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

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PATHS-UP
Precise Advanced Technologies and Health Systems for Underserved Populations

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

Diabetes

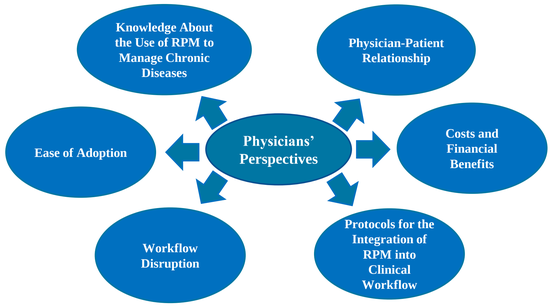
- 7th leading cause of death in the U.S. in 2015 [3]
- Prevalence: ~9.4% of the U.S. population [3]

- 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.

Insurance Company **n=59**

Government **n=63**

Healthcare Providers **n=63**

Focus of this analysis!!!

Relevant Insights

- Healthcare providers' responses were neutral and apprehensive about ***ease of adoption*** and potential ***workflow disruption*** due to RPM systems.
- Healthcare providers with ***more knowledge about RPM for chronic diseases perceived adoption to be easier.***
- Healthcare providers ***agreed that adopting RPM technology would be costly*** for providers.
- Healthcare providers responses showed to be ***less optimistic regarding the financial benefits*** they would receive from adopting an RPM system.
- Interviews with physicians in South Texas revealed a large degree of perceived ***uncertainty related to reimbursement*** for RPMs.

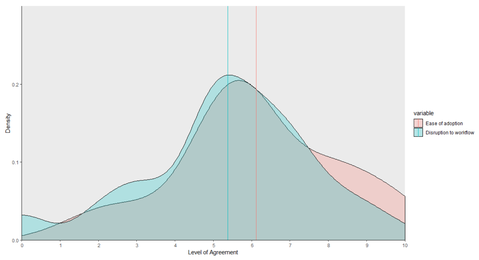
> *"I don't think we should have insurance doing it"* (HP3)
> *"I don't think they (private insurance) are going to pay effectively…need to fight them to get reimbursed"* (HP4)
> *"Private insurance…because it's been pretty reliable"* (HP6)
> *"That is in a state of flux…the rules are still being written"* (HP2)

- Healthcare providers showed a positive opinion regarding the benefit of telemedicine to ***enhance the physician-patient relationship*** in underserved communities.

Results

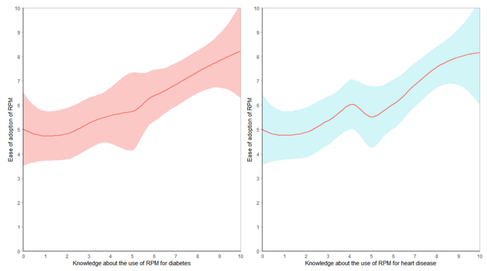
Ease of Adoption and Workflow Disruption

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.



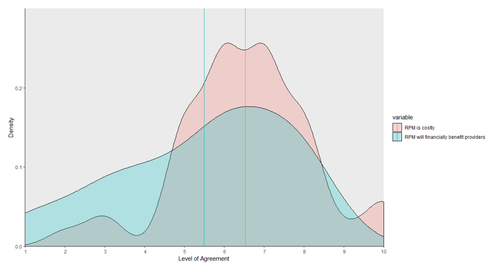
Knowledge about the Use of RPM

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



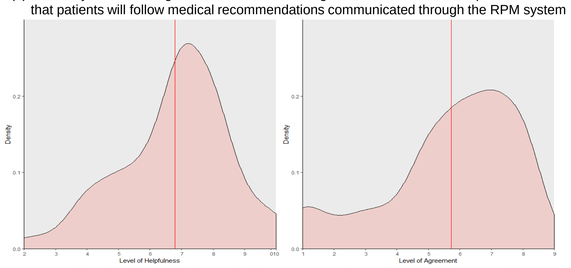
Costs and Financial Benefits

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 will trust that patients will follow medical recommendations communicated through the RPM system



RPMs enhance patient-physician relationship | **Patient will follow medical recommendations through RPM**

Developing protocols for RPM integration into clinical workflow requires a better understanding of healthcare providers preferences about:

Time Allocation for RPM Review

- Healthcare providers expect to ***spend 30% or less*** of their working time reviewing RPM data notifications.

Data Receipt

- Healthcare providers showed a preference to receive RPM communications ***at the beginning of the work day***.

Data Communication

- Healthcare providers showed a preference for ***email*** and ***telehealth computer systems*** as ways to receive patients' RPM data.

Data Representation

- Healthcare providers showed a preference for receiving the 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

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[1] "About Chronic Diseases | CDC," National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). https://www.cdc.gov/chronicdisease/about/index.htm.

[2] "Heart Disease Facts & Statistics | cdc.gov," Heart Disease. https://www.cdc.gov/heartdisease/facts.htm.

[3] "National Diabetes Statistics Report, 2017," National Center for Chronic Disease Prevention and Health Promotion.

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