijmedinf/2016.03.002

Currie, M., Philip, L. J., & Roberts, A. (2015). Attitudes towards the use and acceptance of

eHealth technologies: a case study of older adults living with chronic pain and implications for rural healthcare. *BMC Health Services Research*, *15*(1), 1–12. https://doi-org.ezproxy.otterbein.edu/10.1186/s12913-015-0825-0

Henry J Kaiser Family Foundation. 2019 January. *Custom reports.* Retrieved from https://www.kff.org/statedata/custom-state-report/?view=3&i=80429&g=oh

Institute of Medicine of the National Academies. (2011). *The future of nursing leading change, advancing health.* Washington, DC: The National Academies Press.

Johnson, Bill. [Bill Johnson]. (2020, January 22). [Facebook post]. Retrieved from https://www.facebook.com/RepBillJohnson/

Khodaveisi, M., Omidi, A., Farokhi, S., & Soltanian, A., (2017). The effect of Pender's health promotion model in improving the nutritional behavior of overweight and obese women. *International journal of community-based nursing and midwifery,* 5(2), 165-174.

L'Esperance, S. & Perry, D., (2016). Assessing advantages and barriers to telemedicine adoption in the practice setting: a MyCareTeam exemplar. *Journal of the American Association of Nurse Practitioners,* 28, 311-319.

Melynk, B. M., & Fine-Overholt, E. (2015). *Evidence-based practice in nursing and healthcare (3rd ed.)*. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Ray, K.N., Felmet. K.A., Hamilton, M.F., Kuza, C.C, Saladino, R.A., Schultz, B.R., Watson, R.S, & Kahn, J.M. (2017). Clinician attitudes toward adoption of pediatric emergency telemedicine in rural hospitals. *Pediatric Emergency Care*, 33(4), 250-257.

Richer, M. Ritchie, J., & Marchionni, J., (2010). Appreciative inquiry in health care. *British Journal of Healthcare Management,* 16(4), 164-72.

Terry, A. J. (2018). *Clinical Research for the Doctor of Nursing Practice (3rd ed.).* Sudbury, MA: Jones and Bartlett Learning.

Theodore, D., Shree, S., Reddy, A., & Kuriokose, R. (2016). Synergy: information technology and health sciences. *Arch Med Health Sci,* 4(1), 58-63.

United States Census Bureau (2018). Quick Facts United States. Retrieved from https://www.census.gov/quickfacts/fact/table/US/PST045218

U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality. (2018). *2017 National healthcare quality and disparities report* (AHRQ Publication No. 18-0033-EF). Retrieved from https://www.ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqrdr/2017nhqdr.pdf https://pcmh.ahrq.gov/page/defining-pcmh

U. S. Department of Veterans Affairs. Office of Public Affairs Media Relations. (2018).

Vinton County Community Health Needs Assessment. (VCCHNA) (2015). Retrieved from http://www.vintonohhealth.org/Elements/PdfDocuments/Items/2015%20CHA.pdf

Vinton County Community Health Assessment Report (VCCHAR) (2019). Retrieved from https://static1.squarespace.com/static/5bd76467e6666906a9bdbe6b/t/5d94ed10e7bf6554bf94d52a/1570041113207/2019+Vinton+County+Community+Health+Assessment+Report+Final+full.pdf

Vinton County Health Department, 2017-2020 Vinton County Health Improvement Plan (2017). Retrieved from: Sarah Prater, RN, Vinton County Health Department

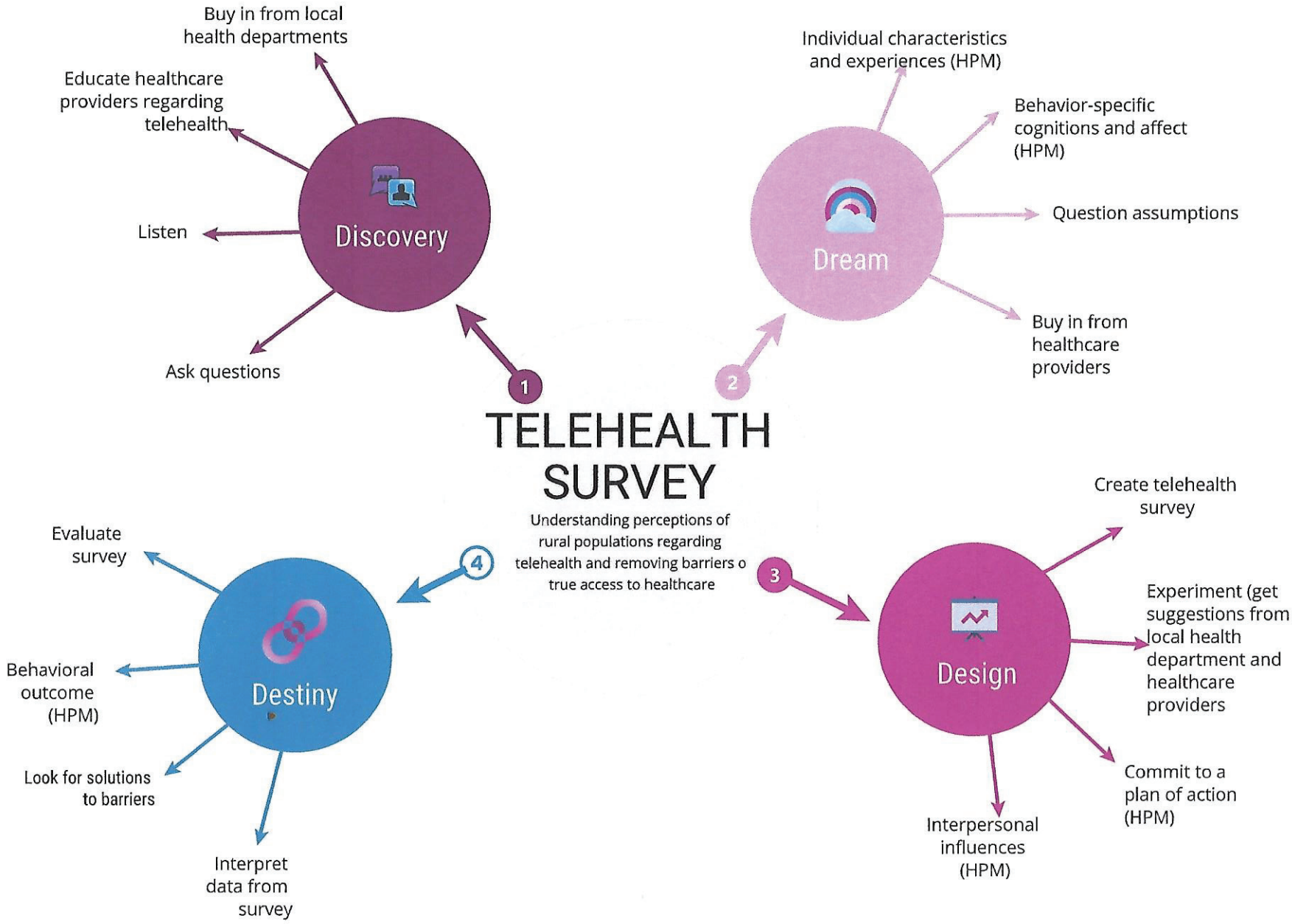
World Health Organization. (2018). Retrieved from http://www.who.int/topics/nursing/en/.

Appendix A: Level of Evidence and Synthesis Table

Levels of Evidence in Intervention Questions	1	2	3	4	5
I Systematic review/meta-analysis of randomized control trials					
II Single randomized control trials					
III Quasi-experimental studies/non randomized controlled trials					
IV Cohort or case-control studies		X	X		X
V Systematic review/meta-synthesis of qualitative studies					
VI Single qualitative or descriptive studies/evidence implementation and quality improvement projects	X			X	
VII Expert opinion					

Legend: 1, Bradford et al. 2, Brant et al., 3, Cimperman et al., 4, Currie et al., 5, Ray et al.

Appendix B: Telehealth Survey Framework



Chance to win a $100.00 gift card to Walmart

YOU ARE INVITED TO COMPLETE A TELEHEALTH SURVEY

Take the telehealth survey online or at your local health department!! Enter anonymous drawing for a chance to win a $100 gift card to Walmart

https://www.smartsurvey.co.uk/s/NJIAU/

Prepared by DNP student at Otterbein University for research project.

Telehealth Survey

1. Access to healthcare in rural areas of Ohio

This survey will help to look into the perceptions and barriers of telehealth. Please take the time to give your honest opinion on each of the questions, as this will help to drive an improvement in access to healthcare. All your answers will be kept in the strictest of confidentiality. If you have any questions about this survey, please contact Annie Bowen at 614-282-1651 or annie.bowen@otterbein.edu .

Thank you in advance for the help you are giving us.

Disclaimer: Your name and phone number will not be linked to your answers on the survey and will not be given out to anyone. Your name and phone number will only be used to contact you if you are the winner of the Wal-Mart gift card.
You are giving informed consent by completing this survey electronically and affirming that you are at least 18 years of age.

Definition of telehealth: Telehealth and telemedicine have been used interchangeably and is defined by the American Telemedicine Association (ATA) as “the use of medical information exchanged from one site to another via electronic communications to improve patients’ health status” (ATA,

1. Have you heard of telehealth?

- Yes
- No

2. Have you, a friend, or family member had a telehealth experience or seen a demonstration of telehealth?

- Yes
- No
- saw a demonstration

3. Do you feel you have a good understanding of telehealth?

- Yes
- No
- I am unsure

4. If yes, what did you like about telehealth? (choose all you agree with)

- ☐ easy to use
- ☐ was seen by doctor quicker
- ☐ could be seen locally
- ☐ didn't have to drive far
- ☐ felt like the doctor understood me
- ☐ would use it again
- ☐ Other (please specify):

5. What are some barriers you have identified with telehealth use? (choose all you agree with)

- ☐ I don't trust it
- ☐ not a face-to-face visit with doctor
- ☐ the doctor doesn't know me
- ☐ no transportation
- ☐ no cellular access
- ☐ afraid of technology
- ☐ Other, please specify:

6. How would you rate learning to use telehealth technology?

- ☐ very difficult
- ☐ difficult
- ☐ neutral
- ☐ easy

- very easy

7. Do you think you will have enough privacy when using telehealth?

- Yes
- No
- Sometimes

8. Do you trust the doctor you see face to face with your healthcare information?

- Yes
- No
- Don't know

9. Do you answer healthcare questions honestly when you visit your doctor?

- Yes
- No

10. Do you feel a telehealth visit would be less personal than a face to face visit with a doctor?

- Yes
- No

11. How important is it to you to feel that the doctor cares about you?

- Not important at all
- Slightly important
- Neutral
- Moderately important
- Extremely important

12. Do you feel you would be able to have an uninterrupted conversation with the doctor during a telehealth visit?

- Yes
- No

13. Do you feel you would be treated with respect during a telehealth visit?
- Yes
- No

14. Do you believe if a doctor is not local, he or she won't understand your situation?
- Yes
- No

15. Would you have confidence in the diagnosis during a telehealth visit?
- yes
- no
- maybe

16. Does it worry you to use telehealth?
- Yes
- No

17. Do you have a cell phone or have access to a cellular network?
- Yes
- No
- Other (please specify):

18. Do you have transportation to your local doctor or health department?

- Yes
- No
- Other (please specify):

19. How far have you driven to see a primary care doctor or specialist, such as a heart doctor or lung doctor in the last 12 months?

- 0-25
- 25-50
- 50-75
- 75-100
- >100
- Other (please specify):

20. Do you think transportation limits your access to a doctor?

- Yes
- No
- Sometimes

21. If telehealth was a closer and more convenient option, how likely would you be to use telehealth?

- extremely unlikely
- unlikely
- neutral
- likely
- extremely likely

22. Do you believe that telehealth would increase your access to see your regular doctor?

- yes
- no
- don't know

23. How confident are you that telehealth would help you to be able to see a doctor more often and more frequently?

- Not extremely confident
- Not confident
- Neutral
- Slightly confident
- Extremely confident

24. If telehealth was available to you, would you schedule an appointment?

- Would not consider
- Might consider
- Definitely consider

25. What do you feel would be most helpful to increase access to doctors?

- More transportation
- More local doctors
- Telehealth option

The following questions help us to monitor the demographics of our respondents. We need these to ensure we can offer the best service to people in all age, gender and race sections of the population. Naturally, these results will be fully confidential.

26. In which local county do you live in?

- Jackson
- Meigs
- Vinton

27. Your Gender:

- Male
- Female

28. Age:

- 18-29
- 30-42
- 43-54
- 55-66
- 67-80

29. What is Your Marital Status?

- Married or Living Together
- Divorced or Separated
- Widowed
- Unmarried

30. What is your total annual household income before tax?

- Lower than $10,000

- Between $10,000 and $24,999
- Between $25,000 and $49,999
- Between $50,000 and $74,999
- Between $75,000 and $99,999
- Over $100,000

31. Please indicate your highest level of completed schooling:

- did not finish high school
- high school diploma
- some college
- college degree

Random Drawing for $100.00 Wal-Mart gift card

Disclaimer: Your name and phone number will not be linked to your answers on the survey and will not be given out to anyone. Your name and phone number will only be used to contact you if you are the winner of the Wal-Mart gift card.

32. place name and phone number in comment box to be placed in a random drawing for a $100.00 Wal-Mart gift card.

Appendix E: Informed Consent

Informed Consent

The Department of Nursing at 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 the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are interested in studying the perceptions of telehealth/telemedicine of people living in rural communities in Ohio. You will be participating in one session that will involve filling out a questionnaire. It is estimated that this will take approximately twenty minutes of your time. Your participation is solicited although strictly voluntary. We assure you that 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 complete, please feel free to contact me by phone or mail.

Sincerely,

Dr. Kay Ball, Principal Investigator

6743 S. Old State Rd,, Lewis Center, OH 43035

614-975-4972 kball@otterbein.edu

Annie Bowen, Student Investigator

28 3rd Ave. SW, Etna, OH 43062

614-282-1651 annie.bowen@ottterbein.edu

_____ Signature of subject agreeing to participate

With my signature I affirm that I am at least 18 years of age.

Appendix F: Telehealth Survey Results

1. **Have you heard of telehealth?**

Responses	Total	Percentages
Yes	**39**	**50%**
No	**39**	**50%**

2. **Have you, a friend, or family member had a telehealth experience or seen a demonstration of telehealth?**

Responses	Total	Percentages
Yes	**11**	**13.92%**
No	**60**	**75.95%**
Saw a demonstration	**8**	**10.13%**

3. **Do you feel you have a good understanding of telehealth?**

Responses	Total	Percentages
Yes	**13**	**68.42%**
No	**5**	**26.32%**
I am unsure	**1**	**5.26%**

4. **If yes, what did you like about telehealth? (choose all you agree with)**

Responses	Total	Percentages
Easy to use	**13**	**81.25%**
Was seen by doctor quicker	**8**	**50%**
Could be seen locally	**8**	**50%**
Didn't have to drive far	**11**	**68.75%**
Felt like the doctor understood me	**2**	**12.50%**
Would use it again	**9**	**56.25%**
Other	**3**	**18.75%**

5. **What are some barriers you have identified with telehealth use? (choose all you agree with)**

Responses	Total	Percentages
I don't trust it	**2**	**12.50%**
Not a face-to-face visit with a doctor	**8**	**50.00%**
The doctor doesn't know me	**12**	**75.00%**
No transportation	**0**	**0.00%**
No cellular access	**0**	**0.00%**
Afraid of technology	**1**	**6.25%**
Other	**1**	**6.25%**

6. **How would you rate learning to use telehealth technology?**

Responses	Total	Percentages
Very difficult	**1**	**1.64%**
Difficult	**1**	**1.64%**
Neutral	**41**	**67.21%**
Easy	**10**	**16.39%**
Very easy	**8**	**13.11%**

Comments: (23)

1	Have not used yet.
2	I cannot answer this question since I have never experienced or heard of telehealth
3	n/a
4	Having never heard of it, I find it impossible to rate 9r.
5	I have never personally used it myself. I do have a Dr's office that uses Tele-med video conference visits tho
6	I've never heard of telehealth.
7	I haven't used it yet so have minimal info to answer the question
8	I've not seen it.
9	At this time unknown
10	I do not know have had no experience with it
11	We partnered with OSU and getting all the bugs worked out was time consuming but once up and running it was very intuitive and easy to do.
12	haven't used it
13	Never heard of telehealth
14	have not used it
15	never had opportunity to use this

16	never heard of it till today
17	Never heard of it so No
18	Super simple and quick
19	i havent heard of this before
20	I've never used Telehealth.
21	I sometimes have a televisit with my VA doctor
22	N/A
23	Easy to understand step by step instructions and prompts are grea

7. Do you think you will have enough privacy while using telehealth?

Responses	Total	Percentages
Yes		
No		
Don't know		

8. Do you trust the doctor you see face to face with your healthcare information?

Responses	Total	Percentages
Yes	**54**	**68.35%**
No	**2**	**2.53%**
Don't know	**23**	**29.11%**

9. Do you answer healthcare questions honestly when you visit your doctor?

Responses	Total	Percentages
Yes	**75**	**94.94%**
No	**4**	**5.06%**

10. Do you feel a telehealth visit would be less personal than a face to face visit with a doctor?

Responses	Total	Percentages
Yes	**49**	**64.47%**
No	**27**	**35.53%**

11. How important is it to you to feel that the doctor cares about you?

Responses	Total	Percentages
Not important at all	**0**	**0.00%**
Slightly important	**2**	**2.56%**

12. Do you feel you would be able to have an uninterrupted conversation with the doctor during a telehealth visit?

Responses	Total	Percentages
Yes	**56**	**77.33%**
No	**17**	**22.67%**

13. Do you feel you would be treated with respect during a telehealth visit?

Responses	Total	Percentages
Yes	**70**	**92.11%**
No	**6**	**7.89%**

14. Do you believe if a doctor is not local, he or she won't understand our situation?

Responses	Total	Percentages
Yes	**21**	**27.27%**
No	**56**	**72.73%**

15. Would you have confidence in the diagnosis during a telehealth visit?

Responses	Total	Percentages
Yes	**20**	**25.97%**
No	**4**	**5.19%**
Maybe	**53**	**68.83%**

16. Does it worry you to use telehealth?

Responses	Total	Percentages
Yes	**19**	**25.33%**
No	**56**	**74.67%**

17. Do you have a cell phone or have access to a cellular network?

Responses	Total	Percentages
Yes	**77**	**97.47%**
No	**1**	**1.27%**

Comment (please specify): (1)	
1	where i live i do not have cell phone service/ signal and have only thru land line

18. Do you have transportation to your local doctor or health department?

Responses	Total	Percentages
Yes	**76**	**96.20%**
No	**1**	**1.27%**

Comment (please specify): (2)	
1	I use medical transportation paid by medicaid
2	Sometimes. My car is unreliable but I am sometimes able to borrow my mother's vehicle, but sometimes it isn't possible and without her vehicle to use, I have no other options

19. How far have you driven to see a primary care doctor or specialist, such as a heart doctor or lung doctor in the last 12 months?

Responses	Total	Percentages
0-25	**18**	**22.78%**
25-50	**22**	**27.85%**
50-75	**10**	**12.66%**
75-100	**16**	**20.25%**
>100	**22**	**13.92%**

Comment (please specify): (2)	
1	
2	if I would have had to go

20. Do you think transportation limits your access to a doctor?

Responses	Total	Percentages
Yes	**8**	**10.13%**
No	**53**	**67.09%**
Sometimes	**18**	**22.78%**

21. If telehealth was a closer and more convenient option, how likely would you be to use telehealth?

Responses	Total	Percentages
Extremely likely	**4**	**5.19%**
Unlikely	**9**	**11.69%**
Neutral	**22**	**28.57%**
Likely	**32**	**41.56%**
Extremely likely	**10**	**12.99%**

22. Do you believe that telehealth would increase your access to see your regular doctor?

Responses	Total	Percentages
Yes	**33**	**42.31%**
No	**17**	**21.79%**
Don't know	**28**	**35.90%**

23. How confident are you that telehealth would help yo to be able to see a doctor more often and more frequently?

Responses	Total	Percentages
Not extremely likely	**1**	**1.30%**
Not confident	**10**	**12.99%**
Neutral	**26**	**33.77%**
Slightly confident	**31**	**40.26%**
Extremely confident	**9**	**11.69%**

24. If telehealth was available to you, would you schedule an appointment?

Responses	Total	Percentages
Would not consider	**7**	**8.97%**
Might consider	**55**	**70.51%**
Definitely consider	**16**	**20.51%**

25. What do you feel would be most helpful to increase access to doctors?

Responses	Total	Percentages
More transportation	**8**	**11.11%**
More local doctors	**38**	**52.78%**
Telehealth option	**26**	**36.11%**

Comments: (7)

1	There are few to no options for specialist doctors in my County, which means driving a minimum of 30 minutes to see one. It can also take up to 6 months to get a new patient appointment with them.
2	No opinion
3	I'm confident in seeing my drs the way it is
4	Less time involved but not practical in many instances since various tests need done
5	People mostly use cnps or pas because of too few good doctors
6	Many physicians are not accepting new patients or patient load is too high to obtain an appt for urgent matters.
7	Cost

26. In which local county do you live in?

Responses	Total	Percentages
Jackson	**16**	**21.33%**
Meigs	**45**	**60.00%**
Vinton	**14**	**18.67%**

27. Your gender

Responses	Total	Percentages
Male	**7**	**8.86%**
Female	**72**	**91.14%**

28. Age

Responses	Total	Percentages
18-29	**11**	**13.92%**
30-42	**25**	**31.65%**
43-54	**10**	**12.66%**
55-66	**21**	**26.58%**
67-80	**12**	**15.19%**

29. What is your marital status?

Responses	Total	Percentages
Married or living together	**52**	**65.82%**
Divorced or separated	**12**	**15.19%**
Widowed	**3**	**3.80%**
Unmarried	**12**	**15.19%**

30. What is you total annual household income?

Responses	Total	Percentages
Lower than $10,000	**3**	**4.05%**
Between $10,000-$24,999	**6**	**8.11%**
Between $25,000-$49,999	**26**	**35.14%**
Between %50,000-$74,999	**11**	**14.86%**
Between $75,000-%99,999	**13**	**17.57%**
Over $100,000	**15**	**20.27%**

31. Please indicate your highest level of completed schooling?

Responses	Total	Percentages
Did not finish high school	**1**	**1.32%**
High school diploma	**16**	**21.05%**
Some college	**15**	**19.74%**
College degree	**44**	**57.89%**

OTTERBEIN UNIVERSITY

INSTITUTIONAL REVIEW BOARD

X Original Review
____ Continuing Review
____ Amendment

Dear Dr. Ball,

With regard to the employment of human subjects in the proposed research:

HS # 19/20-06
Ball & Bowen: Creating and Piloting a Survey to Determine Telehealth Readiness …

THE INSTITUTIONAL REVIEW BOARD HAS TAKEN THE FOLLOWING ACTION:

____ Approved	____ Disapproved
✓ Approved with Stipulations*	____ Waiver of Written Consent Granted
✓ Limited/Exempt/Expedited Review	____ Deferred

* Once Stipulations stated by the IRB have been met by the investigator, then protocol is APPROVED.

1. As Principal Investigator, you are responsible for ensuring that all individuals assisting in the conduct of the study are informed of their obligations for following the IRB-approved protocol.
2. It is the responsibility of the Principal Investigator to retain a copy of each signed consent form for at least four (4) years beyond the termination of the subject's participation in the proposed activity. Should the Principal Investigator leave the university, signed consent forms are to be transferred to the IRB for the required retention period.
3. If this was a limited, exempt, or expedited review, there is no need for continuing review unless the investigator makes changes to the proposed research.
4. If this application was approved via full IRB committee review, the approval period is one year, after which time continuing review will be required.
5. You are reminded that you must promptly report any problems to the IRB, and that *no procedural changes may be made without prior review and approval.* You are also reminded that the identity of the research participants must be kept confidential.

Date: 25 September 2019 Signed: Meredith C Frey
Chairperson

(Revised January 2019)

* Cooperating public health agencies may require additional review/approval prior to commencement of recruitment activities