Aligning Health IT Implementation with Delivery System Transformation

Clinical Alerting and Event Notifications (ADT Alerting)

Health IT Learning Cluster
January 27, 2015
## Agenda

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<th>Speaker(s)</th>
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<td>1:00–1:10 pm</td>
<td>Welcome and Introductions</td>
<td><strong>Carolyn Padovano</strong>, Health IT Learning Cluster Lead, RTI</td>
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<td><strong>John Rancourt</strong>, Public Health Analyst, ONC</td>
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<td>1:10–1:40 pm</td>
<td>Clinical Alerting and Event Notifications (ADT Alerting)</td>
<td><strong>Mark Monterastelli</strong>, Entrepreneur-in-Residence, ONC</td>
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<td>1:40–1:55 pm</td>
<td>Facilitated State Discussion</td>
<td><strong>Mark Monterastelli</strong>, Entrepreneur-in-Residence, ONC</td>
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<td>1:55–2:00 pm</td>
<td>Wrap Up and Announcements</td>
<td><strong>Carolyn Padovano</strong>, Health IT Learning Cluster Lead, RTI</td>
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CLINICAL ALERTING AND EVENT NOTIFICATIONS (ADT ALERTING)

Mark Monterastelli, Entrepreneur-in-Residence, ONC
Bad News

Care Coordination

- Care teams are not aware of patient hospitalization or discharge for prompt follow up
- Cumbersome for care teams to exchange the information and monitor conformance
- Care teams span multiple organizations, systems, technical capabilities
Reduction in Avoidable Readmission

Annualized Readmission Rates

Discharge Alerting

30%

Reduction in readmissions
A care transitions intervention reduced 30-day hospital readmissions by 30 percent

Maryland Health Information Exchange / Johns Hopkins

0.0%
5.0%
10.0%
15.0%
20.0%

All Cause Readmission Rate

Q4 2012
Q1 2013
Q2 2013
Q3 2013

No Alerts
15.6%
15.6%
16.7%
15.9%

Alerts
14.7%
12.9%
14.4%
13.4%

Rhode Island Institute of Quality
States Play a Roll

- No Integrated Delivery Network (IDN) encompasses all patient encounter points
- Organizations adopting accountable care need comprehensive data
- Interoperability (or lack) is expensive
Event Notifications Overview

ECA – Event Condition Action

Key Elements

• Data Connections
• Event Detection or Triggers
• Decision Support Rules
  – Triggers are not notifications
  – Alert fatigue
• Interventions

Example Event Triggers

- Admission
- Transfer
- Discharge
- Observation
- Benefits check
- Lab result requested/received
- Appointment scheduled
- Referral received
- PrescriptionFilled/Unfilled
- Missed Appointment
- Gap in Care
- Final Radiology Result
- Discharge Summary Available
- Death Notification
ADT Alerting

- ADT Messages – Admission Discharge Transfer - format defined by HL7 used widely in to integrate healthcare systems together.
- ADT Messages are not designed for alerting but changes in status and location of patients can be inferred from monitoring the messages.

Sample HL7 message:

```
MSH|^~\&|EPIC|EPICADT|SMS|SMSADT|199912271408|CHARRIS|ADT^A04|1817457|D|2.5|
PID||0493575^2|ID 1|454721||DOE^JOHN^2|DOE^JOHN^2|19480203|M||B|254 MYSTREET
AVE^MYTOWN^OH^44123^USA||(216)123-4567||M|NON|400003403~1129086|
NK1||ROE^MARIE^2|SPO||(216)123-4567|EC|168~219~C~PMA^2|277^ALLEN MYLASTNAME^BONNIE^|2688684|
PV1||2688684|199912271408|||02376853
```
Sample ADT System – MiHIN

ADT Alerting System from Michigan Health Information Network

1. Patient event triggers ADT notification at point of care
2. ADT is routed to MiHIN through a Health Information Exchange (HIE)
3. MiHIN routes ADT to organizations with active care relationships to the patient
Intervention Is The Key

Intervention is the key of a successful event notification system.

A mature event notification system is a type of Clinical Decision Support system.

Cardiology Alerting Decision Tree

Event          Condition          Action
---            ---              ---
Patient Discharge from Hospital

To Home?

Yes

Disease Category

CHF

No

Notify Care Manager

AMI

Underwent PCI?

No

Notify Care Manager

Yes

Enrolled in Home Monitoring?

Yes

Schedule Home Visit

Notify Care Manager to Initiate Home Monitoring

Notify Physician

Notify Care Manager
Resources

https://collaboration.cms.gov/?q=content/aligning-health-it-learning-cluster-webinar-3-clinical-alerting-and-notifications-adt

Adopting Accountable Care

ADT Alerting Learning Guide

State HIE Brightspots
Basic Encounter Alerting Toolkit

- Open source toolkit developed and piloted by ONC
- Provides Decision Support services and creates Integrated Delivery Networks
- Transitioned to commercial partners
- Support Available through HIT Resource Center
States Examples

- Maryland - Encounter Notification Service
  - Expanding to other regions
- Rhode Island - Current Care
  - Tracking patient satisfaction changes
- Michigan
  - Subsidized by BCBS
- Maine
  - Using as basis for analytics service

Discussion Points

• Who has currently deployed an ADT alerting system in their region (or is planning to)?

• Who has been asked by Accountable Care Organizations (ACOs) to provide ADT alerts?
Wrap-Up

Let us know if you have any questions!

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