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Health Information Technology - An Introduction

Overview

Health information technology (health IT) is a key element in enabling innovative care delivery and health care reform initiatives. Broadly defined, health IT refers to hardware and software, including electronic information systems, used to create, store, transmit, receive and analyze health information.[1] Health IT generally consists of the three components: electronic health records (EHRs), health information exchange (HIE), and telehealth. Widespread use of health IT can help improve quality of patient care, reduce medical errors, and achieve cost savings through greater efficiency.

EHR

An EHR is a digital version of a patient's paper medical chart. EHR systems are built to go beyond standard clinical data collected in a provider's office and can be inclusive of a broader view of a patient's care. For example, EHR systems can:

- Identify potential medication interactions and allergy alerts;
- Allow access to evidence-based tools that providers can use to make decisions about patient care; and
- Streamline provider workflows.

One key feature of an EHR is that health information can be created and managed by authorized providers in a format that in some cases, can be shared electronically with other treating providers across different care settings.[2]

Adoption

EHR adoption among Maryland hospitals and ambulatory providers is sightly higher than national adoption rates.

EHR Adoption	Hospitals %	Physicians %
Maryland[3]	100	64
National[4]	97	54

Health Information Exchange

The goal of HIE is to make health information more accessible during care delivery, leading to more informed treament decisions that can improve health outcomes. Key benefits of HIE include:

- Easier access to clinical data;
- Better communication between hospitals, laboratories, pharmacies, phsyician offices, and long-term care facilities;
- Improved care coordination limiting redundant or unneccesary testing; and
- Improved public health reporting and monitoring.

State-Designated HIE

The Chesapeake Regional Information System for our Patients (CRISP) is Maryland's State-Designated HIE. CRISP offers a variety of services for health care professionals across different care settings. For example, the CRISP Query Portal allows authorized users to access patient health information including demographics, laboratory results, radiology reports, discharge summaries, operative and consult notes, and prescription drug fill history.

Data submitted to CRISP from hospitals and other provider types connected to the HIE is used to generate automatic secure email alerts to providers when one of their patients has an encounter at a Maryland hospital. CRISP also makes available via its Query Portal information from the Maryland Prescription Drug Montioring Program (PDMP). The PDMP monitors the prescribing and dispensing of drugs that contain controlled dangerous substances, which assists prescribers with reducing non-medical use of prescription drugs.

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[1] The Office of the National Coordinator for Health Information Technology (ONC).
[2] ONC, www.healthit.gov/providers-professionals/faqs/what-electronic-health-record-ehr.
[3] Hospital data from the 2014 MHCC Hospital Health IT Assessment; physician is preliminary data from the 2014 Maryland Board of Physicians reflecting office-based physicians.

[4] Hospital data from the ONC Data Brief, *Adoption of Electronic Health Record Systems among U.S. Non-Federal Acute Care Hospitals: 2008-2014*, April 2015. Physician data from the Centers for Medicare and Medicaid Services EHR Incentive Program data, December 2014.

All 47 acute care hospitals in Maryland are submitting data to CRISP on patient admissions, discharges and transfers (ADT). In addition to ADT information, hospitals share laboratory, radiology, and transcribed (i.e. clinical summaries) reports. In April 2014, hospitals began sending continuity of care documents (CCDs) to CRISP.[5] A CCD consolidates a patient's clinical information into an electronic summary that can be shared among providers and integrated into an EHR.

Hospital Data Submission to CRISP N=47		
Type of Data	**2013** %	**2014** %
ADT	100	100
Radiolgoy	76	98
Transcribed	72	94
Lbaoratory	67	89
CCDs	N/A	30

Telehealth

Telehealth is the delivery of health education and services using telecommunications and related technologies in coordination with health care professionals. Telehealth refers to both clinical and non-clinical services delivered remotely. Key benefits of telehealth can include:

- Improved access to care for patients via virtual audio/video consultations;

- Reduction in unnecessary admissions or readmissions through remote monitoring serivces that can measure vitals such as blood sugard, blood pressure, tempeture, etc; and

- Avoidance of unnecessary transfers to another facility when a remote specialist can determine if the patient's best care option is to stay local.

Adoption

Use of telehealth is widely fragmented. Approximately 64 percent of hospitals in Maryland have implemented telehealth in certain care settings.[6] Nationally, about 52 percent of hospitals have adopted telehealth, and about 10 percent report implementing telehealth.[7] Physician use of telehealth is much lower at about 10 percent.

Want to Learn More?

The following resources provide more information about health IT:

- American Health Information Management Association: ahima.org

- American Medical Association, Health IT: ama-assn.org/ama/pub/advocacy/topics/health-information-technology

- American Telemedicine Association: americantelemed.org

- Certified Health IT Product List: oncchpl.force.com/ehrcert?q=CHPL

- CRISP: crisphealth.org/
  - Maryland Regional Extension Center: crisphealth.org/FOR-PROVIDERS/Regional-Extension-Center

- Federal Health Information Privacy: hhs.gov/ocr/privacy

- Federal Health IT Websites:
  - The Office of the National Coordinator for Health Information Technology: healthit.gov
  - Dashboard of Health IT Adoption: dashboard.healthit.gov
  - Healthcare Information Management and Systems Society (HIMSS): himss.org

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[5] CCD is an electronic document exchange standard that allows for the sharing of patient summary information, such as diagnosis and conditions, by health information systems (e.g. EHRs).

[6] MHCC, *Health IT Adoption, An Assessment of Maryland Acute Care Hospitals*, March 2016. Available at:

mhcc.maryland.gov/mhcc/pages/hit/hit/documents/HIT_Hosp_HealthIT_Assess_MD_Rpt_201603%20(2).pdf.

[7] American Hospital Association, *The Promise of Telehealth For Hospitals, Health Systems and Their Communities*, January 2015. Available at: www.aha.org/research/reports/tw/15jan-tw-telehealth.pdf.