

SIMergy – State Innovations Model
Interactive Learning Environment

Innovation for the States; by the States



NATIONAL ACADEMY
for STATE HEALTH POLICY



The Office of the National Coordinator for
Health Information Technology



Aligning Health IT Implementation with Delivery System Transformation

*Clinical Alerting and Event
Notifications (ADT Alerting)*

Health IT Learning Cluster

January 27, 2015

Agenda

1:00–1:10 pm	Welcome and Introductions Carolyn Padovano, Health IT Learning Cluster Lead, RTI John Rancourt, Public Health Analyst, ONC
1:10–1:40 pm	Clinical Alerting and Event Notifications (ADT Alerting) Mark Monterastelli, Entrepreneur-in-Residence, ONC
1:40–1:55 pm	Facilitated State Discussion Mark Monterastelli, Entrepreneur-in-Residence, ONC
1:55–2:00 pm	Wrap Up and Announcements Carolyn Padovano, Health IT Learning Cluster Lead, RTI



CLINICAL ALERTING AND EVENT NOTIFICATIONS (ADT ALERTING)

Mark Monterastelli, Entrepreneur-in-Residence, ONC

Bad News

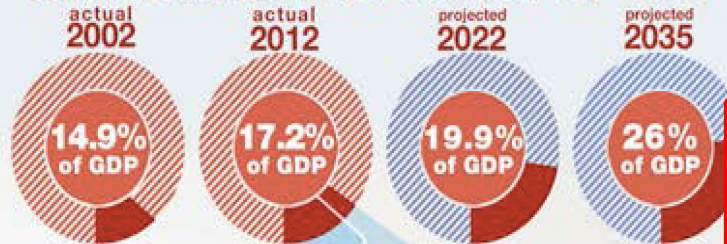
THE REALITY OVERALL SPENDING

\$2.8 Trillion
(2012)

THE DRIVERS

In the ten-year period between 2002 and 2012 U.S. healthcare spending nearly doubled, climbing from \$1.6 trillion to \$2.8 trillion

HEALTHCARE AS SHARE OF GDP



PER CAPITA SPENDING

\$8,915 (2012)



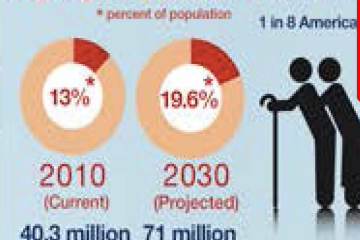
THE DRIVERS

\$2 Trillion
Annual Cost (2009)
\$3 out of every \$4 of U.S. healthcare spending

Chronic Disease



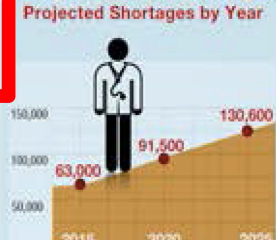
Aging Population



Hospital Readmissions

Nearly 1 in 5 patients readmitted in 30 days
Estimated Preventable Cost Burden **\$25B annually**

Physician Shortage



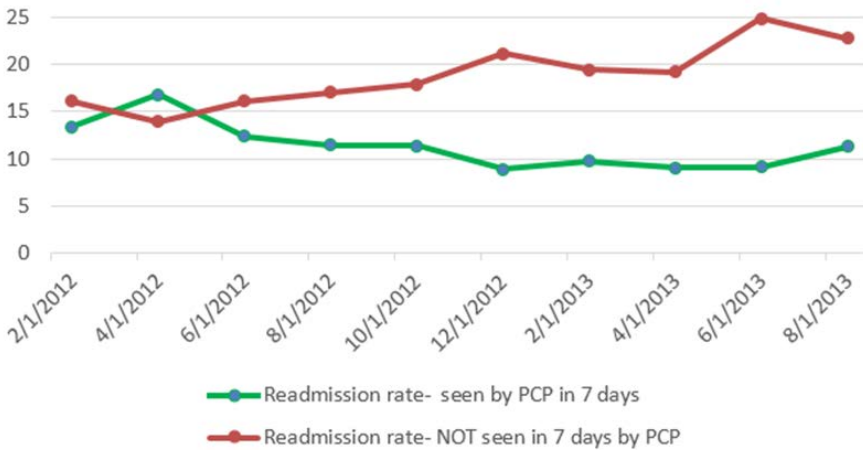
All U.S. Data from California HealthCare Foundation, Congressional Budget Office, U.S. Centers for Disease Control, CMS, AAMC, and NEHI.

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



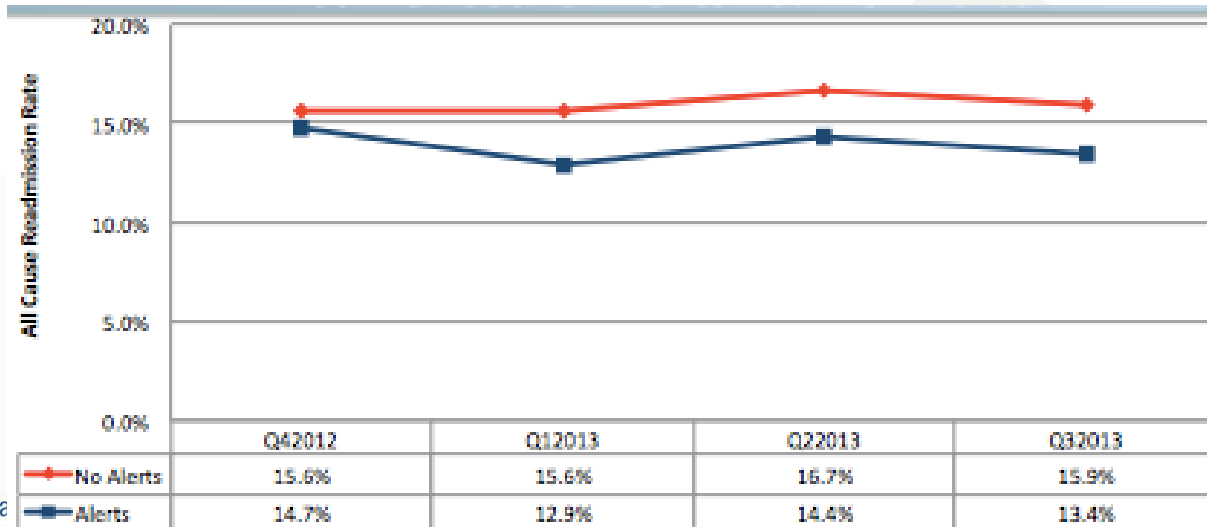
Discharge Alerting

Maryland Health Information Exchange /Johns Hopkins

30%

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

active Lea



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
Prescription Filled/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.

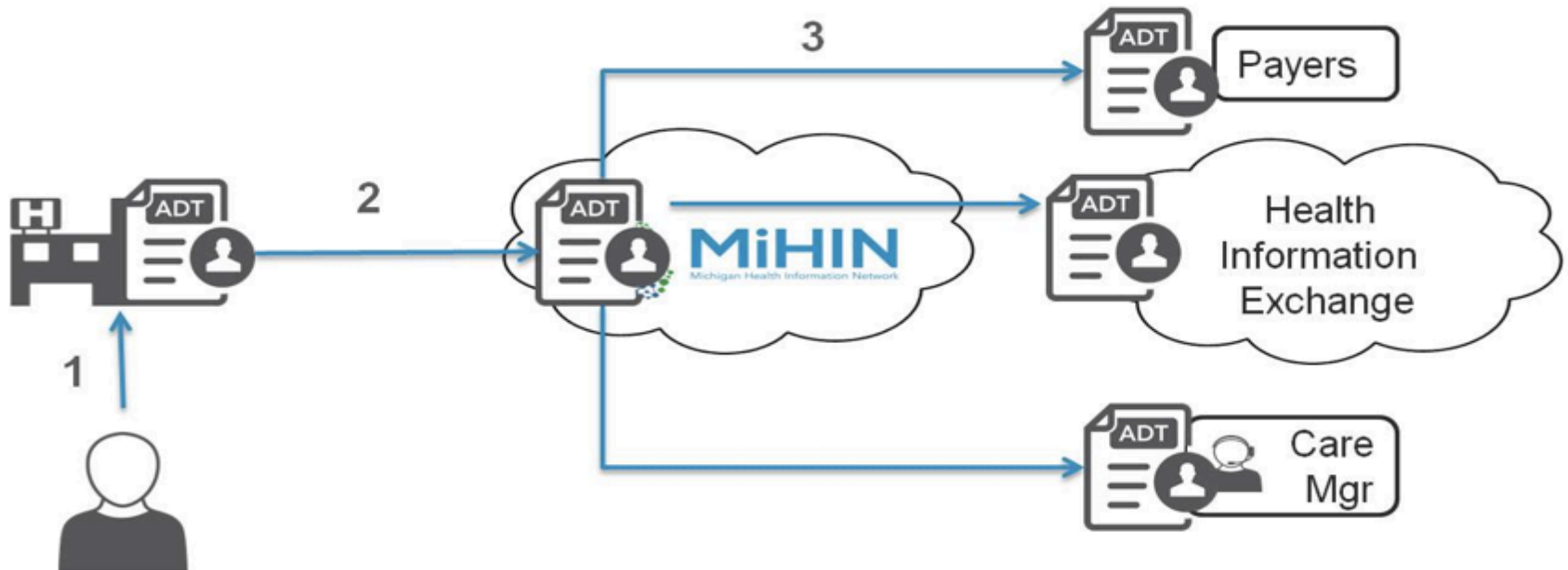
Sample HL7 message:

```
MSH|^~\&|EPIC|EPICADT|SMS|SMSADT|199912271408|CHARRIS|ADT^A04|1817457|D|2.5|
PID||0493575^^^2^ID 1|454721||DOE^JOHN^^^^|DOE^JOHN^^^^|19480203|M||B|254 MYSTREET
AVE^^MYTOWN^OH^44123^USA|||(216)123-4567|||M|NON|400003403~1129086|
NK1||ROE^MARIE^^^^|SPO|||(216)123-4567||EC|||||||||||||||||||||
PV1||O|168~219~C~PMA^^^^^^^^|||277^ALLEN MYLASTNAME^BONNIE^^^^|||
||2688684|||199912271408|||002376853
```



Sample ADT System – MiHIN

ADT Alerting System from Michigan Health Information Network



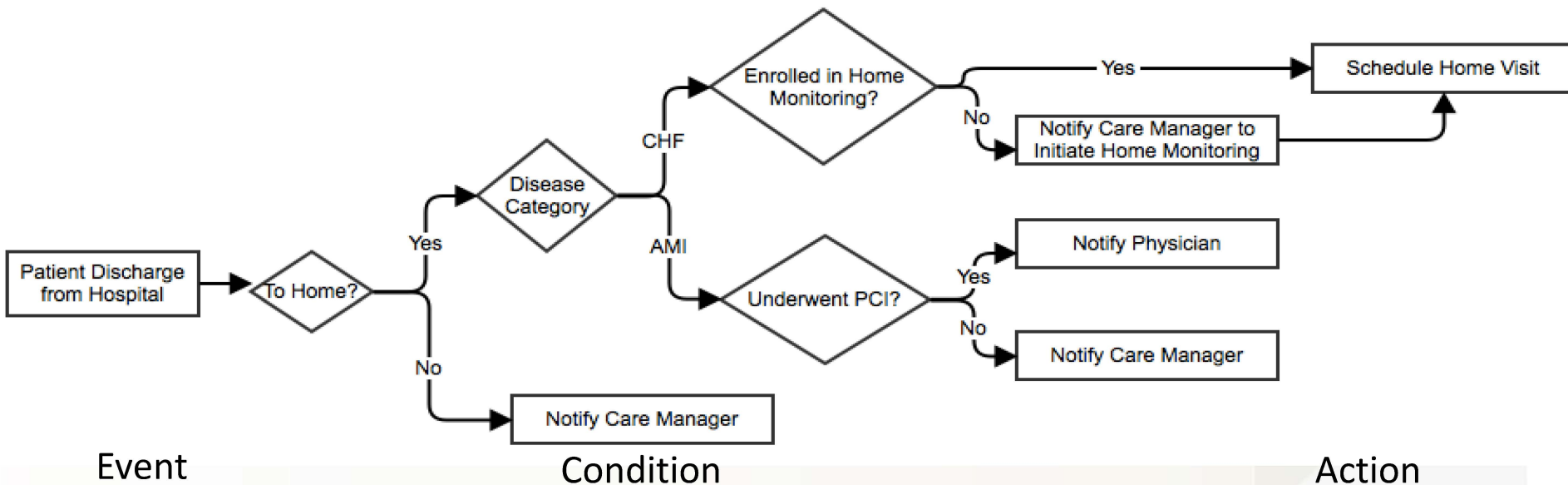
1. Patient event triggers ADT notification at point of care
2. ADT is routed to MiHIN through a Health Information Exchange (HIE)
3. MiHIN routes ADT to organizations with active care relationships to the patient

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



Resources

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

Adopting Accountable Care

ENGELBERG CENTER for Health Care Reform at BROOKINGS

Adopting Accountable Care

An Implementation Guide for Physician Practices

EXECUTIVE SUMMARY
November 2014

A resource developed by the ACO Learning Network
www.acolearningnetwork.org

ADT Alerting Learning Guide

The Office of the National Coordinator for Health Information Technology

Improving Hospital Transitions and Care Coordination Using Automated Admission, Discharge and Transfer Alerts

A Learning Guide

Presenting lessons learned by the 17 Beacon Community Awardees of the Office of the National Coordinator for Health Information Technology in the U.S. Department of Health and Human Services

May 2013

Putting the I in Health IT
www.HealthIT.gov

State HIE Brightspots

State Health Information Exchange Program
The Office of the National Coordinator for Health Information Technology

State HIE Bright Spots Synthesis

Care Coordination Part I

Getting to Impact: Harnessing health information technology to support improved care coordination
December 2012

How to Use This Document
The Bright Spots Initiative is designed to help identify and disseminate successful implementation practices and approaches that are worth spreading. For more implementation briefs, visit <http://statehieresources.org/bright-spots/>.

Health Information Technology's Role

Closed-Loop Referrals
The Referral Process Today
The Referral Process of Tomorrow – Closed-Loop Referrals
Key Considerations When Getting Started with Closed-Loop Referrals
Early Lessons from a Direct Pioneer – MedAllies

Automated Alerts
Unanticipated Transitions
Automated Alerts for Care Coordination
Key Considerations When Getting Started with Automated Alerts
A Beacon for Automated Alerting – HealthBridge
Monitoring Mental Health in Brooklyn
Suppressing Superbugs in Indiana
Harnessing Data to Improve System Utilization
"Hotspotting" High-cost Patients in Camden, New Jersey
Geospatial Mapping in Maryland

Themes and Lessons

They are scenarios that many patients, providers, and caregivers know all too well:
A diabetes patient with a history of non-compliance is discharged from the emergency department (ED) with a long list of instructions. There is no communication from the ED to the patient's primary care provider (PCP) to notify the PCP of the patient's ED visit and help her perform a post-discharge check-up. Within 20 days, the patient is admitted to the ED again for hypoglycemia.
A 47 year-old seizure patient is referred to a neurologist by her PCP; however, little information about the patient accompanies the paper referral form. During the visit, the patient is unable to recall complex details of her medications and dosages, and as a result the neurologist must make care decisions without a complete picture of her patient.
These scenarios illustrate the lack of consistent, coordinated, and timely information exchange between providers. Often communication breakdowns occur during care transitions, i.e., the movement of a patient from one health care provider or setting to another. Indeed, almost half of health care-related communication errors occur during such handoffs between care providers¹. Today, providers practicing in different care settings have limited options to communicate with one another in a standardized, efficient way and to handoff critical patient information that will help improve care quality and lower health care costs. Unfortunately, current practices have led to some staggering statistics:

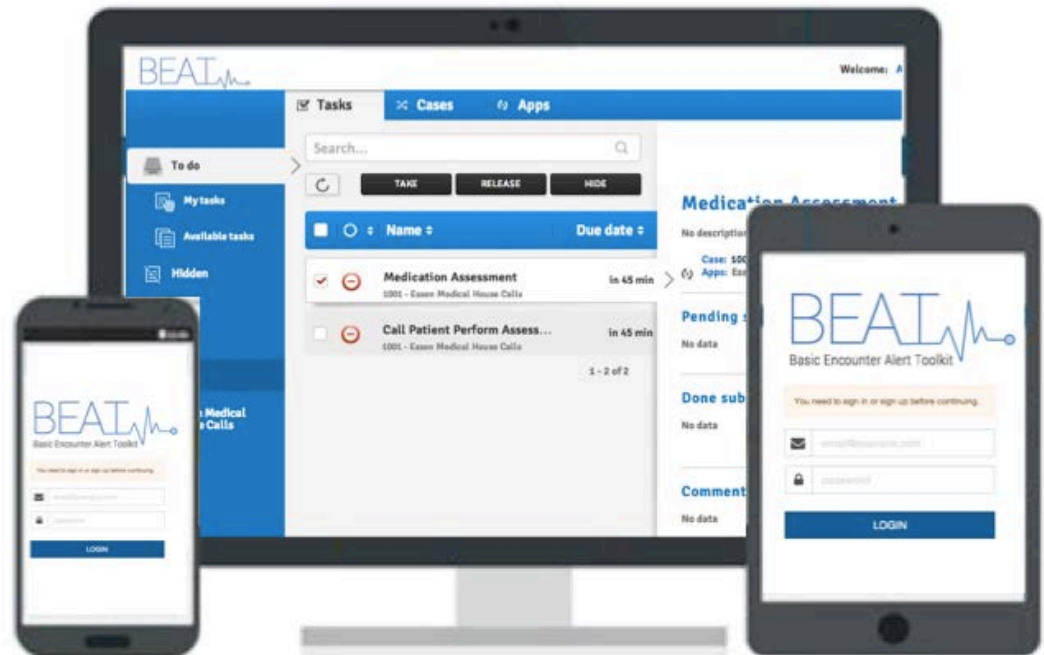
- Increased adverse events. According to a recent study, poor care coordination increases the chance that a patient will suffer from a medication error or other health care mistake by 140 percent.² Communication failures between providers contribute to nearly 70 percent of medical errors and adverse events in health care.³
- Billions in wasteful spending. Nearly one in five Medicare patients discharged from a hospital is readmitted within 30 days, at a cost of over \$26 billion every year.⁴ Many hospital

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

BEAT
Basic Encounter Alert Toolkit

invirc



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

<http://www.healthcareitnews.com/news/maines-hie-launches-analytics-business>

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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