

Nursing Perspective on Health Systems Engineering

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June 4, 2015



- Nursing shortage → Irish nurses / Patient Care Technician role
- Productivity
- Shortened Length of Stay (LOS)
- Acuity
- HIV/AIDS
- Transition to Ambulatory Care



Applied Management Systems, Inc.

- Consulting Management
- Acuity and Productivity / direct observations
- Staffing levels / workforce distribution
- Extender roles
- Merging hospitals - duplicate services and roles
- Transition to ambulatory



Allscripts™

- Informatics
- Basic Computerized Physician (Provider) Order Entry (CPOE)
- Patient Safety
 - Illegible handwriting
 - Verbal orders on uptick
 - Medication errors
 - Right Patient, Right Care, Right Time
- Design Sessions → Standardization / Coordination of care with other disciplines
- Clinical Decision Support (CDS)
- Clinical Adoption

Patient Protection and Affordable Care Act signed into law by President Obama March 2010;
provides healthcare delivery systems with incentive payments





1 st Year	Stage of Meaningful Use										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
2011	1	1	1	2	2	3	3	TBD	TBD	TBD	TBD
2012		1	1	2	2	3	3	TBD	TBD	TBD	TBD
2013			1	1	2	2	3	3	TBD	TBD	TBD
2014				1	1	2	2	3	3	TBD	TBD
2015					1	1	2	2	3	3	TBD
2016						1	1	2	2	3	3
2017							1	1	2	2	3





What are the Three Main Components of Meaningful Use?

- The Recovery Act specifies the following 3 components of Meaningful Use:
 1. Use of certified EHR in a meaningful manner (e.g., e-prescribing)
 2. Use of certified EHR technology for electronic exchange of health information to improve quality of health care
 3. Use of certified EHR technology to submit clinical quality measures (CQM) and other such measures selected by the Secretary



What are the Requirements of Stage 1 Meaningful Use?

- Stage 1 Objectives and Measures Reporting
- Eligible Professionals must complete:
 - 15 core objectives
 - 5 objectives out of 10 from menu set
 - 6 total Clinical Quality Measures
(3 core or alternate core, and 3 out of 38 from additional set)
- Hospitals must complete:
 - 14 core objectives
 - 5 objectives out of 10 from menu set
 - 15 Clinical Quality Measures



Meaningful Use: Core Objectives

- **Hospitals– 14 Core Objectives**

1. Computerized provider order entry (CPOE)
2. Drug-drug and drug-allergy interaction checks
3. Record demographics
4. Implement one clinical decision support rule
5. Maintain up-to-date problem list of current and active diagnoses
6. Maintain active medication list
7. Maintain active medication allergy list
8. Record and chart changes in vital signs
9. Record smoking status for patients 13 years or older
10. Report hospital clinical quality measures to CMS or States
11. Provide patients with an electronic copy of their health information, upon request
12. Provide patients with an electronic copy of their discharge instructions at time of discharge, upon request
13. Capability to exchange key clinical information among providers of care and patient-authorized entities electronically
14. Protect electronic health information



MU: Stage 1 Core Set Objectives

Health Outcomes Policy Priority	Stage 1 Objective	Stage 1 Measure
Improving quality, safety, efficiency, and reducing health disparities	Use CPOE for medication orders directly entered by any licensed healthcare professional who can enter orders into the medical record per state, local, and professional guidelines	More than 30% of unique patients with at least one medication in their medication list seen by the EP or admitted to the eligible hospital or CAH have at least one medication entered using CPOE
	Implement drug-drug and drug-allergy interaction checks	The EP/eligible hospital/CAH has enabled this functionality for the entire EHR reporting period
	EP Only: Generate and transmit permissible prescriptions electronically (eRx)	More than 40% of all permissible prescriptions written by the EP are transmitted electronically using certified EHR technology
	Record demographics: preferred language, gender, race, ethnicity, date of birth, and date and preliminary cause of death in the event of mortality in the eligible hospital or CAH	More than 50% of all unique patients seen by the EP or admitted to the eligible hospital or CAH have demographics as recorded structured data
	Maintain up-to-date problem list of current and active diagnoses	More than 80% of all unique patients seen by the EP or admitted to the eligible hospital or CAH have at least one entry or an indication that no problems are known for the patient recorded as structured data

Sample Challenges Stage 1

- ✓ Impact on software
- ✓ Prescriptive workflows / reduce variation in care
- ✓ All certified products
- ✓ Work done by others
 - Registration
 - Nursing
 - Physician Assistants
- ✓ Attestation

Sample Challenges Stage 2

- ✓ Work-arounds
- ✓ New workflows, particularly with care hand-off
 - Medication Safety
 - Auto-track meds from order to administration using assistive technologies in conjunction with electronic medication record
 - Barcoding
 - Ambulatory and inpatient
 - Electronic discharge prescriptions
 - Care Coordination
 - Secure electronic messaging with patients (EP)
 - Health Information Exchange
 - Patients can view online, download, and transmit within 4 business days
 - Discharge Summary
- ✓ New roles
 - Scribes
 - Auditors

Sample Challenges Stage 3

- ✓ Use the data!
 - Electronic progress note
 - Data is everywhere
 - Interoperability
- ✓ Patient Engagement
 - Preferred method of communication
 - Portals
 - Patient access to records
- ✓ Patient Centric
 - Advanced Directives
 - Immunization Registry

Sample Challenges Stage 3 cont.

- ✓ Care Handoffs / Discharge Process
 - Reduction in readmission within 30-days
 - PCP, specialists, VNA, family
- ✓ Patient Population Health Management
- ✓ Triple Aim focus - measure outcomes, not processes
- ✓ Align with:
 - National Quality Forum
 - National Committee of Quality Assurance (NCQA)
 - Joint Commission
 - CMS
 - State

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Additional Pressures in Healthcare Community

- ICD-10 - Starting October 1, 2015
 - Coding
 - Dictation patterns
 - Reimbursement
 - Care managers
 - Clinical Documentation Improvement (CDI)
- Value Based Purchasing (VBP) - move from fee-for-service and towards outcomes
- Patient Centered Medical Home (PCMH)
- Accountable Care Organizations (ACO)

Agile and Iterative Processes Prevail