Introduction

- Rural health care is a major concern for consumers and health care providers.
- Telemedicine (TM) is relatively new to the healthcare industry, and there is a lack of research in this area, especially with the rural market.
- TM is a modern solution for healthcare delivery. Many patients can benefit from TM, although it is likely beneficial for rural patients the most (Lowery, 2018).
- The technological approaches used for TM range from basic tools such as telephones, videoconferencing, and specialized media imaging (Martin, Probst, Shah, Chen, & Garr, 2012).
- Rural areas have higher access to TM primary care physicians and specialists (Robert, Spain, Hick, London, & Tay, 2015).
- As a result, rural residents have a lower life expectancy than urban residents (Bradford et al., 2015).
- Majorities of people have a positive perception of TM (Kruse et al., 2018; Polinski et al., 2015, Russo et al., 2017).
- TM is perceived as a way to:
  - Facilitate access to regular care (Abdulhai et al., 2018; Polinski et al., 2015).
  - Emergency care.
  - Maintain the patient-doctor relationship (Jacobs et al., 2016).
  - Obtain health education and counseling (Kauth et al., 2017).

Purpose

- This study focuses on how Telemedicine can bridge potential gaps in care and expand quality health care into rural America with a research study of telemedicine use in Western Colorado and Eastern Utah.

Methods

Survey Variable Constructs

- 6 HCP constructs, 5 Consumer constructs
- HCP Constructs: Demographics, Capacity, Access, Management Support, Perception, Future Applications
- Consumer Constructs: Demographics, Capacity, Access, Perception, Future Applications
- Perception and Access constructs were of particular interest to the research study.

Sample

- Six rural communities in Western CO and Eastern UT (Craig, Delta, Meeker, Moab, Montrose, and Rangeley).
- Health Care Providers (HCPs): n = 10
  - Purposive sampling.
  - Publicly available hospital websites.
- Consumers: n = 44
  - 26 years or older with internet access.
  - Third party vendor – American Direct Mail Service.

Procedure

- Surveyed Health Care Providers (HCPs):
  - Introduction letter, personalized recruitment letters, follow-up calls.
- Surveyed Consumers:
  - Waiting rooms, personal homes.
  - Facebook page created for Montrose region.

Instruments

- A survey was created for the project.
  - 4 week design process guided by concepts found in literature review, experts in the field and the 2017 U.S. Telemedicine Industry Benchmarks Study.
- HCP Survey: 24 items (8 open-ended).
- Consumer Survey: 22 items.
  - Example survey item question:
    - Please rate the level that you agree or disagree with the following statement: "Real-time telemedicine services can save the clinic or hospital a lot of resources (e.g., time, money, etc.)".

Results

HCP Demographics

- Moab and Meeker did not participate.
- 9 different specialties, 20+ years experience.
- Large range of individuals serviced.

HCP Perception

- 75% thought TM would be reliable or very reliable.
- 67% said effective.
- They would be comfortable using TM.
- The ones who had used TM were satisfied.

Consumer Demographics

- Mostly female.
- 65% were 61 years or older.
- 86% currently had health insurance.
- 41% were reached through Facebook advertisement; 55% postcard; 4 email.

Consumer Perceived Similarity of TM to In-Person Care

- 86% felt comfortable using some form of technology.

Consumer Perceived Value in TM Services

- More than 90% of respondents felt TM services would be very valuable.

Consumer Potential Benefits of TM

- 92% of consumers perceived TM to be very valuable.

Future Research

- Alternative platform use to distribute the survey.
- Facebook, phone calls, follow-up emails, etc.
- Telemedicine use in Mental Health.

Discussion

Summary

- Openness for expanding TM.
- Consumers had high rates of reluctance/resistance and concern with doctor/patient relationship.
- Nonetheless, 91% of consumers saw value in TM and felt comfortable using TM for non-emergency situations.
- Large discrepancy between the Future Applications of Telemedicine between HCPs and consumers.

Limitations

- TM use in rural Western Colorado and Eastern Utah had not been previously studied.
  - Initial design and preliminary stage required an extensive review of literature and design of a survey instrument.
  - Focus on rural areas involves a smaller total population, resulting in an overall smaller sample size.
  - Hard to reach populations.
  - Four-month timeline.
  - Restricted ability to submit and gain approval for Full-Board Review through CMU and St. Mary’s Medical Center.
  - Forced researchers to broaden focus.

Contact Information

For references or further information please contact:
Emmanuel Macias: manny.macias@unco.edu

The research was funded by the Office of Economic Development and International Trade (OEIDT) Grant (POEDA201600008318). The project could not have been done without the contributions and participation of St. Mary’s Medical Center (SLC).