Medication Reconciliation Hack-A-Thon

Welcome, Background, Goals and Methods

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Professor and Director Medical Informatics
Family Medicine – University of Connecticut SOM

OHS
CONNECTICUT
Office of Health Strategy

UCONN

Welcome UConn Health

Andrew Agwunobi MD – CEO of UConn Health

- John Dempsey Hospital
- University Medical Group
  - State-wide with PCP and Specialty care
- Education and Research as additional parts of mission
- Adopted EPIC 1 year ago
- Developing an advanced E-Health strategy
- Participating as a State Partner in HIE efforts and Use Cases
- Very interested in innovation to improve care delivery

UConn Health Vision / Mission

Vision

- UConn Health will be nationally recognized for improving the health of the citizens of Connecticut through innovative integration of research, education, and clinical care. To achieve this, UConn Health will:

Mission

- UConn Health is dedicated to helping people achieve and maintain healthy lives and restoring wellness/health to maximum attainable levels.

- In this quest, we will continuously enable students, professionals and agencies in promoting the health of Connecticut's citizens. We will consistently pursue excellence and innovation in the education of health professionals; the discovery, dissemination and utilization of new knowledge; the provision of patient care; and the promotion of wellness.

Welcome

Bruce Liang MD - Dean UConn School of Medicine

- 421 Medical Students
- 675 Resident physicians
- 567 Faculty

Vision - excellent care through *research, education, and engagement*

Mission is innovation, discovery, education and service

https://medicine.uconn.edu/about-us/

UConn SOM - Mission

University of Connecticut School of Medicine

The primary mission of the UConn School of Medicine is innovation, discovery, and education. The school trains the next generation of medical students, residents, specialty fellows, and clinical practitioners in an environment of exemplary patient care, research, and public service. The School of Medicine's mission is reflected in its programs, which incorporate four basic interrelated goals:

- to advance knowledge through basic, biomedical, clinical, translational, behavioral, and social research;
- to provide educational opportunities for Connecticut and U.S. residents pursuing careers in the patient care professions, education, public health, biomedical and/or behavioral sciences;
- to develop, demonstrate, and deliver health care services based on effectiveness, efficiency, and the application of the latest advances in clinical, translational and health care research;
- To help health care professionals maintain their competence through continuing education programs.

UCONN
SCHOOL OF MEDICINE

Welcome

Allan Hackney CISM, CRISC

- Health Information Technology Officer (HITO)

- Office of Health Strategy

- Health Information Exchange in CT

- How does a Hackathon help move us forward

OHS

Office of Health Strategy

The Office of Health Strategy (OHS) was created in 2017 and established in 2018 by a strong bipartisan effort of the CT General Assembly to forward high-quality, affordable, and accessible healthcare for all residents. The legislation re-organized existing state resources into one body, redeploying people and programs more efficiently, and centralizing health policymaking to advance the healthcare reform initiatives that will drive down healthcare costs; close Connecticut's deeply entrenched racial, economic, and gender health disparities, and undertake technology-driven modernization efforts throughout the system. OHS has a multitude of statutory and regulatory responsibilities including Health Systems Planning and the Certificate of Need program, the development of the state's Health Information Exchange, administering the All Payer Claims Database and Consumer Information Website, and initiatives to improve drug pricing transparency. The work of the Office of Health Strategy is funded, in part, by tens of millions of dollars in federal grants that are secured through a competitive process, positioning Connecticut as a leader in healthcare policy reform.

OHS collaborates with a variety of experts, consumers, and provider stakeholder groups to examine and address the barriers in Connecticut's health system—cost, access, and outcomes. A healthy population creates value for employers, is necessary for a strong economy, and is key to a high quality of life.
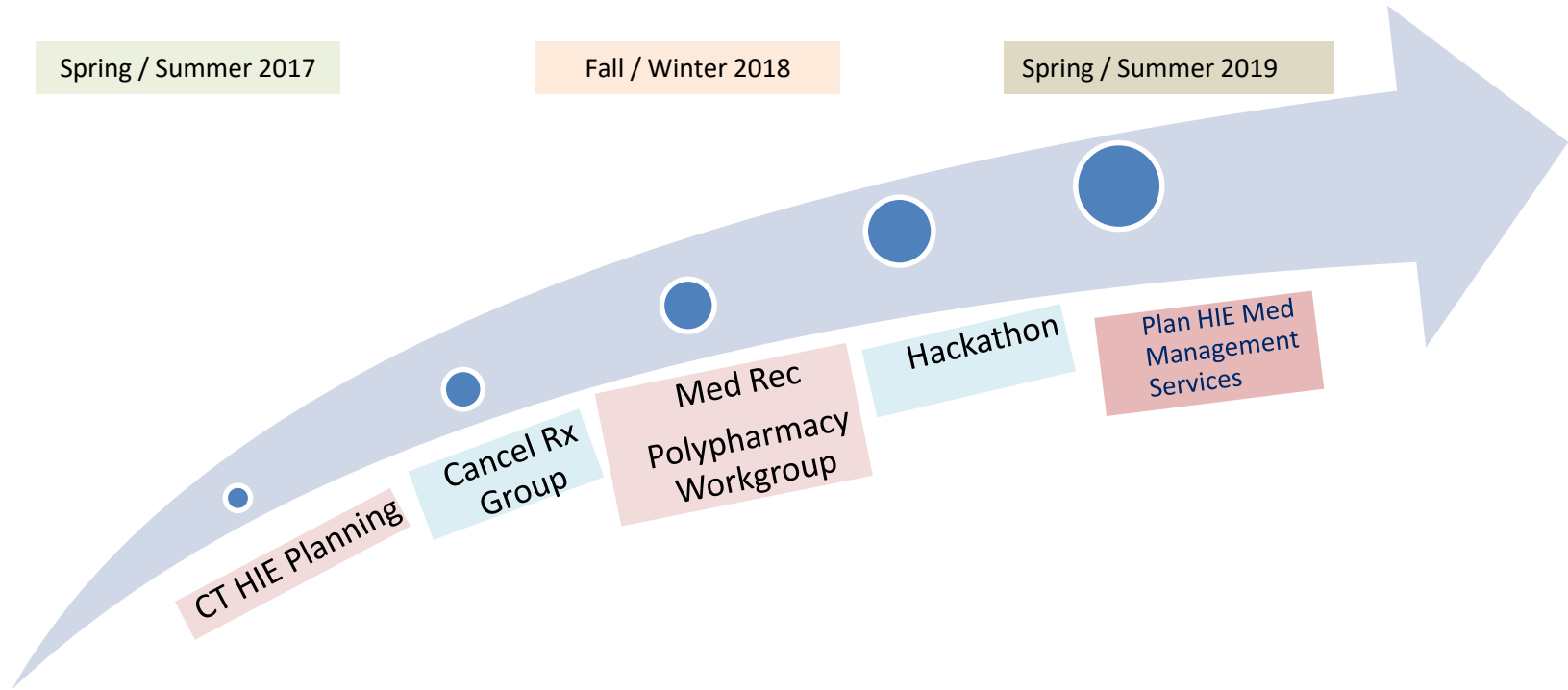
Background
WHY A MED REC Hackathon?

- Medication Errors are common and many are related to incorrect med lists
- Getting A Correct Medication List is *Complicated*
  - Technology helps and hurts
    - ePrescribing –
      - No more handwritten prescriptions
      - Introduces unintended errors, difficulty with de-prescribing
    - Health Information Exchange
      - Tools to consolidate medication lists from several sources
      - Yet interoperability between systems is limited
      - Information & Cognitive Overload

- New Interoperability guidance from CMS and Office of National Coordinator

- Connecticut has a perfect eco-system to try and introduce creative change

How did we get here?

Spring / Summer 2017

Fall / Winter 2018

Spring / Summer 2019

CT HIE Planning

Cancel Rx Group

Med Rec Polypharmacy Workgroup

Hackathon

Plan HIE Med Management Services

How did we get here?

- CT HIE planning 2017
  - Med Rec 1 / 10 priorities
  - Group of Med Informatics professionals - AMIA 2017
  - Focus first on CancelRx
  - Informal group ~ 50+ stakeholders / 6 months
  - Increased awareness / Prep
  - Report to HIT Advisory CMT
    - Workflow, ROI and Technical considerations

- Legislative hearing 2018
  - Med Rec and Polypharmacy workgroup
  - Now under HITO
  - 50+ Stakeholders ~ 6 months

- Plan for Med Rec in HIE
  - Report to CT legislature June 2019

- Lessons learned shared in CT and beyond

Who is in the audience?

- Clinicians (MD, RN, APRN)
- Pharmacist (PharmD)
- Computer Scientists (MA, PhD)
- EHR Analysts
- State Agency (OHS, OSC, DPH, Consumer Protection)
- CMIO, CIO, CEO
- Patient Advocates
- Entrepreneurs
- Investors (CT Innovations)

- Medical Students
- Pharmacy Students
- Engineering students (CSE, BME)
- MBA students (UConn)
- Industry Representatives
  - Surescripts, CVS
- CT HIE entity
- Planned Parenthood
- Medical Informatics Experts
- Faculty UConn, Yale, Temple, Johns Hopkins

Goals

- Learn about challenges / opportunities to improve medication reconciliation
- Learn about FHIR the newest Interoperability Standard for Health IT

- Develop prototype ideas for Med Rec solutions that can inform HIE efforts
  – Ambulatory Primary Care
  – Hospital transitions
  – Skilled Nursing Facility / Home Healthcare
  – Patients and families

- Most important
  – Have Fun
  – Be Creative
  – Innovate
  – Challenge our Ideas of Status Quo

Desired Outcomes

Clinical & Admin Workgroup

- Define problem further
- Describe Some Functional Requirements
- Describe Components of User interface
- User-Centered Design

Technical

- Interoperability Standards
- FHIR - experience
- Develop simple prototype for each Med Rec scenario
- Meet a few functional requirements
- Gain experience working multidisciplinary teams

Begin Business Requirements
USE Case for HIE Medication Management Service
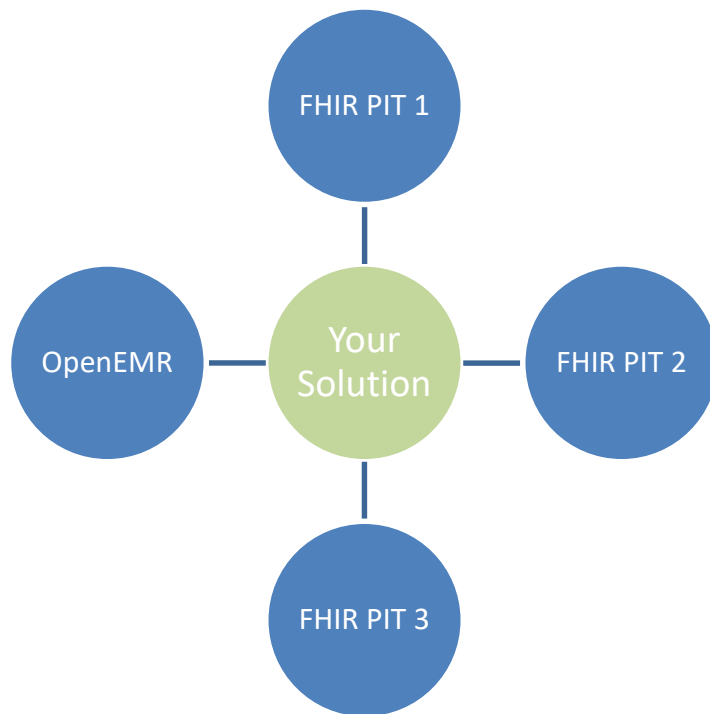
Create a Medication Source of Truth

Patient Personas
- Realistic challenge
- See more than one MD
- More than one EHR
- Need for home list
- Source of truth available

Meds vary between sources
May have differences in
- Dose
- Frequency
- Generic vs Brand.
- Missing or canceled meds
- Data granularity

FHIR PIT 1

OpenEMR

Your Solution

FHIR PIT 2

FHIR PIT 3

Important Features
- Accuracy
- User Interface
- Actions available
- Speed of use
- Cognitive load
- Identification of potential errors

Agenda

Education

- Setting the stage – 10 -11:45
  - Med Wreck (the why)
  - FHIR a hopeful solution from Health IT Standards
- Split into 2 groups 12:30- 2:30
  - Clinical and Administrative
    - User-Centered Design Process
    - Small groups describe desired functions / layout of solutions
  - Technical
    - Deeper dive into how FHIR works / Examples of solutions
    - Review and practice with FHIR-PITS and OpenEMR infrastructure

Agenda

Group Formation – 2:30 – 3:00
- – Clinical / Admin – Pitch ideas (5 mins)

Hack in mixed small groups 3:00 – 5:00 ++
- – Clinical, Admin, Technical
- – Subject matter expert / mentors

Saturday
- Hack 8 – 10
- Clinical / Admin 10 - 11
  - – additional root cause analysis
  - – Suggestions for long-term solutions
- Technical – Hack 10 – 11
- Hack in small groups 11 – 2
- Presentation of solutions 2- 4
- Group Discussion 4 – 5

Thanks to:

- Our Leadership & Support Teams
  - UConn Health
  - CT Office of Health Strategy
  - UConn AIMS
  - UConn Storrs – Computer Science and Engineering
  - CT HIE Entity
  - Velatura
  - eHealth CT & SMC Partners

Thanks to our Sponsors