Integration of RPM into Physicians’ Work in Underserved Communities: Insights from a Survey of System Stakeholders

Samuel Bonet¹, Karim Zahed¹, Julie Hammett¹, Arjun H. Rao¹, Farzan Sasangohar¹, Arnold Vedlitz²

¹Industrial and Systems Engineering, Texas A&M University; ²Bush School of Government & Public Service, Texas A&M University

Background

- Chronic medical conditions are the leading cause of death and disability in the United States (U.S.) [1]:
  - 6 in 10 adults have chronic conditions in the U.S. [1].
  - 4 in 10 adults have two or more chronic conditions in the U.S. [1].

Cardiovascular Diseases (CVD)

- Leading cause of mortality in the U.S., accounting for 1 in every 4 deaths [2]
- Prevalence: ~47% of adult Americans [2]

Diabetes

- 7th leading cause of death in the U.S. in 2015 [3]
- Prevalence: ~9.4% of the U.S. population [3]

- Managing chronic conditions is challenging for patients in underserved communities, where shortages in health services hinders patients’ access to adequate healthcare.
- Remote patient monitoring (RPM) technologies has been identified as a viable alternative.
- The implementation of a successful RPM platform entails the design of a system that can be seamlessly integrated into healthcare providers’ work, consequently increasing physician adoption and their availability to offer remote care.

Objectives & Methods

Objectives

- Objective #1: Understand relevant stakeholders’ familiarity with RPM systems
- Objective #2: Collect stakeholders’ perspectives about barriers and facilitators for RPM to transform healthcare access in underserved communities

Methods

- A survey instrument was designed and administered to elicit healthcare providers perspectives about RPM systems. Participants included physicians and managers from healthcare settings, and other stakeholders’ (i.e. government agencies and insurance companies)
- Survey was administered in late 2018 with the assistance of Texas A&M Public Policy Research Institute (IRB Protocol #IRB2017-0784D).
- 267 respondents completed the survey, 70 incomplete responses removed, 197 responses reviewed for quality, and 185 included.

Results

Ease of Adoption and Workflow Disruption

Indicate your level of agreement with the following statements:
1. A healthcare provider could easily adopt an RPM system.
2. Adopting an RPM system would represent a major disruption to a healthcare provider’s daily work.

Knowledge about the Use of RPM

Rate your knowledge about RPM in the context of diabetes management and heart disease management.

Costs and Financial Benefits

Indicate your level of agreement with the following statements:
1. RPM technology is costly for providers.
2. A healthcare provider will benefit financially from the implementation of an RPM system.

Physician-Patient Relationship

(1) Rate how helpful you think RPM would be to enhance doctor-patient case management relationship.
(2) Indicate your level of agreement with the following statement: A healthcare provider would trust that patients will follow medical recommendations communicated through the RPM system.

Data Representation

- Healthcare providers showed a preference for receiving RPM data in table/chart format or in picture/graph format.

Conclusion

- While healthcare providers showed optimism about the impact of RPMs on patient-physician relationship, they were apprehensive about the ease of adoption of RPM systems and the consequent disruption to clinical workflow, with cost of adoption being perceived as a major factor contributing to such apprehension.
- Future research endeavors should be directed towards using the collected perspectives and preferences to develop protocols for RPM integration into clinical workflow.

Acknowledgements / References

This work is sponsored by NSF ERC Precise Advanced Technologies and Health Systems focused on Underserved Communities (PATHS-UP).