The Role of Technology in Improving the Health of Older Adults

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Purpose As the population of the United States ages, the demand for more efficient, effective patient care increases. To consistently care for older adults, we need readily accessible, patient-centered information and knowledge. Increasingly, Health Information Technology (HIT) is highlighted as a solution to the growing needs of older adults. However, the potential of these systems still has to be realized. This paper explores HIT's use and offers possible solutions to current barriers in dissemination.

METHODS. A literature search was conducted to identify scientific thought on HIT use for the benefit of older adults. Selected summaries of these texts are included in this paper. Additionally, a nine question survey was developed to measure current thought on HIT and the health of older adults and interviews were completed. The authors summarized these findings using constant comparative methods.

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PRINCIPAL FINDINGS

Opportunities were found for carefully applied HIT with appropriate organization and workflow to 1) improve chronic care management through better coordination of care and empowerment of patients to manage their own health; 2) detect and address functional decline earlier; and 3) avoid harm from conflicting medical recommendations and from preventable illnesses. (See models, below). However, participants and the literature showed a number of barriers related to achieving these successes for older adults

First, a number of commonly held **conceptions** were compared to the **reality** seen in HIT implementation.

Conception	Reality
There is a clear case for all HIT use from the clinical literature.	HIT that considers the needs, the complexity, and the workflow of care is quite successful.
Most HIT implementations are successful.	More than half fail to achieve primary objectives (quality, efficiency), especially for vulnerable populations like older adults
One of the primary benefits of HIT use is the accessibility of data.	… Only within the health system it was generated, due to legal, privacy, and (least of all) technical constraints
Since HIT has been a focus for several years, most providers use electronic health records (EHRs)	29% of ambulatory providers have EHRs; < 20% of hospitals use advanced EHR
Older adults don't want or like technology	As baby boomers age, the expertise and demand for technology has grown immensely
There is a huge "digital divide" (availability and expertise of HIT) for older adults	

Survey Questions

1. Describe your primary role with health information technology (user, developer, forecaster, analyst, planner, catalyst, other - explain):
2. What summary reports or trend analyses do you rely on for understanding or forecasting the role of technology for the health of older adults (provide links, if possible)?
3. What are your thoughts for the use of health information technology to promote healthy aging? Electronic Health Records? Personal Health Records? Other devices?
4. What evidence is there for use by providers, by older adults, or others? Are there any major reports you rely on for your evidence?
5. What trends do you see in the use of health information technology for healthy aging in the next 5 years?
6. What is the current business environment for the use of health information technology?
7. What gaps do you see between the promise of HIT and actual development and use in the next 5 years? What are barriers? What might help fill these gaps?
8. Why would a business want to invest in HIT for healthy aging?
9. WHAT ROLE CAN A FOUNDATION PLAY IN FACILITATING HIT USE/ACCESS?

Definition of Health Information Technology (HIT) for the study

An ***Electronic Health Record*** is a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting.

A ***Personal Health Record*** is a health record that is initiated and maintained by an individual (and usually about themselves).

Other Health Information Technology exists: online forum (e.g., online Chronic Disease Self-Management Program), monitors in Smart Houses, interactive websites, informational websites, etc.

Then, 5 Gaps were consolidated and recommendations generated

Gap	Recommendations
1. The ***EVIDENCE*** for what and how to implement health information technology for older adults is expanding.	Expect any testable model or program to use and evaluate appropriate HIT; support generalizable studies in IT use specific for older adults;
2. We need to ***ENHANCE*** Electronic Health Records (EHRs) and Personal Health Records (PHRs) to better manage the health of older adults.	Providers/Patients (Purchasers of HIT): Develop best practices for building EHRs/PHRs for older adults and spread to user community.
3. MODELS (systems) OF CARE help dissemination and implementation of HIT for older adults.	Funding for discovery and demonstration of best practices around implementation; ask for technology assessment. http://www.nlm.nih.gov/nichsr/hta101/ta101_c1.html
4. Although information is more ***AVAILABLE*** from HIT, it is not ***SHARED***.	Create live examples for demonstration of sharing information crucial to the care of an older adult (e.g., PHR data across sites of care to EHR for frail elders to avoid transition errors).
5. CLINICIAN DEMAND for these technologies is constrained by two major factors: 1) Investment hurdle; and 2) reimbursement limitations.	Payers: Reimbursement models for IT use, for models of care (involving IT), and/or reporting metrics that encompass both; Funders: enhance efforts by assisting in modifications / making the case for older adults
(Not a gap now ...)**Older adult demand is increasing but is still 'in process'**	Create value-driven projects that use existing technology but seek to understand and overcome the barriers for older adults to use and benefit from the technology.

Detail on **Models and HIT**

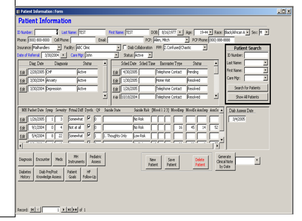
Model (author)	HIT description
Care Transitions (Coleman)	PHR filled out by patients and transition coaches
IMPACT (Unutzer)	Supplemental depression care management system linking geropsychiatrist with primary care
Care Management Plus (Dorr, Brunker)	Supplemental Care Management Tracking system; Summarized worksheet; Algorithms for care
VA QUERI (TIDES, CHIACC, MINT)*	Supplemental population system with tracking
Guided Care (Boult)	Supplemental HIT system created; training focuses on use of HIT
GRACE (Counsell)	Generate reports from large, highly functional EHR for review by team

Example of Tools

Prioritize healthcare needs and organize work:

Care Manager Tracking Tool

- stand alone or integrate into EHR
- documentation of Care Manager work
- integration of decision support tools
- team communication
- tickler list



CONCLUSION

The use of HIT to support the health of older adults has a viable and promising future. Redesigning care requires new models and new reimbursement and HIT should work with these components.