Session: 28 - Community-based Care Coordination by Harnessing Health IT
Session Date: Monday, March 04, 2013 - Session Time: 11:00 AM - 12:00 PM
Room: 268- Ernest N Morial CC

Southeast Minnesota Beacon Community
Harnessing Health IT From a Community Perspective

DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.
Speaker Bios

Christopher G. Chute, M.D., Dr.P.H.

Mayo Clinic, Health Sciences Research
Professor of Medical Informatics
Associate Professor of Epidemiology
Principal Investigator, SE MN Beacon & SHARP

Lacey A. Hart, MBA, PMP®

Mayo Clinic, Science of Healthcare Delivery
Director, Project Management Office
Program Manager, SE MN Beacon & SHARP
Conflict of Interest Disclosure

Christopher G. Chute, M.D., Dr.P.H.
Lacey A. Hart, MBA, PMP®

Has no real or apparent conflicts of interest to report.
Learning Objectives

• Propose the technology infrastructure required to analyze, track and measure clinical, financial and patient experience outcomes
• Describe an iterative approach to clinical process improvement and outcomes measurement
• Outline how to organize and build permanent, integrated teams composed of clinicians, technologists, analysts and quality improvement personnel to drive adoption of evidence-based medicine and superior outcomes
• Define the key factors to developing a sustainable and effective partnership between clinical and IT and why a clinically-led approach delivers buy-in and overall organizational value most quickly
The Beacon Community Program: Where HITECH Comes to Life

- Regional extension centers
- Workforce training
- Medicare and Medicaid incentives and penalties
- State grants for health information exchange
- Standards and certification framework
- Privacy and security framework

BEACON

Adoption of EHRs
Meaningful use of EHRs
Exchange of health information
Research to enhance HIT

Improved individual and population health outcomes
Increased transparency and efficiency
Improved ability to study and improve care delivery

Taken from: Blumenthal, D. “Launching HITECH,” posted by the NEJM on 12-30-2009.
Beacon Community Aims

17 grantees each funded ~$12-15M over 3 yrs to:

**Build and strengthen** health IT infrastructure and exchange capabilities - positioning each community to pursue a new level of sustainable health care quality and efficiency over the coming years.

**Improve** cost, quality, and population health - *translating investments in health IT in the short run to measureable improvements in the 3-part aim.*

**Test innovative approaches** to performance measurement, technology integration, and care delivery - *accelerating evidence generation for new approaches.*
Community of Practice focusing upon delivering High-value community-based care delivery model

11 Counties & Local Public Health Depts.
47 School Districts
- Allina
- Olmsted Medical Center
- Mayo Clinic
- Mayo Clinic Health System
- Winona Health
Communities of Practice

- Allina Health
- Mayo Clinic Health System
- Mayo Clinic
- Olmsted Medical Center
- Winona Health

11 Public Health Departments
Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, Winona

147 school districts in the 11 counties in SE MN
Home health facilities and nursing homes

3 Levels of Exchange Partners

- Valuable Health Data
- Robust Infrastructure Capacity
- Meaningful Use Funding

- Valuable Health Data
- Limited Infrastructure Capacity
- No Meaningful Use Funding

- Valuable Health Data
- Limited Infrastructure Capacity
- No Meaningful Use Funding

transforming healthcare through IT™
Ensuring the values and preferences of informed patients are brought into our program through meaningful conversation.

Guiding Values

The SE Minnesota Beacon challenges the traditional healthcare models in our nation from provider centric to **patient-centric and community driven**. This commitment is woven into the very fabric of each project in our program.
Beacon Community Aims

**Build and strengthen** health IT infrastructure and exchange capabilities - positioning each community to pursue a new level of sustainable health care quality and efficiency over the coming years.

**Improve** cost, quality, and population health - translating investments in health IT in the short run to measureable improvements in the 3-part aim.

**Test innovative approaches** to performance measurement, technology integration, and care delivery - accelerating evidence generation for new approaches.
Peer – to – Peer HIE

Generate

EMR 1
EMR 2
EMR X

Generate a CCD Based on Request From Other EMR

Exchange

Data use Agreements
Secure Exchange
Reliable Network

Nationwide Health Information Network-Compliant Protocols

View

Recipient Views CCD in Own EMR

Parse & Consume

Recipient EMR parses and consumes information from transmitted CCD into discrete data fields – enabling efficient, clinician-friendly transitions, resulting in better care.

Result: Improved Outcomes in Transitions of Care
Network Collaboration

SE Minnesota BEACON

- OMC
- MCR
- MCHS
- WHS
- Allina

Mayo’s HIE Document Exchange Network

Care Connectivity Consortium

- Intermountain Healthcare
- Geisinger
- Kaiser Permanente
- Group Health

Document Exchange via NwHIN Standards-Based Software

School Portal Access
- Portal System

Public Health Case Management
- PH-DOC Systems

SE MN Beacon CDR Regenstrief

11 CONNECT Implementations
Parsing, Consumption and Reconciliation of Medication Information into PH-Doc

County PH requests PCP CCD
County PH Parses and consumes CCD

Structured Data written to Database

CCD saved as PDF onto File Server

Message to User – CCD ready to view and consume

Database Server

File Server

Message Server

“PH-Doc” (PH EHR) Application Server

Medication Reconciliation
Transitions of Care

Live, consented CDA/HL-7 message to Provider(s) with patient and case manager demographics

Patient Admitted

Patient correlation occurs via live ADT registration feed

No match

Patient match triggers alerts

Hospital Staff Alerted

Push Alert to LPH Case Manager

Push Alert to Mental Health Case Manager

All Case Managers collaborate on discharge planning to reduce readmissions and improve health outcomes. Achieved through community-based delivery model.
Clinical Data Repository
‘aka Community Data Repository’

- Hosted at Regenstrief Institute
- Site Clinical Repository
- Population Management
- Quality Measures Reporting
- Point of Care (Future Use)
CDR: Current Approved Use

- Quality Measure Reporting
- Population Management
- Research

i2b2 enables powerful search logic, including

Simple queries: 64,069 patients in <15 seconds
Complex queries: (A or ) and (c) HF or CAD and BP < 130: 21,927 patients in 10 seconds

CDR Database
- EMT queries database
- Database delivers record abstract w/key information

1. Patient
2. Patient is injured and is unconscious. EMT uses CareWeb to query database for patient info from ambulance
3. Provider sees additional information on hospital EHR
4. Patient receives informed care and recovers quickly

Data from patient's other providers also accessible to database

EMR 1
EMR 2
EMR X
Primary Care EMR

Primary Care Physician

EMR

PCP sees patient at local clinic.
PCP documents:
- Problem list (current diagnoses)
- Med list
- Med allergies
- Vitals
- Labs
- Demographics
- Etc.

In hospital, provider can use CareWeb to query further viewing more record details and additional records from specialists, to get more information about patient

Patient arrives at hospital in stable condition, since CDR provided essential information for proper care during transit

.transforming healthcare through II
Community Data Repository

Clinical Data Repository

Clinical Data

Patient Reported Outcomes/QOL

Medication Reconciliation

Social Determinants of Health
Minnesota Research Authorization (MRA)
Build and strengthen health IT infrastructure and exchange capabilities - positioning each community to pursue a new level of sustainable health care quality and efficiency over the coming years.

Improve cost, quality, and population health - translating investments in health IT in the short run to measureable improvements in the 3-part aim.

Test innovative approaches to performance measurement, technology integration, and care delivery - accelerating evidence generation for new approaches.
IT Enabled & Community based
‘Transitions of Care’
In-Reach Social Worker

Social Worker assesses client for barriers to appropriate ED utilization and works to reduce those barriers.

Query patients with 3+ ED visits over last 4 months.
Public Health Surveillance

Emergency Department #1

Emergency Department #2

Emergency Department #3

Clinical Data Repository

Daily Report on heat related illness within region’s Emergency Departments

transforming healthcare through IT™
School Portal
Exchange of Care Plans

CLINIC

DAILY FEED:
Encrypted ZIP files with 1+ Action Plans and PORTAL.CSV

MAILBOX: ATTN acknowledgements
MAILBOX: ATTN portal statistics
MAILBOX: ATTN Physician on Action Plan

S F T P (Flat file)

Olmsted County SFTP Server in DMZ
SFTP Server
ZIP files are inspected and cleansed

Internet

Olmsted County PH-Doc Server in LAN
ZIP files are processed and Action Plans stored

Email (no PHI)
Secure Email (PHI)

Olmsted County ZIX appliance for encrypting emails
Incident Reports
Plan expiring

Secure Email (PHI)
Beacon Community Aims

Build and strengthen health IT infrastructure and exchange capabilities - positioning each community to pursue a new level of sustainable health care quality and efficiency over the coming years.

Improve cost, quality, and population health - translating investments in health IT in the short run to measureable improvements in the 3-part aim.

Test innovative approaches to performance measurement, technology integration, and care delivery - accelerating evidence generation for new approaches.
Asthma ‘Cocoon of Care’
Care Coordination between parents, providers, public health & schools.

School Nurse Visit

Parental Involvement
- Authorizes: School to follow Care Plan and communicate with Physician
- Communicates via:
  - School Visits
  - School Calls
  - School Notes
  - Provider Visits
  - Provider Portal

Primary Care Physician Visit
Create a two-way conversation that enables patients to participate in making decisions to the extent they prefer.

http://webpages.charter.net/vmontori/Wiser_Choices_Program_Aids_Site/Diabetes_Choice_files/diabetes.html
Filling in Data Gaps – Patient Centric Data PRO QOL WEB TOOL

Please touch the picture that corresponds to your single biggest concern right now...

- Personal relationships
  - Family
  - Friends
- Monitoring health
  - Testing blood sugars
  - Checking feet
- Emotional health
  - Sad
  - Anxious
  - Other emotional concerns
- Money
  - Cost of medicine or supplies
  - Paying for care
- Health behaviors
  - Diet
  - Exercise
  - Sleep
- Medicine
  - Taking medication
  - Managing side effects
- Healthcare
  - Health insurance
  - Emergency/Urgent care
- Work
  - Schedule
  - Environment
  - Managing your health condition at work
- Physical health
  - Pain
  - Fatigue
  - Physical difficulties
- Something else

Have you recently had any of the following problems or concerns? (Check all that apply)

- Problems paying your medical bills
- Problems paying for all the care you needed
- Not maintaining health insurance
- Skipped a recommended test or treatment
- Not filled a prescription for a medication
- Cut pills in half or skipped doses of a medication
- Skipped dental, vision or mental health visits because of cost
- Put off or postponed getting health care
- Something else

Please check the number that describes your feelings over the past month from as bad as it can be to as good as it can be:

- Your overall quality of life:
- Your overall physical well being:
- Your overall emotional well being:

Your overall social interaction with other people (family, friends, or others):

Transforming healthcare through IT™
“It is about time we were asked about these things beyond just glucose & A1C levels.”
(Type I diabetes patient for over 30 years)
Synergistic Community Care

Patient comes in for PCP appointment

Patient admitted to a Mayo Clinic Hospital

Patient discharged from Hospital

PH case manager follows up in home care setting:
- Pulls CCDs
- Reconciles Medication
- Administers

Desk staff administer PROQOL

PCP reviews PROQOL uses Med Decision Aid for new med choices

Physician connects via peer-to-peer network & reviews CCD

transforming healthcare through IT™
Transitions of Care – Rural Telemed

Coordinator or Receptionist

Healthcare Provider

Virtual Appointment Room

Help Desk Agent

Telephone Bridge Participants

Patient/Nurse

Caretaker/Patient Guests

Participants

Patient Guests

Healthcare Provider

Caretaker/Patient Guests
Legal Considerations

• Business Associate Agreements between
  – Between or among Beacon participants
  – Beacon consortium and data repository

• Privacy Compliance:
  – Health Insurance Portability and Accountability Act (HIPAA)
  – Family Educational Rights and Privacy Act (FERPA)
  – Public Health Agency State Data Practices Act (DPA)

• Consent & Authorization Compliance:
  – Minnesota Standard Consent Form to Release Health Information
  – Minnesota Research Authorization statute
  – Federal protection of human subject research regulations

• Regional Exemption Obtained for State Certificate of Authority:
  – Health Information Exchange, Health Data Intermediary, Record locator service
Thank You!

Southeast Minnesota Beacon Program

http://semnbeacon.org

Welcome to Beacon

Beacon is a community-based program to spotlight a variety of “best practice” approaches to improving health and health care delivery in the United States. Funded by the U.S. Department of Health and Human Services, through the Office of the National Coordinator for Health Information Technology, the Beacon Communities [see the Beacon videos] are a series of medical practice and research coalitions focusing on specific health conditions in their areas and utilizing and developing efficient systems based on their foundational expertise.

Contact: hart.lacey@mayo.edu

DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.