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## Telemedicine in Rural NY: What Comes After COVID-19

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# TELEMEDICINE IN RURAL NY: WHAT COMES AFTER COVID-19

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Family Medicine Rotation November 2020

# Problem Identification: Access to Healthcare

- 50.3% of Clinton County report experiencing at least one barrier to medical care
  - 3 of top 4 reasons cited was due to lack of financial means
- Despite 94% of the county having insurance, they are not seeking preventative services
- Age-related preventable hospitalizations and rate of ED visits are higher than the rest of Upstate New York
- Obesity and related chronic illness rates, like hypertension and diabetes, are continually rising in youth and adults<sup>1</sup>

The Clinton County Health Department asked county residents for their opinions on health, social and environmental issues in the community. They were also asked to identify any barriers to medical care experienced by themselves or their family in the past year. Surveys were collected from 1,378 residents.

**86%** of respondents experienced **1 or more health challenge** for themselves or family in the past year.

**40%** reported being **overweight or obese.**

**29%** reported **physical inactivity.**

**2 in 5** live with **chronic disease.**

**40%** reported **issues related to aging.**



Nearly **1 out of every 3** respondents reported lack of a **livable wage** as a top social issue for themselves or their family.



Nearly **50%** of residents selected **water quality** as a top environmental concern.

**50%**

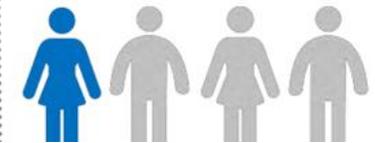


of respondents faced at least **1 barrier to receiving medical care in the past year.**

#### Top ranked barriers reported:

- No vision or dental insurance
- High co-pays and deductibles
- Lack of local specialists
- Affordability

**Affordable housing** is a challenge for nearly **25%** of respondents.



# Problem Identification: Access to Telehealth

- Despite ever increasing access to technology, prior to the COVID-19 2020 pandemic, telehealth has had a slow uptake
  - Centers for Medicare and Medicaid Services waiver structure expanded reimbursements for telehealth services in response to the pandemic
- However, 33% of Americans are without high-speed broadband internet<sup>2</sup>
- In Clinton County, 22% of families do not have access to broadband internet
- Despite access to internet, access to telehealth in Clinton County is further limited by income
  - Per capita income \$26,772 and 13% of people in poverty
  - Many people work multiple jobs due to high cost of living and lack of livable wages<sup>3</sup>

# Public Health Cost

- Reports state that telemedicine could save up to \$6 billion per year
  - Even significantly less use can save millions of dollars in healthcare spending<sup>4</sup>
- Total healthcare spending in New York projected to rise by more than \$100 billion from 2013 to 2020
  - New York is the ranked second highest in nation for total health care expenditures



# Community Perspective

- The COVID-19 pandemic quickly brought a significant increase in utilization of telehealth
- However, in many counties across the country, including Clinton County in New York, access to broadband internet and poverty limits telehealth's full utilization
  - New initiatives can provide creative ways to utilize clinic funding for telehealth

Ashley Sherman, Health Care Administrator at CVPH

- What are barriers to telehealth in this community?
  - *"In rural areas, one of our biggest issues is internet access. Many of our patients don't have access to internet or have a barrier to willingness to engage in application usage that is necessary."*
- How can this clinic improve patient engagement in telehealth?
  - *"The biggest way that we can improve is communication with patients during the office visits. Teaching the patients that it is a secure platform, and it will decrease the need to drive to the clinic."*
- Ideally, how do you envision telehealth improving the medical care this clinic provides for the community?
  - *"I hope that this clinic is able to use telehealth abundantly for follow-up visits, especially mental health. It can be helpful for TCM usage, follow-up, and transition of care appointments."*

# Community Perspective

- Dr. Maegan Cabrera, family medicine physician at CVPH
- What are the barriers to telehealth for patients in your community?
  - *"We have many patients who struggle financially; this often means that they are without reliable cell phone/internet access. This makes even small things like confirming their appointments difficult, and makes tele health not even an option for some"*
- As a provider, what are the barriers to telehealth for you?
  - *"Space within our office to conduct visits."*
- How do you think telehealth can improve general medical outcomes for you patients?
  - *"Can help relieve the burden of finding transportation, resulting in more consistent visits and continuity of care. Also great for many mental health conditions, where coming to the office produces significant anxiety."*

# Intervention and Methodology

- Assessment of telehealth barriers in Clinton County
- Organization of telehealth initiatives
  - Analysis of pros and cons for each
  - Cost analysis
  - Implication for local community implementation
- Probability Rating

The image features five incandescent light bulbs arranged in a horizontal line against a solid green background. The bulbs are semi-transparent, and their reflections are visible on a surface below them. The text 'RESULTS/RESPONSES' is written in a bold, white, sans-serif font across the middle of the bulbs.

**RESULTS/RESPONSES**

Program Title	Explanation	Pros	Cons	Associated Funding or Costs
<b>Transition of Care</b>				
TeamSTEPs (Team Strategies and Tools to Enhance Performance and Patient Safety) <sup>5</sup>	Evidence based teamwork system designed for healthcare professionals that has been utilized to enhance communication between inpatient and outpatient teams during transition of care.	<ul style="list-style-type: none"> <li>- Connection between inpatient and outpatient teams</li> <li>- High patient engagement and satisfaction</li> <li>- TeamSTEPs programming and application can be used in many different settings</li> </ul>	<ul style="list-style-type: none"> <li>- Requires staff members to become "coaches" and attend trainings</li> <li>- Needs coordination and hospital "buy in" in order to be successful</li> </ul>	<ul style="list-style-type: none"> <li>- Registration fee of \$650 per person for training (recommended that 2-3 members attend)</li> <li>- Associated fees with set-up and implementation dependent on project chosen</li> </ul>
<b>High Risk Chronic Care</b>				
Tobacco Cessation <sup>6,7</sup>	Studies have shown that automated telehealth phone calls and text messages can be leveraged to assist in smoking cessation.	<ul style="list-style-type: none"> <li>- Potential to reduce costs and improve health outcomes</li> <li>- Does not require additional staff time</li> <li>- Use of text messages</li> </ul>	<ul style="list-style-type: none"> <li>- Requires some amount of patient "buy in" and interest in quitting</li> <li>- Necessary to set up pre-recorded messaging and data collection</li> </ul>	<ul style="list-style-type: none"> <li>- Dependent on program used</li> <li>- Most funded through government Medicaid or Medicare</li> </ul>
Cardio Rehab <sup>8</sup>	Home-based cardiac rehab typically involves smart devices and apps that allow doctors and other clinical staff to interact with patients and supervise them as they exercise in their homes or community fitness centers.	<ul style="list-style-type: none"> <li>- Overcomes barriers such as transportation, lack of sufficient timing, and disinterest</li> <li>- Allows for better adherence to rehabilitation</li> <li>- Patients can engage in their own home or community setting</li> </ul>	<ul style="list-style-type: none"> <li>- Implementation requires multi-disciplinary team engagement</li> <li>- Broadband internet required</li> </ul>	<ul style="list-style-type: none"> <li>- No extra cost to set-up</li> <li>- Billed similarly to "traditional" telehealth appointments</li> </ul>
Diabetes Care <sup>9,10</sup>	Telehealth home monitoring that allows for decentralizing decision-making and empowering patients to take better care of themselves. Each morning, patients weigh themselves and check blood pressure, pulse, blood sugar levels and oxygen saturation. They also answer a series of varying questions relative to possible diabetes complications on an easy-to-use, small store-and-record unit in their home, which securely transmits the data to nurses at a central location.	<ul style="list-style-type: none"> <li>- Allows for personalization via texts regarding physical activity</li> <li>- Provides for tighter glucose control, reduced hospitalizations, and closer screening for serious complications</li> <li>- Quick intervention if values are out of range</li> <li>- Physicians can adjust medications and diet regimens based on daily data</li> </ul>	<ul style="list-style-type: none"> <li>- Requires educated nurse to monitor and act on incoming data points</li> </ul>	<ul style="list-style-type: none"> <li>- Funding through state, federal, and private grants available</li> </ul>
<b>Psychiatric Care</b>				
Greater Oregon Behavioral Inc <sup>11</sup>	Program allows patients to install a telehealth platform on their smartphones, tablets, or computers. Patients use the platform to communicate with behavioral health clinicians via video conference or text from any location. Services available to patients include counseling, discharge planning, medication management, and supported employment check-ins, among others.	<ul style="list-style-type: none"> <li>- Download forms (PHQ-9, GAD-7) for patients to complete</li> <li>- Communication available via text</li> <li>- Increases mental health care, which is limited in the area</li> <li>- Decreases patient wait time</li> </ul>	<ul style="list-style-type: none"> <li>- Requires patients have access to a cellular device</li> <li>- Online mental health resources may be limited regionally</li> </ul>	<ul style="list-style-type: none"> <li>- Cost requirement is dependent on ordering of equipment and HIPPA-compliant software applications</li> </ul>

UVMMC Nursing Home Telepsychiatry <sup>12</sup>	UVMMC established a telepsychiatry service to be used in nursing homes through New York and Vermont. Nursing home residents can connect to a psychiatrist and conduct telemedicine appointments.	<ul style="list-style-type: none"> <li>- Leads to decreased misdiagnosis and lack of diagnosis of mental illnesses in the elderly</li> <li>- Relieves burden of primary care and nursing home teams</li> <li>- Allows for psychiatric exams, medication reviews and adjustments</li> </ul>	<ul style="list-style-type: none"> <li>- Limited local enrollment</li> <li>- Requires nursing team engagement and interest</li> <li>- Elderly population is more skeptical about use of telehealth technology</li> </ul>	<ul style="list-style-type: none"> <li>- Cost requirement is dependent on ordering of equipment and HIPPA-compliant software applications</li> </ul>
<b>Pediatric Care</b>				
Project ECHO – Epilepsy Care <sup>13</sup>	This project connects family practitioners, general neurologists, school nurses, and other providers to epilepsy specialists to improve the care of adults and children with epilepsy.	<ul style="list-style-type: none"> <li>- Connects community players</li> <li>- Can be generalized to more chronic pediatric conditions</li> <li>- Allows for telehealth appointments in the school</li> <li>- Project Echo uses hub and spoke model to connect with specialists outside of the area</li> <li>- Allows parents to attend doctors' appointments without missing work</li> </ul>	<ul style="list-style-type: none"> <li>- Requires coordination with school and nursing department</li> <li>- Schools need access to private rooms, audio equipment, and a camera</li> </ul>	<ul style="list-style-type: none"> <li>- Project ECHO is a finalist for the \$100 million MacArthur Foundation Grant</li> <li>- Provides grants to rural centers throughout the US</li> <li>- Cost to implement at a school independent of Project ECHO would be limited to cost of camera, speakers, and other telehealth equipment</li> </ul>
Health-e-schools <sup>14</sup>	A telemedicine based services that provides acute care in the school setting.	<ul style="list-style-type: none"> <li>- Offers services to all students regardless of insurance</li> <li>- Full-time, off-site family NP that evaluates and diagnoses patients</li> <li>- Children don't miss class and parents don't miss work</li> </ul>	<ul style="list-style-type: none"> <li>- Parental or guardian written permission must be granted</li> <li>- High-definition cameras and specially equipped stethoscopes and otoscopes required</li> <li>- Model relies heavily on school nurses</li> </ul>	<ul style="list-style-type: none"> <li>- Led by CRHI</li> <li>- Funding state specific, but mostly used for cost of equipment</li> <li>- Implementation of model within clinic would require school engagement and cost of equipment</li> </ul>

# Evaluation of Effectiveness and Limitations

- Initially, this project was designed for CVPH's Family Medicine Clinic
- Further evaluation of effectiveness and limitations would include large scale distribution of poster to the healthcare administrators at this institute and other local primary care facilities
- Assessment of effectiveness would be done by questionnaire regarding site interest in the data, use of initiatives in local clinics, and perceived drawbacks
- Limitations of the poster likely due generalizability. Due to differences in healthcare funding may not allow for ease of reproducibility in different environments

# Future Interventions/Projects

- The impact of telehealth in this clinic and broadly is not yet known
- Future projects are needed to analyze:
  - telehealth utilization
  - barriers to initiative implementations
  - patient and provider perspective
- Additionally future interventions could be used to assess the generalizability of these planned initiatives
  - If a telehealth plan works for CVPH Family Medicine, will it work elsewhere?
  - What components of a community's health profile are beneficial or detrimental to the use of telehealth?

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