HEALTH INFORMATION TECHNOLOGY: AN EVOLVING ECOSYSTEM

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The Spectrum of Health IT

- Software and programs that record patient data
  - Electronic Health Records (EHRs)
  - Clinical registries
  - Health-related databases (e.g., SDH, research, PH)
- Platforms that allow data and information to be shared across disparate health information systems or providers
  - Exchanges
  - EHR vendor
- Warehouses that collect, normalize, and analyze health data
  - Internally developed platforms
  - Vendored
- Communication technologies (telehealth)
  - Interactive audio-visual
  - Asynchronous
  - Remote monitoring devices
  - Robotics
  - mHealth (e.g., apps, texts, avatars)

Federal Health IT Support: A 2 Billion+ Investment

Goal: Generate and use digital health data to meet the Triple (Quadruple) Aim of better patient experience of care, both quality and satisfaction; smarter use of health care resources with more cost-efficient care; and a healthier population (while improving the work environment of the nation's clinicians.)

The Promise of Health IT I: Access to Comprehensive Patient Data

- Decrease fragmented care
- Eliminate gaps in appropriate care
- Decrease duplicative services
- Minimize adverse outcomes associated with lack of data

Through the development of

- Decision support mechanisms
- Risk assessment tools
- Care coordination programs sharing data
- Notification services

But…

- Clinical data are mostly limited to provider site/system of care or vendor's clients
- Limited access at point of care to data from other health systems; on SDH, costs of care, and details of insurance coverage; and patient-generated data
- Behavioral Health - especially related to substance use disorders - may not be included
- Community based services (including LTPAC facilities not part of a provider system) or data from virtual care are generally not included

Data/Information Access: The Future

- Significant emphasis on structured data and interoperability of systems
- Evolution of privacy technology and policy
- Interoperability of apps and EHRs
- Enhanced communication strategies
- Reimbursement structures that depend on or demand better access to and use of health data

The Promise of Health IT II: Performance Measurement

IOM's characteristics of a quality healthcare:

- Safe
- Timely
- Effective
- Efficient
- Equitable
- Takes patient preferences into account at the structure, process, and outcomes levels

But…

- CMS has over 1,000 " clinical quality measures," few directly obtainable from EHRs (eCQMs)
- Most clinicians only focus on a handful
- Patients generally not interested in filling out "satisfaction" surveys
- Most measures are processes associated with effectiveness: few assess clinical outcomes, fewer patient-oriented outcome or functional measures
- Measures may not be appropriately risk adjusted
- Measures may not reflect provider control
- Each payer has its own specifications for a given measure
- Each payer requires different reporting mechanisms
- Documentation for measurement purposes can be administratively burdensome

Performance Measurement: The Future

- Strong emphasis on development of quality of care outcome measures appropriate for both provider type and patients
- Increasing emphasis on measures derived from existing electronic sources
- Payer agreement on a standard set of measure specifications - yet to be implemented
- Recognition that SDH and environment heavily influence outcomes

Promise of Health IT III: Activated Patients

Access to their clinical information, engagement in shared decision making and in shared care planning thought to result in patients and consumers in control of their own health

Movement from doing things “to” our patients, through doing things “for” our patients, to working “with” our patients to meet common goals

But…

- Few patients access their providers' patient portals for clinical information
- Shared care plans and shared decision tools are still evolving
- Limited emphasis on patient-directed goals
- Use of virtual/mHealth services by delivery system is still limited
- Google, YouTube dominate

Activated Patients: The Future

Telehealth

- Interactive audio-visual for direct care, case conferencing, assessing home environments
- Asynchronous for triaging, consults
- Remote monitoring devices for care management and diagnoses
- Robotics – direct care, dispensing controlled meds
- mHealth – apps, texts, avatars

The Promise of Health IT IV: Creation of a Learning Network

Support for clinical research, precision medicine, public health, and national resource planning

- Still in infancy
- Multiple pilots in progress
- Supportive legislation (HITECH, MACRA, 21st Century Cures)
- Increasing availability of new forms of data (e.g., genomics)
- Ongoing policy and technical work to address privacy and security issues

Forces Driving HIT Evolution

1. Patient demand -- particularly with the plethora of insurance products currently available and also for virtual care
2. Improving technologies -- Certified EHRs must soon be able to interface with apps per the 21st Century Cures Act
3. Changing Reimbursement structures
   - ACA shared savings and ACO models
   - MACRA -- the MIPS and APM sections of CMS' Quality Payment Program
   - Commercial payers' VBP arrangements

The Future

More and more data/information available

Increased access to available data
- Patient-generated
- Genomic
- SDH, environmental, research, etc

Increased emphasis on outcomes
- Clinical parameters
- Patient reported outcomes
- Population metrics

Increased demand for all types of telehealth modalities

Preparing for the Future

1. Carefully assess the advantages and challenges of the EHR/HIT system that you are currently using
2. When moving to another setting, assure that the organizations goals, financial structure, and HIT strategy are aligned and will meet your needs
3. Strive to be innovative, especially with respect to improving patient care through assessing outcomes