

Challenges to integrating technology in healthcare settings

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Emerging Models of Health Services Delivery

The *timely exchange* of critical client level data or information underlies evidence-based healthcare. That data/information is collected by technology and healthcare providers

Timely data exchange/sharing (shared decision-making) is essential to support:

Patient Centered Medical Home (PCMH)

<http://pcmh.ahrq.gov/>

Accountable Care Organization (ACO)

<http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/index.html>

Information Exchange in Healthcare

E.g. 2013/14 data Emergency Room/Department admissions (Medicaid only)

- 75% of patients (n=4500) visited Emergency Rooms TEN times or more have:
 - Multiple chronic conditions (~3.5 conditions)
 - Charlson* comorbidity index of >3.5 as opposed to a score of 1 for those making a single ER/ED visit
 - Mental health and substance use issues (70%)
- *<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3677715/>

Transition of Care (ToC)

The movement of a patient from one setting of care (hospital, ambulatory primary care practice, ambulatory specialty care practice, long term care, home health, rehabilitation facility) to another.

http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/8_Transition_of_Care_Summary.pdf

Care coordination (CC)

"...deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services."

Agency for Healthcare Research and Quality

<http://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/index.html>

Why data/information exchange?

- A sharper focus on "Outcomes"
- Risk profiling - clinical data essential (Population health management)
- Avoid duplication of tests/procedures
- Present on Admission Indicators
- Medication history and reconciliation

Modes of Data Exchanges

Traditional e.g., faxes, paper files

Electronic e.g. portals, HIPPA compliant wireless messages

Health Information Exchange

Exchange of CCDAs - structured formatted data amongst healthcare providers

Beneficiaries of data exchange

- Patients: Safety - think of duplication of X-rays; med history checks, or flu/tetanus shots; Redundant paper forms.
- Healthcare Providers: Prescriptions - Drug-to-drug interactions; knowledge of comorbidities; ER visit history; Better tracking for waste and fraud; Informatics.
- Insurers - Healthcare delivery costs reduced and improved efficiencies. Facilitate greater innovation

Technology

- Electronic Health Records - incentivized 8500 providers/hospitals across the state - \$800m; Associated with *Meaningful Use Measures*

EHRs and EMRs now available in most health care settings; source of structured, formatted data from healthcare settings

- Invested \$28m in Health Information Exchanges (HIE) to set up a federated model based on 16 HIEs initially but now down to about 6

Very limited data exchange

Data exchange - Reality

- Managed Care Organizations Survey conducted May 2015
 - access to prescription history (26%)
 - access to clinical data (21%)
 - facilitate sharing of clinical data among your providers (16%)
 - receive ADT (admission, discharge and transfer) feeds (26%)
 - participation in HIE (negligible)

Challenges to Information Exchange-I

Grouped into three sets of factors:

I. Organizations

- leadership and vision
- incentives and costs (competitive environment)
- processes - physical to work flow
- policies and protocols (governance)
- Informatics and analytical capabilities

Challenges to Information Exchange-II

II. Standards - technical issues

- interoperability standards
- interfaces
- market driven factors

Challenges to Information Exchange-III

III. People

- human capital development
- cultural - changes in behavior needed to integrate technology into work flow
- patient engagement

Key Conclusions and Take-Aways

- Challenges remain in integrating technology and healthcare.
- The paradigm shift to an information based healthcare is incomplete
- Transitions are rocky - a vision, persistence and patience are key ingredients
- More effort need to put into outreach and training - human capital development
- Patient engagement is a key factor
- Keep an eye on Medicare, which will serve all of us

Questions



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