

# BENEFITS AND BARRIERS FOR ADOPTION OF PERSONAL HEALTH RECORDS

---

Brent Tomblin

Brittany Vance

Jana Studeny

Alberto Coustasse



# Introduction

- An electronic, universally available, lifelong resource of health information maintained by individuals
- Separate from Electronic Medical Record
- Important points to know about a PHR
  - Readily accessible and accurate health information
  - Control over how health information is accessed, used, & disclosed
  - Does not normally replace legal medical record of any provider

# Introduction

- There are three main electronic architectures:
  - Tethered: linked to provider and is not interoperable
  - Integrated: connected to provider's EHR and is interoperable
  - Standalone: maintained by patient or third party and is not interoperable
- IT private sector has released Web-based portals such as, Microsoft HealthVault  
<https://www.healthvault.com/us/en/overview>

# Introduction

- ARRA includes actions to modernize the country's infrastructure, including HITECH Act.
- HITECH Act supports the concept of Meaningful Use
- Meaningful Use is the set of standards defined by CMS that governs the use of EHRs and offers incentive payments – 3 stages
  - Stage 1 of Meaningful Use: PHR adoption is optional
  - Stage 2 of Meaningful Use: PHR adoption is mandated

# Introduction

- **BENEFITS**

- Increased patient empowerment
- Improved patient-provider relationships
- Enhanced care safety, quality, efficiency, and coordination

- **IMPLEMENTATION BARRIERS**

- Privacy
- Security
- Cost
- Adoption issues

# Research Purpose

- The purpose of this research was to determine how the use of PHRs affects patient outcomes, as well as to analyze the benefits and barriers of adoption or use of PHRs.

# Methodology

- Primary Hypothesis: the use of PHRs will increase consumer empowerment and involvement in care.
- Secondary Hypothesis: security and privacy concerns will hinder the adoption of PHRs.
- Key Phrases: 'Personal Health Record' or 'PHR' and 'use' or 'utilization' or 'adoption' or 'benefits' or 'barriers'
- Articles published between 2005 & 2013 in English and viewed 74 references but used only 48

# Methodology – Conceptual Framework

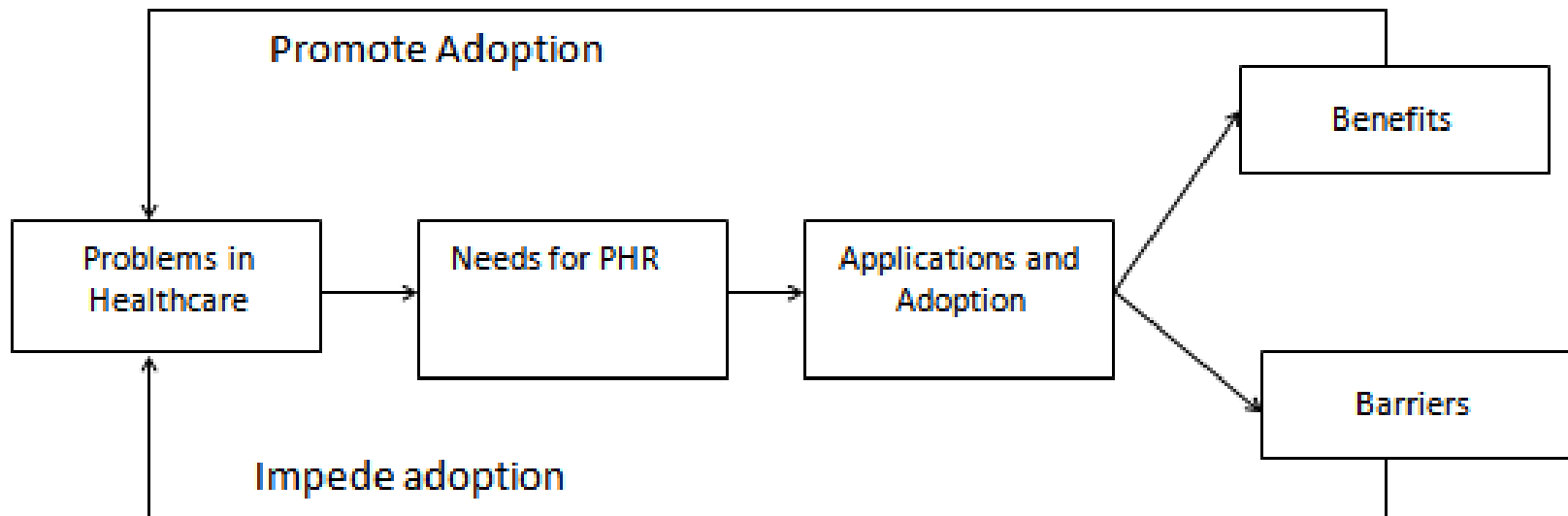


Figure 1: Research Framework: Use of PHRs



# Results – Usage of PHRs

- Research conducted by Forsyth, Maddock, Iedema, and Lassere in 2009
  - Patients who were currently active in decision making about their own health already recorded some health information
  - Patients were receptive to carrying their information and thought it important to take some responsibility for their health.
  - Patients who were passive did not perceive a need to carry their own information and felt that doctors communicated adequately

# Results – Usage of PHRs

- Hickner, Jain, Nowacki, and Tenforde (2012) found that
  - PHR users were younger
  - Had higher incomes and educational attainment
  - More likely to identify as non-Hispanic whites
  - Patients with chronic illnesses and those with lower-than-average income and education were more likely to report benefiting from PHR

# Results – Usage of PHRs

- A survey conducted by Barron, Dhopeswarkar, Edwards, Kaushal, and Sparenborg found the following methods of sharing medical records as essential or important:
  - Safeguards against unauthorized viewing
  - The ability to review who viewed their data
  - The ability to select which parts of their medical record was shared
  - The ability to opt out of information being shared electronically

# Results – Usage of PHRs

- The survey also found that consumers significantly more likely to potentially use PHRs:
  - Reported sharing personal information over the internet (making purchases or paying bills online)
  - Had experience doing health-care related activities online
  - Believed PHRs would improve security and privacy of their medical information and improve quality and/or safety of their care
  - Considered easy to use websites important for online health services
  - Were college educated

# Results – Usage of PHRs

- Most people do not enjoy spending time pondering illness, infirmity, and mortality, even when doing so might be beneficial to them
- Many physicians are willing to use PHRs, but doctors differ by location, gender, and practice
- Physicians Unlikely to Use PHRs:
  - Women
  - Suburban physicians
  - Higher-volume practices
  - Serving higher numbers of minorities and Medicaid Patients

# Results-Usage of PHRs

- Physicians Likely to Use PHRs:
  - Obstetricians
  - Surgeons
  - Psychiatrists
  - Internal medical graduates
  - Minority physicians
  - Those with experience using an electronic health record
  - Group-practice physicians
  - Hospital-employed physicians
  - Rural physicians

# Results – Adoption Barriers

- Privacy, security concerns, costs, integrity, accountability, and health literacy
- Patients can access PHRs free of cost
  - Provider tethered & third party systems could range from a loss of \$29 billion to savings of \$11 billion to U.S. healthcare system (Kaelber, et al, 2008)
  - Cost to install existing provider tethered could exceed \$130 billion (Kaelber, et al, 2008)
  - Provider tethered annual costs are \$43 billion with 59,000 users (Kaelber, et al, 2008)

# Results – Adoption Barriers

- Confidentiality and Security Breaches
  - not all parties interested in PHRs have legal or ethical obligations to respect patient privacy
- Accountability
  - Debate regarding the degree to which individuals should be able to control this access
- Health Literacy – a patient’s ability to understand materials provided by physicians or other providers
  - Those with low health literacy may not be able to take advantage of PHRs
- Non-Hispanic Blacks and Hispanics have adopted PHRs less frequently



# Discussion

- PHRs are currently facing numerous adoption barriers, but once these barriers are overcome then the healthcare system could see significant benefits.
- Patient involvement and empowerment
- Improved consumer adoption
  - Expand PHRs' functionality
  - Establish standards for PHR information
  - Facilitate the secure exchange of health information
  - Improve consumers' access to PHRs
  - Help consumer improve their understanding

# Discussion

- Many providers have yet to adopt electronic record-keeping
  - Concerns with privacy and cost have created this logjam
- Potential cost savings of \$13 - \$21 billion to US health system (Kaelber & Pan, 2008).
- Physicians are hesitant to trust the integrity of the information in a PHR, but rely on the same information given verbally

# Discussion

- Limitations
  - Heterogeneous quality of literature
  - Research bias
  - Publication bias
  - Abundance of information
  - Limited time
- Implications
  - Protection of online health information
  - Ownership lie with the consumer
  - Approval of patients
  - Portability
  - Understandable

# Conclusion

- With health information technology on the rise, personal health records are one among many sources that store health information electronically.
- Personal health records put control in the consumer's hands and provide patients with autonomy and empowerment.
- Total implementation will occur when patients and providers feel that the information is safe, accurate, and reliable.

---

QUESTIONS?

---