Understanding the EHR Incentive Program

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Objectives

- Understand the new EHR Incentive program requirements

- Know what to do to prepare to meet the new requirements

- Understand the impact this will have on your EHR technology, your staff and your workflow

Meaningful Use Outline

- **A reminder of why we are doing this**
- Changes to the timeline
- Clarification of the penalties
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- Stage 2 requirements
- New quality measurement requirements starting in 2014 for all
- What you need to do now

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From the Health and Human Services Web Site:

- "Health information technology (health IT) makes it possible for health care providers to better manage patient care through secure use and sharing of health information.

- Health IT includes the use of electronic health records (EHRs) instead of paper medical records to maintain people's health information."
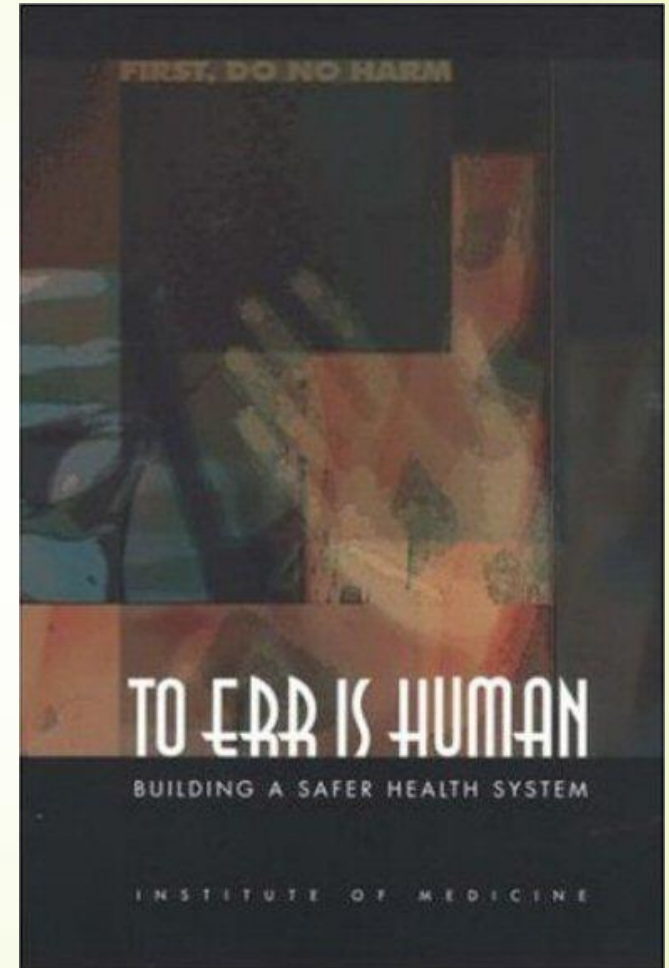
CDS Improves Medication Ordering (1993 – 1998)

- Tierney, William M., et al. "Physician inpatient order writing on microcomputer workstations." *JAMA: the journal of the American Medical Association* 269.3 (1993): 379-383. ↗
    - A randomized controlled clinical trial of order writing on computers resulted in
        - **Charges that were 12.7%** lower per admission
        - Significant reductions for bed charges, diagnostic test charges and drug charges.
        - A mean length of stay was 0.89 day shorter
- Evans, R. Scott, et al. "Improving empiric antibiotic selection using computer decision support." *Archives of Internal Medicine* 154.8 (1994): 878. ↗
    - Random-selection study to compare antibiotics suggested by the antibiotic consultant with those ordered by physicians demonstrated a **17% greater pathogen susceptibility** to an antibiotic drug regimen suggested by a computer consultant vs. a physician
- Evans, R. Scott, et al. "A computer-assisted management program for antibiotics and other anti-infective agents." *New England Journal of Medicine* 338.4 (1998): 232-238. ↗
    - Pre and post intervention study alerting for drug allergies, excessive dosages, antibiotic-susceptibility, lack of appropriateness and patients' renal function
    - Faster retrieval of relevant patient-specific information 14 minutes vs. 3.5 seconds
    - **Reductions in erroneous orders** for drugs where the patients had
        - Adverse Drug Event 70%
        - Reported allergies: 76%
        - Excess drug dosages 79%
        - Antibiotic-susceptibility mismatches 94%

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CPOE Decreases Medication Errors (1998 – 2001)

- Bates, David W., et al. "Effect of computerized physician order entry and a team intervention on prevention of serious medication errors." *JAMA: the journal of the American Medical Association* 280.15 (1998): 1311-1316. ↗
  - Assessing the impact of CPOE with CDSSs in a before-after comparison study demonstrated a **55% decrease in non intercepted serious medication errors**
- Bates, David W., et al. "The impact of computerized physician order entry on medication error prevention." *Journal of the American Medical Informatics Association* 6.4 (1999): 313-321. ↗
  - Evaluated medication error rates before CPOE and in the 3 years subsequent to its implementation. It demonstrated an 81% decrease in medication errors and an **86% decrease in non intercepted serious medication errors** (*P*<.001 for both)
- Overhage, J. Marc, et al. "A randomized trial of "corollary orders" to prevent errors of omission." *Journal of the American Medical Informatics Association* 4.5 (1997): 364-375. ↗
  - Greater than **25% improvement in the rates of corollary orders** with implementation of computerized reminders.

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Institute of Medicine, Sept 1999

- At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented

- Using the lower estimate, preventable medical errors in hospitals exceed attributable deaths to such feared threats as motor-vehicle wrecks, breast cancer, and AIDS.

- The equivalent of one jumbo jet falling out of the sky every day

FIRST, DO NO HARM

TO ERR IS HUMAN

BUILDING A SAFER HEALTH SYSTEM

INSTITUTE OF MEDICINE

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Continued Evidence of CPOE Benefits Pre/Post Intervention Studies (2002-2005)

- Mekhjian, Hagop S., et al. "Immediate benefits realized following implementation of physician order entry at an academic medical center." *Journal of the American Medical Informatics Association* 9.5 (2002): 529-539. ↗
  - A 64% improvement in medication **turn-around times**, 43% in radiology procedure completion times, and 25% in laboratory result reporting times

- Potts, Amy L., et al. "Computerized physician order entry and medication errors in a pediatric critical care unit." *Pediatrics* 113.1 (2004): 59-63. ↗
  - An overall **error reduction of 95.9%** with ADEs reduced by 40.9%, Medication prescribing errors reduced by 99.4% and rule violations reduced by 97.9%.

- Kucher, Nils, et al. "Electronic alerts to prevent venous thromboembolism among hospitalized patients." *New England Journal of Medicine* 352.10 (2005): 969-977. ↗
  - **Reduced risk of deep-vein thrombosis** or pulmonary embolism at 90 days by 41%

- Holdsworth, Mark T., et al. "Impact of computerized prescriber order entry on the incidence of adverse drug events in pediatric inpatients." *Pediatrics* 120.5 (2007): 1058-1066. ↗
  - A 43% reduction in preventable ADEs and **63% reduction in potential ADEs**

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Health Information Technology and Quality, Efficiency and Cost (2006)

- Wu, Shinyi, et al. "Systematic review: impact of health information technology on quality, efficiency, and costs of medical care." *Annals of internal medicine* 144.10 (2006): 742-752.↗
- 257 studies met the inclusion criteria of which 25% were from 4 academic institutions with internally developed systems
  - Brigham and Women's Hospital in Boston
  - LDS Hospital in Salt Lake City
  - Vanderbilt University Medical Center in Nashville
  - The Regenstrief Institute in Indianapolis
- Those 4 institutions (and only those 4) demonstrated
  - Benefits on quality:
    - Increased adherence to guideline-based care
    - Enhanced surveillance and monitoring
    - Decreased medication errors.
  - Benefit of improvement
    - Preventive health (DVT, pressure ulcers and post-op infections)
  - Efficiency benefit
    - Decreased utilization of care.

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EHRs: Problems with Commercial Installations (2005 – 2007)

- Han YY, Carcillo JA, Venkataraman ST, et al. Unexpected increased mortality after implementation of a commercially sold computerized physician order entry system. *Pediatrics*. 2005;116(6):1506–1512
  - The rapid implementation of a minimally modified, commercially available CPOE system in a pediatric critical care unit was associated with an **increase in mortality rate** for children admitted via interfacility transport over a 5-month period.
- Linder, Jeffrey A., et al. "Electronic health record use and the quality of ambulatory care in the United States." *Archives of Internal Medicine* 167.13 (2007): 1400-1405.
  - Evaluated 50,000 patient records from over 1500 physician practices in 2003 and 2004 and found: "As implemented, EHRs were **not associated with better quality** ambulatory care."
  - Acknowledged the positive information came from 4 "benchmark" institutions

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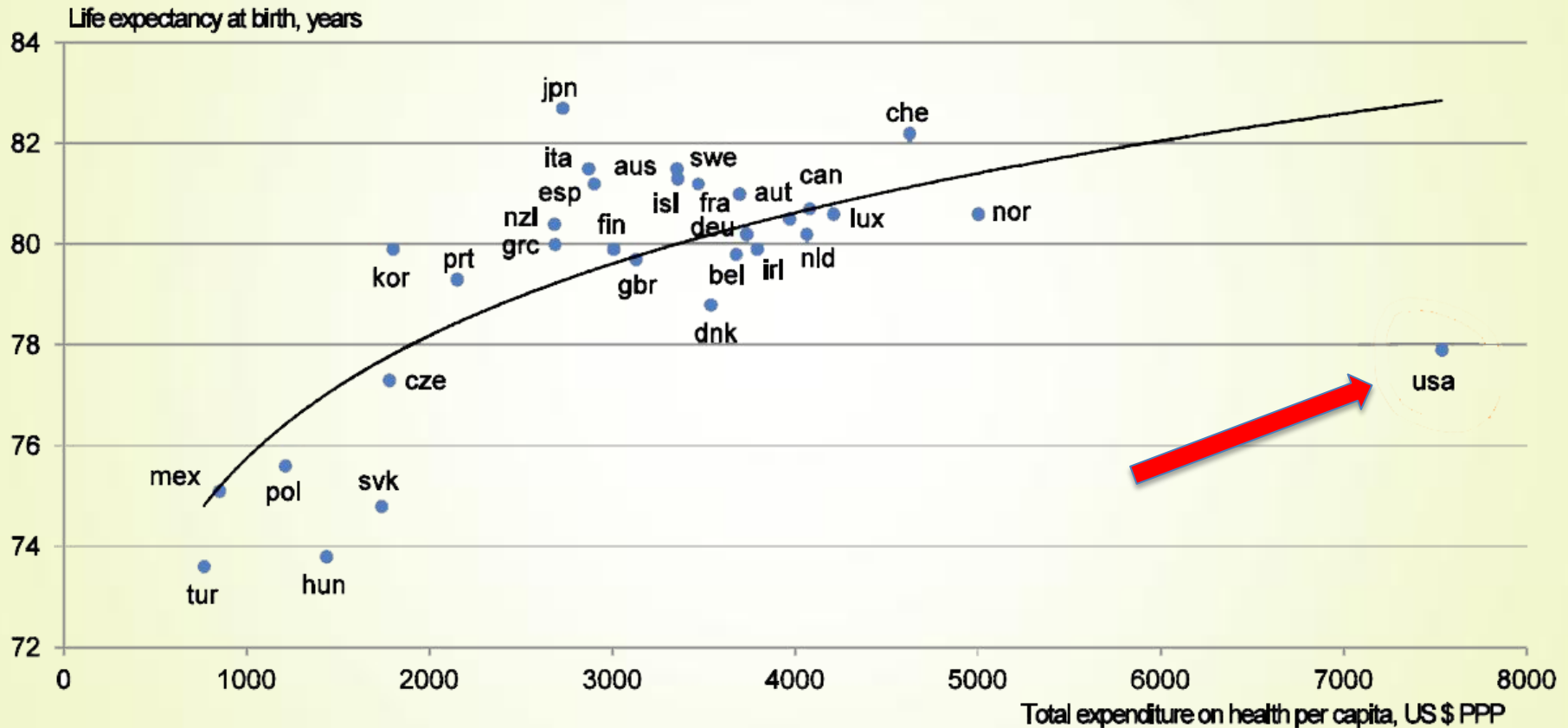Regional Extension
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Local Customization of CPOE Improves Quality (2010 – 2012)

- Longhurst, Christopher A., et al. "Decrease in hospital-wide mortality rate after implementation of a commercially sold computerized physician order entry system." *Pediatrics* 126.1 (2010): 14-21. ↗
  - Pre and Post implementation of a locally modified CPOE and electronic nursing documentation system at quaternary care academic children's hospital demonstrated a monthly adjusted **mortality rate decreased by 20%**
- Bright, Tiffani J., et al. "Effect of clinical decision-support systems: a systematic review." *Annals of internal medicine* 157.1 (2012): 29-43. ↗
  - A review of 148 randomized, controlled trials of electronic CDSSs implemented in clinical settings, used at the point of care and reported either clinical, health care process, workload, relationship-centered, economic, or provider use outcomes.
  - Both **commercially and locally developed clinical decision-support systems (CDSSs) showed statistical significance in improved health care process measures** related to performing preventive services, ordering clinical studies and prescribing therapies across diverse settings.

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EHRs and Quality (2012)

- Haut, Elliott R., et al. "Improved Prophylaxis and Decreased Rates of Preventable Harm With the Use of a Mandatory Computerized Clinical Decision Support Tool for Prophylaxis for Venous Thromboembolism in Trauma Patients." *Archives of Surgery* 147.10 (2012): 901-907. ↗
  - **Reduced risk of deep-vein thrombosis or pulmonary embolism at 90 days by 41%**.

- Kern, Lisa M., et al. "Electronic Health Records and Ambulatory Quality of Care." *Journal of General Internal Medicine* (2012): 1-8. ↗
  - S**ignificantly higher quality of care** for hemoglobin A1c testing in diabetes, breast cancer screening, chlamydia screening and colorectal cancer screening

- Reed, M., et al. "Outpatient electronic health records and the clinical care and outcomes of patients with diabetes mellitus." *Annals of internal medicine* 157.7 (2012): 482. ↗
  - **Statistically significant reductions in HbA1c and LDL-C levels**, with the largest reductions among patients with the worst control

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Per Capita Health Expenditure vs. Life Expectancy

Life expectancy at birth, years

1. Or latest year available.
Source: OECD Health Data 2010.

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The Bi-Partisan Support:

2004   "…an Electronic Health Record for every American by the year 2014. By computerizing health records, we can avoid dangerous medical mistakes, reduce costs, and improve care." George W Bush - State of the Union address, Jan. 20, 2004

2009   "Computerize all health records within five years." Barack Obama - George Mason University, January 12, 2009

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Stages of Meaningful Under Medicare

		Stage of Meaningful Use										
		2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
First Attestation Year	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

1. Note: Under Medicaid, if a Medicaid only provider does not receive a payment for that year, the stage of MU does not progress.

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Incentives

- Medicare and Medicaid Incentives are unchanged from the Stage 1 Rule

- Some broadening of Medicaid eligibility

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EHR Reporting Period

- EPs who demonstrate meaningful use in 2011 through 2013 calendar years will not be penalized 2 years later

Payment Adjustment Year	2015	2016	2017	2018	2019	2020
EHR Reporting Period	2013	2014	2015	2016	2017	2018

- For EPs who demonstrates meaningful use in 2014 or later for the first time (using 2014 as an example):

Payment Adjustment Year	2015	2016	2017	2018	2019	2020
90 day EHR Reporting Period	2014*	2014				
Full Year EHR Reporting Period			2015	2016	2017	2018

*   If the EP attests no later than the October 1 before the penalty year

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EP Medicare Payment Adjustments

- For the EP starting in 2015:
  - If > 75% of EPs are meaningful users, allowable charges will be reduced 1%/year to a max of 3%
  - If < 75% of EPs are meaningful users, again 1%/year with a maximum reduction of 5%
- Hardship exemptions will be available by request

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Changes to Stage 1

- CPOE:
  - Starting in 2013 option of 30% of all medication orders
- Vital Signs:
  - Optional in 2013 and required in 2014:
    - ≥ 3 for BP; all ages for height/length & weight; growth charts ≤ 20
    - May claim exclusion for H/L&W or BP or both
- Test of exchange and the yes/no measure "Reporting CQMs":
  - Removed for 2013
- Electronic copies and access:
  - 2 measures replaced in 2014 with online view, download and transmit
- Public Health Measures:
  - "…except where prohibited…" added to the requirements

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Concepts for the Updated Meaningful Use Rules

- For both stages:
  - More exchange
  - More patient online access and involvement
- For Stage 2:
  - Stage 1 menu items have become core
  - Percentages have increased
  - Turnaround time is shorter
  - Some measures incorporated into others

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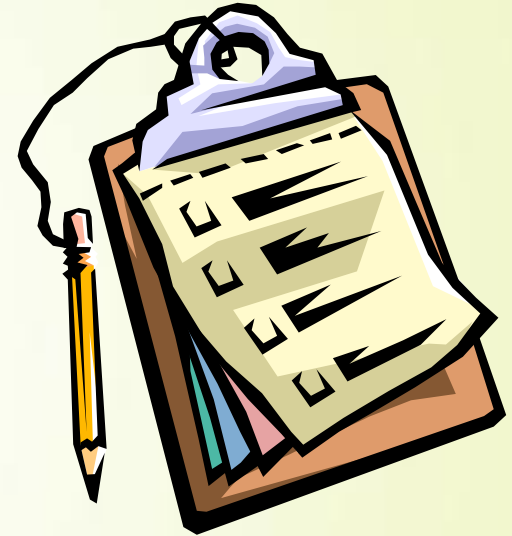
Stage 1 and Stage 2 Meaningful Use for 2014

Eligible Professionals

13 core objectives

5 of 9 menu objectives

18 total objectives

Eligible Professionals

17 core objectives

3 of 6 menu objectives

20 total objectives

Stage ~~1 and~~ 2 Core Objectives

1. Use CPOE > ~~30~~ **60%** of **all** medication **orders, and >30% of all laboratory and radiology** orders

2. Record demographics > ~~50~~ **80%**

3. ~~Record Problems > 80% *~~

4. ~~Record Medications > 80% *~~

5. ~~Record Allergies > 80% *~~

    * Problems, Meds and Allergies incorporated into the transfer of care document

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Stage ~~1 and~~ 2 Core Objectives

6. Record vital signs > ~~50~~ **80%**

7. Record smoking status > ~~50~~ **80%**

8. E-Rx > ~~40~~ **65%**

9. Implement ~~1~~ **5** clinical decision support interventions + drug/drug and drug/allergy

10. Provide visit summaries for >50% of office visits within in ~~72 hours~~ **1 business day**

11. Conduct or review security analysis and incorporate in risk management process

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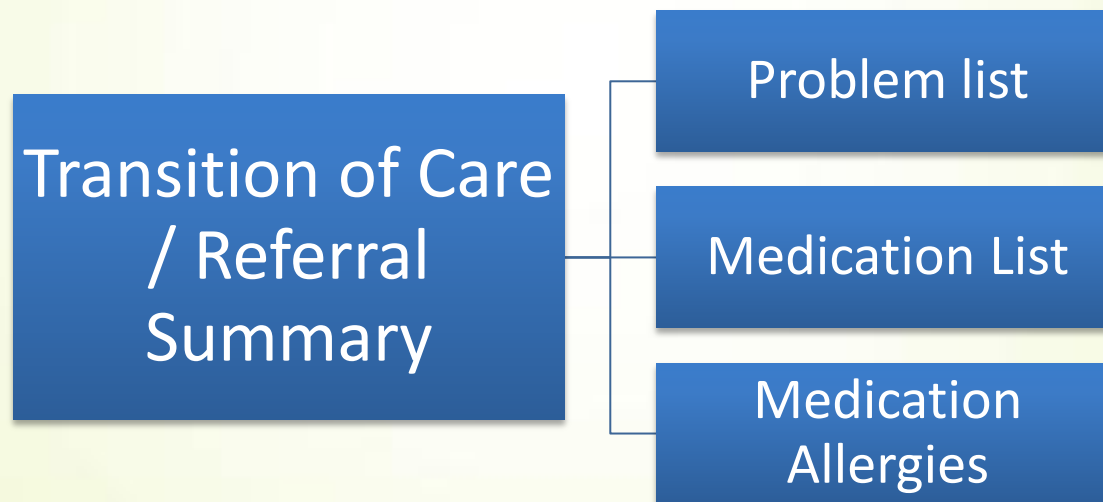
Stage ~~1 Menu and~~ Stage 2 Core Objectives:

12. Incorporate lab results > ~~40~~ **55%**

13. Generate at least one patient list by a specific condition

14. Use EHR to identify and provide education resources > 10% of unique patients

15. Medication reconciliation > 50% of transitions of care (or all relevant encounters if there is a policy for this)

16. Use EHR to identify and provide > 10% with reminders for preventive/follow-up

17. ***Successful ongoing*** transmission of immunization data

18. Provide summary of care document > 50% of transitions of care and referrals…

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New Stage 2 Core Objective:

18. Provide summary of care document > 50% of transitions of care and referrals **with > 10% sent electronically and 1 to another organization with a different vendor's EHR**

19. **Provide online access to health information > 50% with > 5% actually accessing it**

20. **More than 5% of patients send a secure messages to their EP**

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Stage 1 Core Measures Incorporated Into Others

- In order to meet the Transition of Care / Referral measure, must contain an up-to-date problem list, medication list and allergy list whether or not they are electronically transferred

Transition of Care / Referral Summary	Problem list
	Medication List
	Medication Allergies

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Elements of the Transfer of Care / Referral Summary Document

Usual Suspects

- Patient name.
- Referring or transitioning provider's name and office contact information (EP only).
- Procedures.
- Immunizations.
- Laboratory test results.
- Vital signs
- Smoking status.
- Demographic information
- Discharge instructions (Hospital Only).
- Reason for Referral (EP)

New Elements:

- Encounter diagnosis.
- Functional status, including activities of daily living, cognitive and disability status.
- Care plan field, including goals and instructions.
- Care team including the primary care provider of record and any additional care team members beyond the referring or transitioning provider and the receiving provider.

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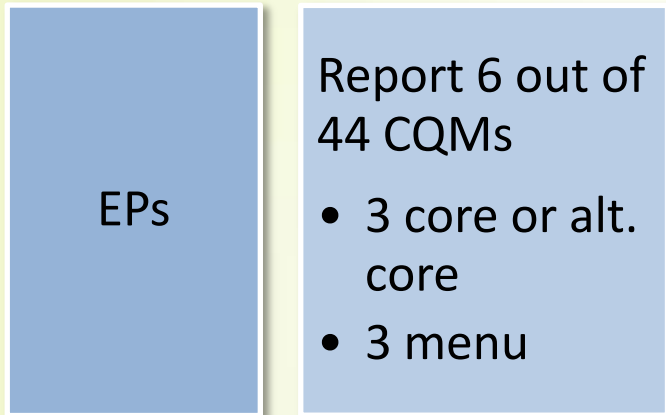Assistance Center for HIT

Stage 2 Menu Objectives
(Select 3 of 6)

1. *More than 10% of imaging results are accessible through Certified EHR Technology*
2. *Record electronic notes in patient records for >30% of unique patients*
3. *Record family health history > 20%*
4. *Successful ongoing* transmission of syndromic surveillance data
5. *Successful ongoing transmission of cancer case information*
6. *Successful ongoing transmission of data to a specialized registry*

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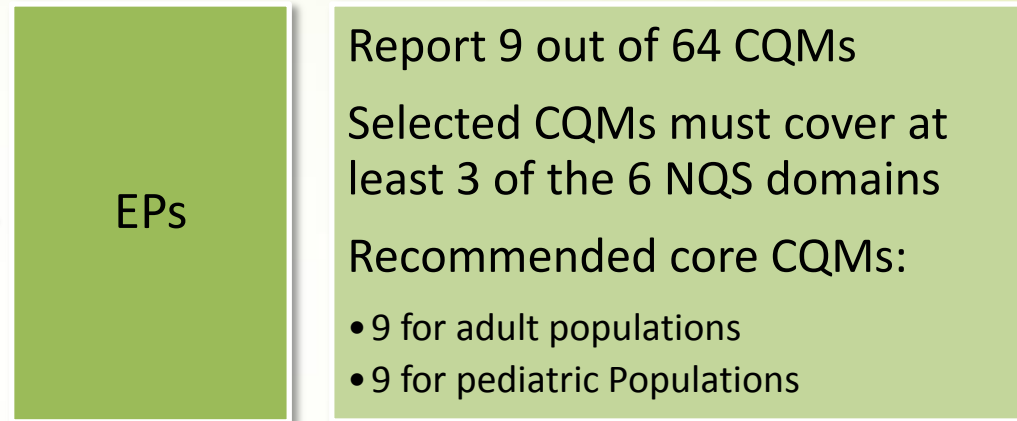
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Clinical Quality Measures

Prior to 2014

EPs

Report 6 out of 44 CQMs
- 3 core or alt. core
- 3 menu

Beginning in 2014

EPs

Report 9 out of 64 CQMs

Selected CQMs must cover at least 3 of the 6 NQS domains

Recommended core CQMs:
- 9 for adult populations
- 9 for pediatric Populations

National Quality Strategy domains (NQS):
1. Patient and Family Engagement
2. Patient Safety
3. Care Coordination
4. Population and Public Health
5. Efficient Use of Healthcare Resources
6. Clinical Processes/Effectiveness

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CQM Specifications

- No change in specifications for the CQMs in 2013

- For EPs starting in 2014

  – 32 of the 44 CQMs finalized in the Stage 1 final rule will remain

  – 32 new CQMs will be added totalling 64

2013 Core Quality Measures for EPs

Measure Number	Clinical Quality Measure Title
NQF 0013	Blood pressure measurement
NQF 0028	Tobacco use assessment and intervention
NQF 0421 PQRI 128	Adult Weight Screening and Follow-up
Alternate Core Measures	
NQF 0024	Weight Assessment and Counseling for Children and Adolescents
NQF 0041 PQRI 110	Influenza Immunization for Patients ≥ 50 Years Old
NQF 0038	Childhood Immunization Status

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2014 CQMs Recommended for Adults

Patient and Family Engagement.	Functional status assessment for complex chronic conditions
Patient Safety.	Use of High-Risk Medications in the Elderly
	Documentation of Current Medications in the Medical Record Description
Care Coordination.	Closing the referral loop: receipt of specialist report
Population/Public Health.	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention
	Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up
	Preventive Care and Screening: Screening for Clinical Depressionand Follow-Up Plan
Efficient Use of Healthcare Resources.	Use of Imaging Studies for Low Back Pain
Clinical Process/Effectiveness.	Controlling High Blood Pressure

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2014 CQMs Recommended for Children
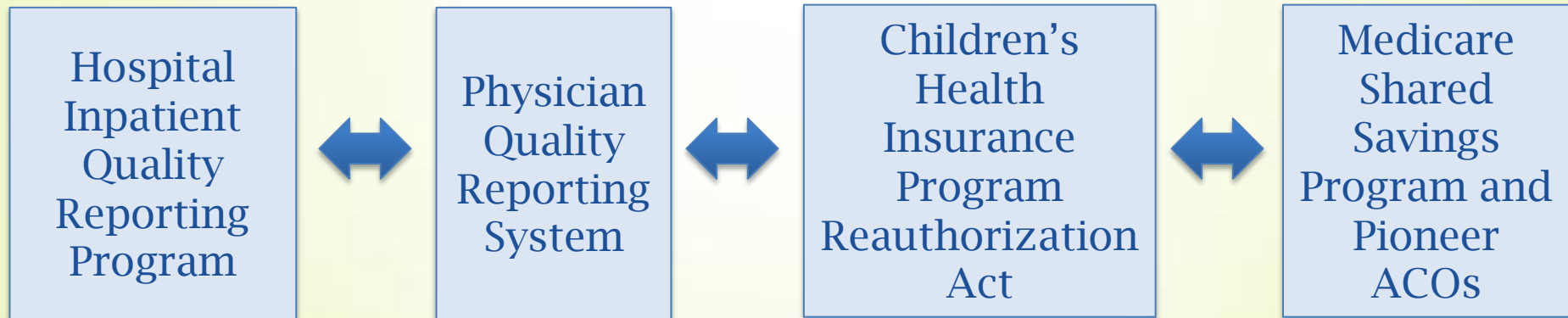
Population/Public Health.	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents
	Chlamydia Screening for Women
	Childhood Immunization Status
	Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan
Efficient Use of Healthcare Resources.	Appropriate Testing for Children with Pharyngitis
	Appropriate Treatment for Children with Upper Respiratory Infection (URI)
Clinical Process/Effectiveness.	Use of Appropriate Medications for Asthma
	ADHD: Follow-Up Care for Children Prescribed Attention-Deficit/Hyperactivity Disorder (ADHD) Medication
	Children who have dental decay or cavities Description: Percentage of children ages 0-20, who have had tooth decay or cavities during the measurement period.

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Additional Quality Measures

- Diabetes
- Cardiovascular disease
- Preventative care and Screening
- Pediatrics
- Geriatrics
- Appropriate use
- Asthma
- Oncology

- Alcohol and drug dependence
- Depression
- Ophthalmology
- HIV/AIDS
- Functional assessment
- Medication management
- Pregnancy
- Referral reports

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Aligning CQMs Across Programs

- The same CQMs will be used in multiple quality reporting programs beginning in 2014
  - Other programs include Hospital IQR Program, PQRS, CHIPRA, and Medicare SSP and Pioneer ACOs

Hospital Inpatient Quality Reporting Program	⟷	Physician Quality Reporting System	⟷	Children's Health Insurance Program Reauthorization Act	⟷	Medicare Shared Savings Program and Pioneer ACOs

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What you can do to prepare

- Prepare for sharing information with patients:
  - Complete patients' problem, medication and allergy lists. Make sure they are up to date and current
  - Decide what types of information you will share with patients
    - Patient portals will require a lot of decision making on the part of providers
  - Begin to encourage patients to get involved in their care
    - Talk up the fact that you will be adding technology to allow them to make appointments on line, message their provider and get their lab results
    - Help patients identify where they might access a computer (library, waiting room) and how to manage privacy in such a setting
  - Explore whether you will use your vendor's portal solution or some other option
- Prepare for exchanging information with others:
  - Establish relationships with other organizations to which you refer in order to begin planning exchange (that can include nursing homes and home care)
  - Think about a connecting with your cancer registry or some other national registry to submit data

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What you can do to prepare

- Make sure your technology will be ready
  - Plan to undergo an EHR upgrade in late 2013 early 2014
  - Talk with your vendor about upgrade timelines
  - Look at the quality measures and let your vendor know which ones are important to you
  - For hospitals, prepare for bar-coded medication administration
- Plan for more decision support
  - Understand how your vendor will support having 5 "interventions" tied to relevant quality measures
  - Begin to think about the types of interventions you will incorporate into your EHR
- Reinforce the fact that we are doing this to achieve the "Triple Aim" of health care:
  - Improving the patient experience of care (including quality and satisfaction)
  - Improving the health of populations
  - Reducing the per capita cost of health care

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Resources:

- Regional Extension Assistance Center for Health Information Technology (REACH)
    - http://www.khaREACH.org
- Stratis Health HIT Toolkits for hospitals, clinics, home health, nursing homes and chiropractic
    - http://www.stratishealth.org/expertise/healthit/
- CMS Stage 2 web page (with Stage 2 specification sheets)
    - http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Stage_2.html
- CMS Meaningful Use Site:
    - http://www.cms.gov/EHRIncentivePrograms/
- Office of the National Coordinator Health IT site:
    - http://HealthIT.gov
- Certified EHRs and what modules they are certified for:
    - http://healthit.hhs.gov/chpl
- CMS Stage 3
    - http://www.healthit.gov/buzz-blog/meaningful-use/set-stage-meaningful-stage-3

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Key Health Alliance—Stratis Health, Rural Health Resource Center, and The College of St. Scholastica.

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