All Payer Hospital System Modernization
Performance Measurement Workgroup Meeting

Meeting Agenda

May 9, 2014, 1 PM
HSCRC
4160 Patterson Ave
Baltimore, MD 21215
410-764-2605

1:00 PM   Outpatient hospital measures

- Overall framework
- Measures and domains

Theressa Lee, MHCC

1:30 PM   Efficiency measures report draft discussion

1:50 PM   Balanced scorecard measures- updated

Dianne Feeney, HSCRC

2:30 PM   Harnessing EMRs / Health IT for Performance Measurement and Population
              Health: Some Challenges and Opportunities

Jonathan P. Weiner, DrPH, The Johns Hopkins University

3:30 PM   Questions/Comments from the audience

3:40 PM   Adjourn

A Review of the Hospital Performance Data Expansion Policy and Outpatient Measures Data Requirements

Theressa Lee, Director, Center for Quality Measurement and Reporting

Presented to the HSCRC Performance Measurement Workgroup
May 9, 2014

Agenda

- Introductory Remarks

- Review of Hospital Performance Data Expansion Policy

- Overview of Outpatient Measures and Recent Changes

- Discussion

Review of Hospital Performance Data Expansion Policy

Purpose:

Strengthen and expand Maryland's system for monitoring and publicly reporting on hospital performance and quality

Support our all-payer hospital regulatory system and its quality programs that focus on patient health outcomes and cost savings

Align with the CMS hospital quality program to demonstrate Maryland's ability to meet or exceed federal requirements

Review of New Measures for CMS Alignment

- **Inpatient Measures**
  - ☐ Perinatal Measure
  - ☐ Structural Measures
  - ☐ Healthcare Associated Infections Data (NHSN)
  - ☐ Exceptions/Clarifications
- **Outpatient Measures**
  - ☐ Claims based
  - ☐ Chart abstracted
  - ☐ Structural Measures

Review of New Measures for CMS Alignment

Inpatient Measures

- Perinatal Measure (PC-01) Elective Delivery Prior to 39 Weeks

- Web-based Structural Measures (4)
    - ☐ Participation in Systematic database for Cardiac Surgery
    - ☐ Participation in Systematic Clinical database Registry for Nurse Sensitive Care
    - ☐ Participation in Systematic Clinical database Registry for General Surgery
    - ☐ *Safe Surgery Checklist Use**
    - ☐ *Participation in Systematic Clinical database Registry for Stroke Care* **(Removed as of FY2014 IPPS Final Rule)**
    - ☐ Requires Yes/No response

Review of New Measures for CMS Alignment

Inpatient Measures (cont'd)

- Healthcare Associated Infections Data (NHSN)
  - ☐ Surgical Site Infection - Colon & Abdominal Hysterectomy
  - ☐ Catheter Associated Urinary Tract Infections (CAUTI) in ICUs
  - ☐ MDRO Module
    - Clostridium Difficile (July 1, 2013)
    - MRSA Bacteremia
  - ☐ Health Care Personnel Influenza Vaccination Module for 2013/14 flu season

Review of New Measures for CMS Alignment

Inpatient Measures - Exceptions/Clarification

- Hospital Based Inpatient Psychiatric Services (HBIPS) measures are not required by acute care hospitals with psych units at this time
- Perinatal Care measures PC-02 through PC-05 are not required
- Stroke Measures (STK-1 through STK-6, STK 8, STK 10) have been replaced with the GWTG Stroke Registry Data
- *Children's Asthma Care (CAC) Measures are not required*
- NHSN SSI data for hip, knee, CABG procedures are still required
- Tobacco Treatment Measures (TOB) are not required
- Substance Use Measures (SUB) are not required

Quality Measures Data Center

- Secure web-portal for quarterly hospital data submission including Inpatient and Outpatient clinical data and HCAHPS data

  - MHCC will follow CMS IQR and OQR data submission schedules
  - MHCC will obtain pre-calculated measure results from CMS for inpatient, outpatient and HCAHPS data
  - Two week data preview period has been eliminated
  - Maintain independent data validation component
  - 1Q2014 outpatient measures data submission delayed until November 2, 2014.

Review of New Outpatient Measures for CMS Alignment

- Outpatient Measures
  - ☐ Claims based
  - ☐ Chart abstracted
  - ☐ Web-based Measures

- MHCC data requirements will follow changes in reporting deadlines implemented by CMS for the IQR and OQR programs.

Review of New Outpatient Measures for CMS Alignment

Outpatient Measures

Claims based Imaging Efficiency Measures (7)

- ☐ OP-8: MRI Lumbar Spine for Low Back Pain
- ☐ OP-9: Mammography Follow-up Rates
- ☐ OP-10: Abdomen CT —Use of Contrast Material
- ☐ OP-11: Thorax CT —Use of Contrast Material
- ☐ OP-13: Cardiac Imaging for Preoperative Risk Assessment for Non Cardiac Low Risk Surgery
- ☐ OP-14: Simultaneous Use of Brain Computed Tomography (CT) and Sinus Computed Tomography (CT)
- ☐ *OP-15: Use of Brain Computed Tomography (CT) in the Emergency Department for Atraumatic Headache **(Reporting Postponed by CMS to 2016)***

Review of New Outpatient Measures for CMS Alignment

Outpatient Measures

Chart Abstracted (12)

Cardiac Care (AMI and Chest Pain) Measures (5)

- ☐ OP-1: Median Time to Fibrinolysis
- ☐ OP-2: Fibrinolytic Therapy Received Within 30 Minutes
- ☐ OP-3: Median Time to Transfer to Another Facility for Acute Coronary Intervention
- ☐ OP-4: Aspirin at Arrival
- ☐ OP-5: Median Time to ECG
- ☐ OP-16: Troponin results Received Within 60 Minutes **(Retired)**

Review of New Outpatient Measures for CMS Alignment

Outpatient Measures

Chart Abstracted

ED Throughput Measures (3)

- ☐ OP-18: Median Time from ED Arrival to ED Departure for Discharged ED Patients

- ☐ *OP-19 Transition Record with Specified Elements Received by Discharged Patients* **(Measure Removed as of CY2014 OPPS Final Rule)**

- ☐ OP-20: Door to Diagnostic Evaluation by a Qualified Medical Professional

- ☐ OP-22: ED- Patient Left Without Being Seen (Numerator/denominator one time per year for the previous year) *

* More information on OP-22 can be found under the web-based measures section of this presentation

Review of New Measures for CMS Alignment

Outpatient Measures

Chart Abstracted/Claims

- ☐ OP-24: Cardiac Rehabilitation Patient Referral From an Outpatient Setting **(Measure Removed as of CY2014 OPPS Final Rule)**

Review of New Outpatient Measures for CMS Alignment

Outpatient Measures

Chart Abstracted

Pain Management (1)

☐ OP-21: ED- Median Time to Pain Management for Long Bone Fracture

Stroke (1)

☐ OP-23: ED- Head CT Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke who Received Head CT Scan

Surgical Care (2)

☐ OP-6: Timing of Antibiotic Prophylaxis

☐ OP-7: Prophylactic Antibiotic Selection for Surgical Patients

Review of New Outpatient Measures for CMS Alignment

Outpatient Measures

Web-based Measures (8)

- ☐ OP-12: The Ability for Providers with HIT to Receive Laboratory Data Electronically Directly into their Qualified/Certified EHR System as Discrete Searchable Data

- ☐ OP-17: Tracking Clinical Results between Visits

- ☐ OP-22: ED- Patient Left Without Being Seen (Numerator/denominator one time per year for the previous year)

- ☐ OP- 25: Safe Surgery Checklist Use

- ☐ OP- 26: Hospital Outpatient Volume Data on Selected Outpatient Surgical Procedures

Note: The submission period for these web-based measures is July 1, 2015 and November 1, 2015 for the reference period CY2014

Outpatient Measures

Web-based Measures (8)

- ❑ OP-27: Influenza Vaccination Coverage Among Healthcare Personnel (reported on the National Healthcare Safety Network website)

- ❑ OP-29: Endoscopy/Polyp Surveillance: Appropriate Follow-Up Interval for Normal Colonoscopy in Average Risk Patients

- ❑ OP-30: Endoscopy/Polyp Surveillance: Colonoscopy Interval for Patients with a History of Adenomatous Polyps – Avoidance of Inappropriate Use

- ❑ OP-31: Cataracts – Improvement in Patient's Visual Function Within 90 Days Following Cataract Surgery **(Collection deferred until January 1, 2015)**

Note: The reference period for OP-29 and OP-30 measure encounters is April 1, 2014, through December 31, 2014. The submission period is from July 1, 2015 through November 1, 2015.

Hospitals will report the data for OP-27 to the National Healthcare Safety Network (NHSN). The data time period is from October 1, 2014 – March 31, 2015. The submission period is from October 1, 2014 through May 15, 2015.

Resources

Maryland Health Care Commission

☐ Quality Measures Data Center: https://www.marylandqmdc.org

☐ Hospital Guide:
http://mhcc.maryland.gov/consumerinfo/hospitalguide/index.htm

Centers for Medicare and Medicaid Services

☐ QualityNet: https://www.qualitynet.org

☐ Outpatient Quality Reporting Q&A tool:
https://cms-ocsq.custhelp.com/app/home2/p/359

☐ Outpatient Quality Reporting Educational Opportunities:
http://www.oqrsupport.com/hospitaloqr/education

Questions?

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Performance Measurement Workgroup
Balanced Scorecard Discussion
May 9, 2014

HSCRC Staff

HSCRC
Health Services Cost
Review Commission

All-Payer Model Mission: A System that Achieves the Triple Aim

Better Care

- Enhance care transitions
- Sustain high physician participation
- Broaden engagement in innovative model of care
- Improve quality of care
- Increase patient satisfaction

Better Health

- Reduce unnecessary admissions and ED visits
- Reduce health disparities
- Increase sharing of data through state HIE
- Improve health status

Reduced Costs

- Reduce overuse of diagnostic testing
- Reduction in rate of growth of health care costs on a per capita basis
- Meaningful savings for all payers

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Better Care

- ▸ **Improve Care Quality**
  - ▸ Patient experience- HCAHPS
  - ▸ Maryland Hospital Acquired Condition scores
- ▸ **Improve care transitions**
  - ▸ Readmissions rates (CMS methodology with exclusions)
- ▸ **Broaden engagement in innovative care models?**
- ▸ **Sustain high physician participation?**

Better Health

- ▶ **Reduce unnecessary admissions and ED visits**
  - ▸ Rates of Acute Composite AHRQ Prevention Quality Indicators
  - ▸ Rates of Chronic Composite AHRQ Prevention Quality Indicators
  - ▸ Rates ED or Observation visits within 30 days
- ▶ **Increase sharing of data through HIE ?**
- ▶ **Improve health status**
  - ▸ State Health Improvement Measures (SHIP) (see Appendix A)

Better Health- Composite Includes

▸ Reduce unnecessary admissions and ED visits
  ▸ AHRQ Prevention Quality Indicators
    ▸ **PQI 01 Diabetes Short-term Complications Admission Rate**
    ▸ **PQI 02 Perforated Appendix Admission Rate**
    ▸ **PQI 03 Diabetes Long-term Complications Admission Rate**
    ▸ **PQI 05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate**
    ▸ **PQI 07 Hypertension Admission Rate**
    ▸ **PQI 08 Heart Failure Admission Rate**
    ▸ **PQI 09 Low Birth Weight Rate**
    ▸ **PQI 10 Dehydration Admission Rate**
    ▸ **PQI 11 Bacterial Pneumonia Admission Rate**
    ▸ **PQI 12 Urinary Tract Infection Admission Rate**
    ▸ **PQI 13 Angina Without Procedure Admission Rate**
    ▸ **PQI 14 Uncontrolled Diabetes Admission Rate**
    ▸ **PQI 15 Asthma in Younger Adults Admission Rate**
    ▸ **PQI 16 Lower-Extremity Amputation among Patients with Diabetes Rate**
    ▸ **PQI 90 Prevention Quality Overall Composite**
    ▸ **PQI 91 Prevention Quality Acute Composite**
    ▸ **PQI 92 Prevention Quality Chronic Composite**

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Reduced Costs

▸ Total Revenue and Volume Trends (Reduce per capita rate of health care costs, Achieve meaningful payer savings)

  ▸ Total Revenue, Medicare and Non-Medicare, Resident and Non-Resident

  ▸ Revenue performance against targets (All-Payer Cap, Medicare Savings, Budgets)

  ▸ Total Volume, Medicare and Non-Medicare, Resident an Non-Resident

▸ Potentially Avoidable Utilization- excess <u>cost attributed </u>to:

  ▸ Re-hospitalization

    ▸ Inpatient- All Hospital, All Cause 30 Day Readmissions using CMS methodology with adjustment for planned admissions

    ▸ ED – any visit within 30 days of an inpatient admission

    ▸ Observation- any observation within 30 days of an inpatient admission

  ▸ Potentially Avoidable Admissions/Visits

    ▸ Inpatient- Agency for Health Care Quality (AHRQ) Prevention Quality Indicators (PQIs) eke. Ambulatory care sensitive admissions

  ▸ Hospital Acquired Conditions as measured by Potentially Preventable Complications (PPCs)

▸ PMPM Efficiency Measures (later)

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Reduce Disparities

▸ Hospital race, ethnicity, language mix, (including collection/capture of data)

▸ Break down all statewide measures by black/white if available:

  ▸ All quality measures from HSCRC casemix data

  ▸ All cost measures from HSCRC data set

  ▸ SHIP measures?

  ▸ HCAHPS?

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Appendix A: Monitoring Commitments and Data Sources Outlined in the CMS Contract

Measurement	Data Files	Source Agency	Monitoring Timeline	Reporting Timeline	CY Data Availability
Performance Target Data					
All-Payer per Capita Test	HSCRC Financial Database	HSCRC	Monthly, 45 days after the end of the month	May 1st	March 1st
	Population Projections and Estimates	MD Dept. of Planning	Annual, December	May 1st	December 31st
Medicare per Beneficiary Hospital Payments	National and Maryland Medicare Part-A Claims	CMS	Monthly, with 4 month lag	May 1st	May 1st
	Beneficiary Enrollment Data	CMS	Monthly, with 4 month lag	May 1st	May 1st
Readmissions	National and Maryland Medicare Claims	CMS	Monthly, with 4 month lag	June 30th	May 1st
Potentially Preventable Complications	HSCRC Case mix Database	HSCRC	Monthly, with 2 month lag	June 30th	March 1st
Guardrails Data					
Medicare per Beneficiary Total Payments	National and Maryland Medicare Part A and Part B Claims	CMS	Monthly, with 4 month lag	May 1st	May 1st
	Beneficiary Enrollment Data	CMS			
Percent of Revenue from Out of State Patients in Maryland (Medicare and All-Payer)	Medicare Claims Data	CMS	Monthly, with 4 month lag	May 1st	May 1st
	HSCRC Financial Database	HSCRC			
Compliance Data					
Shared Savings Amounts from Medicare Programs for Maryland Hospitals (from ACO's, bundled payments, etc, paid outside of claims)	To be developed	HSCRC	At Least Annually	60 days after receipt	TBD
All-Payer Total Cost and Shifts to unregulated space	See Appendix B "Rec Data Source for Gaps"			TBD	Fall

Appendix A: Monitoring Commitments and Data Sources Outlined in the CMS Contract, cont.

Measurement	Data Files	Source Agency	Monitoring Timeline	Reporting Timeline	CY Data Availability
Monitoring Data					
PATIENT EXPERIENCE OF CARE MEASURES					
HCAHPS: Patient's rating of the hospital HCAHPS: Communication with doctors HCAHPS: Communication with nurses HCAHPS : Three-item care transition measure (CTM-3)	Survey	CMS	Annual	June 30th	October
Home Health CAHPS: Patient's rating of home health agency Home Health CAHPS: Communication with the home health team	Survey	CMS	Annual	June 30th	October
Nursing Home CAHPS (State-administered survey based on) : Family members' perceptions of nursing home care	Survey	CMS	Annual	June 30th	Summer
Clinician and Group CAHPS: Patient's perceptions of care provided by a physician in an office.	Survey	CMS	Annual	June 30th	TBD
Short Stay Nursing Home Resident's discharge needs met Short Stay Nursing Home Resident's Discharge planning and information about medicines and symptoms	Survey	MHCC	Annual	June 30th	Summer
Rate of physician follow up after discharge	Claims - Medicare, Medicaid, MCDB	CMS, DHMH, MHCC	Annual	June 30th	TBD
Discharges with PCP identified (Recommended Modification to the measure)	See Appendix B "Rec Data Source for Gaps"			June 30th	Fall
Medicaid participating physicians per Medicaid enrollee;	See Appendix B "Rec Data Source for Gaps"			June 30th	Fall
Medicare participating physicians per Medicare enrollee	See Appendix B "Rec Data Source for Gaps"			June 30th	Fall

This report reflects the deliberations of the Data and Infrastructure Workgroup.
DRAFT FOR REVIEW AND DISCUSSION PURPOSES ONLY

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Appendix A: Monitoring Commitments and Data Sources Outlined in the CMS Contract, cont.

Measurement	Data Files	Source Agency	Monitoring Timeline	Reporting Timeline	CY Data Availability
Monitoring Data					
PATIENT EXPERIENCE OF CARE MEASURES, Cont.					
Participation of providers in patient centered medical home models	See Appendix B "Rec Data Source for Gaps"			June 30th	Fall
Participation of providers in ACOs and bundled payments	See Appendix B "Rec Data Source for Gaps"			June 30th	Fall
Quality score using process of care measures in AMI, HF, SCIP, PN, CAC	Hospital Inpatient Quality Reporting Program	CMS	Annual	June 30th	October
Quality score using process of care measures in outpatient setting	Hospital Outpatient Quality Reporting Program	CMS	Annual	June 30th	October
NHSN CLASBI SIR	Hospital Compare	CMS	Annual	June 30th	TBD
Admission Rates from Home Health Agencies to Acute Inpatient Hospital	Home Health Compare	CMS	Annual	June 30th	October
Unplanned, urgent visits to the Emergency Departments for patients receiving Home Health care				June 30th	October
Readmission rates from nursing home to acute care hospital (Readmission rate for Hospital Discharges to Nursing Homes)	Hospital Inpatient Discharge Abstract	HSCRC	Annual	June 30th	March 1st
Readmissions per 1000 residents	HSCRC Case Mix Database Population Estimates	HSCRC MD Dept. of Planning	Annual	June 30th	March 1st
Condition-Specific Hospital Readmissions Rates: • Heart Failure • Pneumonia • Acute Myocardial Infarction • Chronic Obstructive Pulmonary Disease • Hip/Total Knee Arthoplasty	Hospital Inpatient Discharge Abstract	HSCRC	Annual	June 30th	March 1st

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Appendix A: Monitoring Commitments and Data Sources Outlined in the CMS Contract, cont.

Measurement	Data Files	Source Agency	Monitoring Timeline	Reporting Timeline	CY Data Availability
Monitoring Data					
POPULATION HEALTH MEASURES				June 30th	
SHIP Objective 1*: Increase life expectancy	Vital Statistics Data	DHMH	Annual	June 30th	July
Prevention Quality Indicator (PQI) Composite Measure of Preventable Hospitalization	HSCRC Case Mix Database	DHMH	Annual	June 30th	July
SHIP Objective 32: Reduce the % of adults who are current smokers	Behavioral Risk Factor Surveillance System (BRFSS)	DHMH	Annual	June 30th	March
SHIP Objective 33: Reduce the % of youth using any kind of tobacco product	Maryland Youth Tobacco Survey	DHMH	Annual	June 30th	June
SHIP Objective 24: Increase the % vaccinated annually for seasonal influenza	CDC National Immunization Survey; BRFSS	DHMH	Annual	June 30th	March
SHIP Objective 23: Increase % of children with recommended vaccinations	CDC National Immunization Survey	DHMH	Annual	June 30th	September
SHIP Objective 20: Reduce new HIV infections among adults and adolescents	MD HIV surveillance system; US Census Bureau; ACS 5 year Census	DHMH	Annual	June 30th	March
SHIP Objective 27: Reduce diabetes-related emergency department visits	HSCRC Case Mix Database	DHMH	Annual	June 30th	July
SHIP Objective 28: Reduce hypertension related emergency department visits	HSCRC Case Mix Database	DHMH	Annual	June 30th	July
SHIP Objective 31: Reduce the % of children who are considered obese	Maryland Youth Tobacco Survey	DHMH	Annual	June 30th	June
SHIP Objective 30: Increase the % of adults who are at a healthy weight	Behavioral Risk Factor Surveillance System (BRFSS)	DHMH	Annual	June 30th	March
SHIP Objective 17: Reduce hospital ED visits from asthma	HSCRC Case Mix Database	DHMH	Annual	June 30th	July
SHIP Objective 34: Reduce hospital ED visits related to behavioral health	HSCRC Case Mix Database	DHMH	Annual	June 30th	July
Fall-related death rate	Mortality database	Maryland Vital Statistics Admin	Annual	June 30th	July

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Appendix A: Monitoring Commitments and Data Sources Outlined in the CMS Contract, cont.

Measurement	Data Files	Source Agency	Monitoring Timeline	Reporting Timeline	CY Data Availability
Monitoring Data					
HOSPITAL COST/EFFICIENCY MEASURES					
OP-8 : MRI Lumbar Spine for Low Back Pain OP-9: Mammography Follow-up Rates OP-10: Abdomen CT - Use of Contrast Material OP-11:Thorax CT - Use of Contrast Material OP-13: Cardiac Imaging for Preoperative Risk Assessment for Non Cardiac Low Risk Surgery OP-14: Simultaneous Use of Brain Computed Tomography (CT) and Sinus Computed Tomography (CT)	HSCRC Case Mix Database (OP-10, 11, and 14 only) or Medicare Claims (Hospital Compare); See Appendix B "Rec Data Source for Gaps"	CMS, MHCC	Annual	June 30th	July
Per capita hospital expenditure growth (inpatient and outpatient) for: • All-payer • Medicare • Medicaid/CHIP • Private payer • Medicare/Medicaid Enrollees (Dual Eligible)	Hospital Inpatient and Outpatient Discharge Abstract; Insurance Enrollment Files	HSCRC	Annual	June 30th	March 1st
Per capita health expenditure growth (inpatient and outpatient) for: • All-payer • Medicare • Medicaid/CHIP • Private payer • Medicare/Medicaid Enrollees (Dual Eligible)	See Appendix B "Rec Data Source for Gaps"		TBD	June 30th	TBD

This report reflects the deliberations of the Data and Infrastructure Workgroup.
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Appendix B: Recommendations for Data Sources to Address Gaps Compliance Data

Measurement	Recommended Data Files	Recommended Data Source Agency	Monitoring Timeline	Limitations & Considerations
Compliance Data				
All-Payer Total Cost and Shifts to unregulated space	Total Cost of Care Template	Medicaid and Commercial Payers	Annually	Considerations include: easy to submit on regular basis; clear definitions to ensure consistent reporting; build upon existing and well-documented models; and sufficiently disaggregated
Monitoring Data				
PATIENT EXPERIENCE OF CARE MEASURES				
Discharges with PCP identified	To be developed	CRISP	Annual	Measure is not exactly consistent with CMS requirement, there is a strong case to be made that this measure is a better indicator of supporting transitions in care and more consistent with meaningful use requirements.
Medicaid participating physicians per Medicaid enrollee;	HealthChoice directory of participating providers	DHMH Medicaid	Annual	Potential duplication of providers, or providers who are not actively seeing Medicaid patients or other inaccuracies
Medicare participating physicians per Medicare enrollee	Medicare.gov Physician Compare directory	CMS	Annual	Potential duplication in provider data and a lack of current information on whether providers are actively seeing Medicare beneficiaries or open for new patients
Participation of providers in patient centered medical home models	On-line directory of clinicians and sites that have received NCQA reorganization as a medical home	National Committee for Quality Assurance (NCQA)	Annual	Does not include providers participating in other medical home initiatives in Maryland (i.e., CareFirst Initiative)

Appendix B: Recommendations for Data Sources to Address Gaps Compliance Data, cont.

Measurement	Recommended Data Files	Recommended Data Source Agency	Monitoring Timeline	Limitations & Considerations
Monitoring Data				
PATIENT EXPERIENCE OF CARE MEASURES, cot.				
Participation of providers in ACOs and bundled payments	Medicare- Funded: To be developed; Alternative Rate Methodology Statistics	CMS; HSCRC	Annual	CMS has not permitted Maryland hospitals to participate in bundled payment demonstrations; however, the agreement with CMS encourages Maryland to come forward with proposals under different CMMI initiatives.
HOSPITAL COST/EFFICIENCY MEASURES				
OP-8 : MRI Lumbar Spine for Low Back Pain OP-9: Mammography Follow-up Rates OP-10: Abdomen CT - Use of Contrast Material OP-11:Thorax CT - Use of Contrast Material OP-13: Cardiac Imaging for Preoperative Risk Assessment for Non Cardiac Low Risk Surgery OP-14: Simultaneous Use of Brain Computed Tomography (CT) and Sinus Computed Tomography (CT)	Claims (Hospital Compare); Other Payers (OP-8, 9, and 13 To Be Developed) (OP-10, 11, and 14 HSCRC Case Mix Database)	CMS; HSCRC; MHCC	Annual	Medicare specific measures are published at Hospital Compare website. All-payer Measures for OP-10, 11, and 14 should be able to be calculated from outpatient hospital data only. The other three efficiency measures need to be developed using all-payer claims data base.
Per capita health expenditure growth (inpatient and outpatient) for: • All-payer • Medicare • Medicaid/CHIP • Private payer • Medicare/Medicaid Enrollees (Dual Eligible)	Total Cost of Care Template for All-Payer, Medicaid & Private Payers; Medicare Data for Medicare and Dual eligible	Medicaid, Commercial Payers and Medicare	Annual	Considerations: See Total Cost of Care template above

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Appendix C: Draft Reporting Template for Total Cost of Care

MD Providers																											
Acute Hospital Inpatient						Acute Hospital Outpatient												Specialty Hospitals									
All Inpatient (except Psych& Rehab)		Psych		Rehab		ER		OP/PT		Diagnostic/ Imaging		Surgery		Clinic		All Other		Psych		Rehab		Cancer Hospitals		Children's Hospitals		Chronic/ LTC	
Exp	Adm	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	NA	NA	Exp	Visits	Exp	Visits

Out of State Providers																											
Acute Hospital Inpatient						Acute Hospital Outpatient												Specialty Hospitals									
All Inpatient (except Psych& Rehab)		Psych		Rehab		ER		OP/PT		Diagnostic/ Imaging		Surgery		Clinic		All Other		Psych		Rehab		Cancer Hospitals		Children's Hospitals		Chronic/ LTC	
Exp	Adm	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits

Ambulatory Care																								Enrollment
Non-Hospital Outpatient			Professional/Clinic						Long-TermCare/Post Acute									Other						
ASC		Urgent Care		PCP		Non-PCP		Therapies		SNF		Home Health		Hospice		HCBS		Lab		Pharmacy		Imaging X-Ray		All Other Medical		
Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Exp	Visits	Member Months

Exp = Expenses; Adm = Admissions

Reporting Levels

Age Groups

Enrollee County of Residents

Market Segment

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Harnessing EMRs / Health IT for Performance Measurement and Population Health: Some Challenges and Opportunities

Jonathan P. Weiner, DrPH

**Professor of Health Policy & Management and of Health Informatics,
Director, Center for Population Health IT (CPHIT)
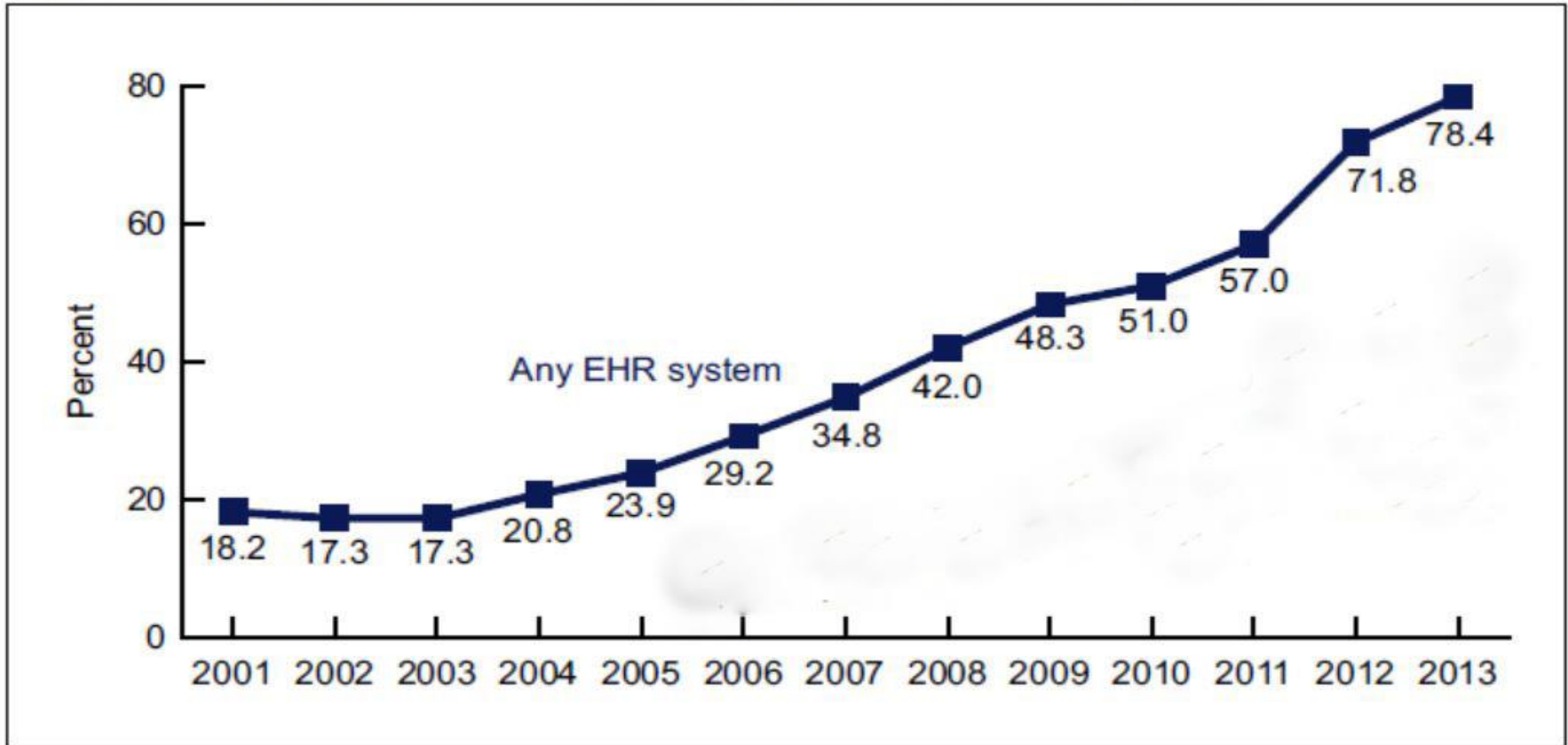The Johns Hopkins University, Baltimore Maryland, USA**

Presented to the HSCRC Performance Measurement Workgroup 5/9/14

Digitalization of medical care has reached a "tipping point" The implications for measurement will be profound

Figure 1. Percentage of office-based physicians with EHR systems: United States, 2001–2013

Source: USDHHS, CDC-National Center for Health Statistics - 2014

IN THIS PRESENTATION I WILL DISCUSS THE FOLLOWING AREAS

- **The evolving *digital health milieu***

- ***New paradigms* for EMR based performance measurement**

- **HIT as an enabler for *population health***

- **Some preliminary thoughts about *HIT in support of measurement* for the All-Payer waiver**

The new "digital health care milieu"

ACO= Accountable Care Organization
EHR = electronic health record
PHR = personal health record
CDS = clinical decision support IT systems
MIS/HIS = Management/Health IT systems
POE = provider order entry IT systems

PH/HR = public health / human resource IT systems
Telemed = telemedicine/ remote patient monitoring-M-health = mobile health applications
ICT = information / communication technology

Source: Weiner, 2012 http://www.ijhpr.org/content/1/1/33

HIT is the core of the Accountable Care Organization (ACO)
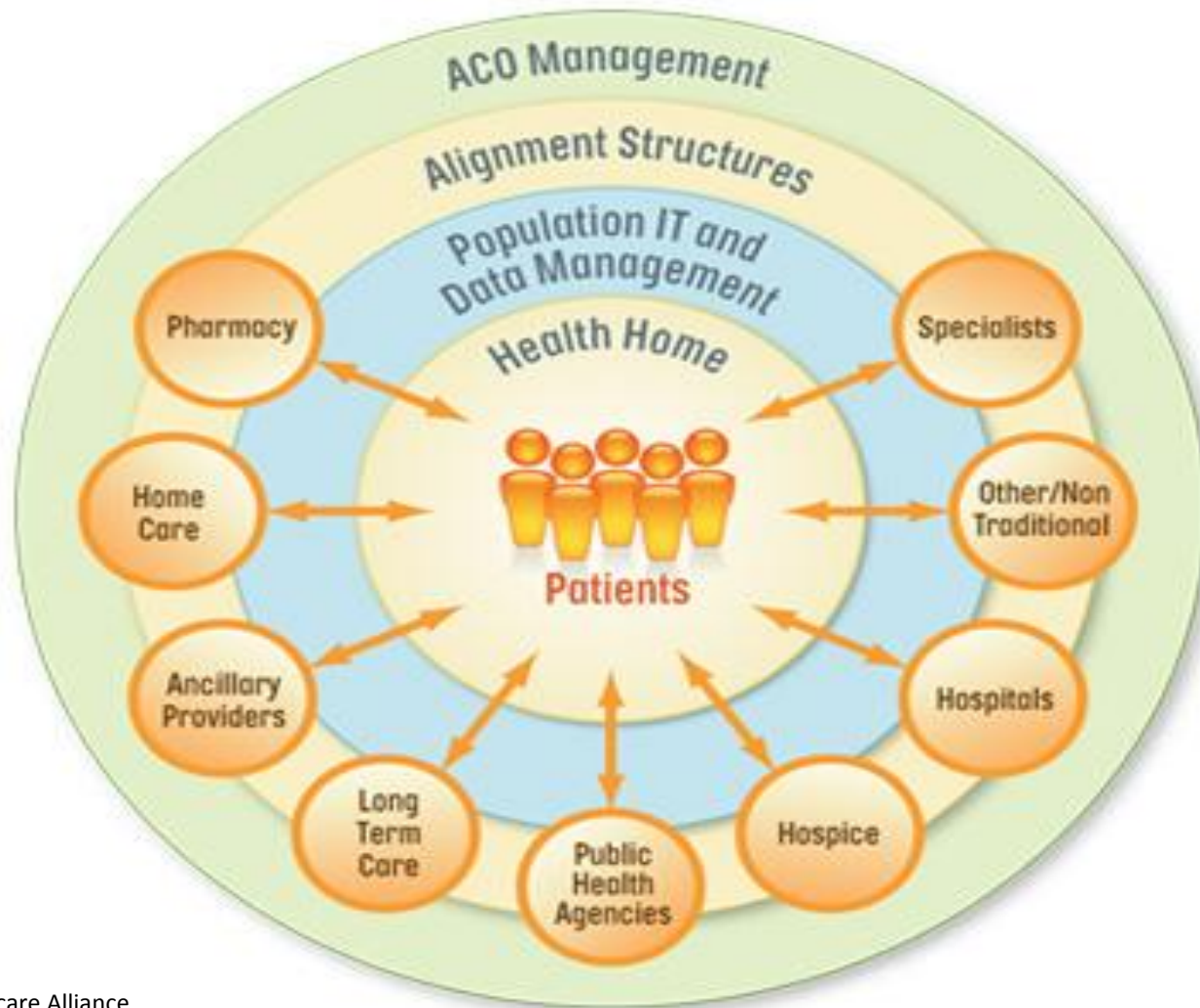
Source: Premier Healthcare Alliance

The shifting US "data economy" – the transition from admin/claims to EHR systems

Estimated % of health care contact information captured primarily by admin data vs. EHR systems, US 1980-2040

Admin/Claims

EHRs

Percent of health care contacts captured

Year

— Electronic Health Record (EHR) IT   — Stand Alone Comprehensive Payer Claims IT System
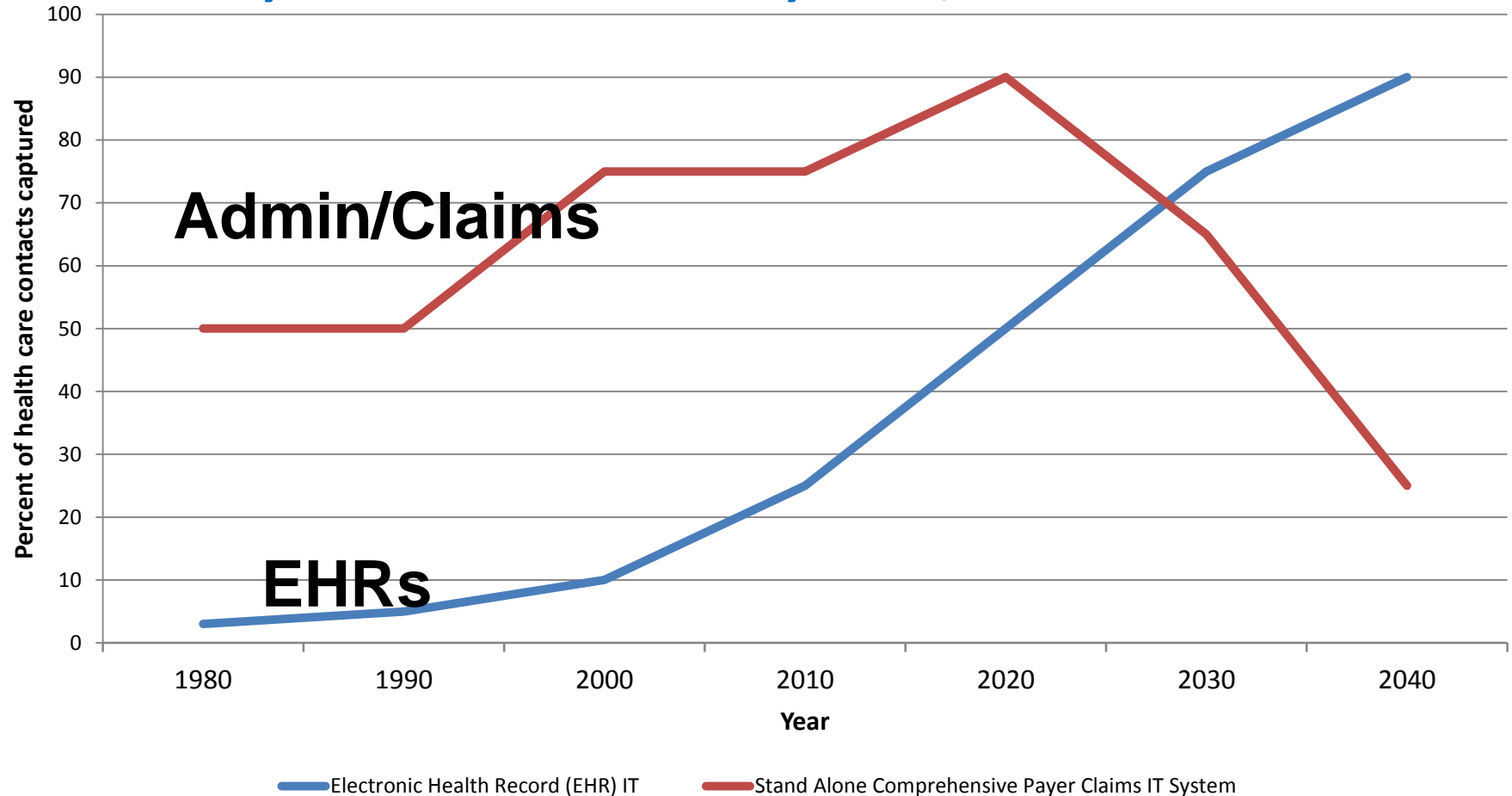
The Changing Axiom of the US Health Care "Data Economy"

	CLAIMS/ ADMIN DATA	EHR/HIT/E-HEALTH
MOTIVATOR	•REIMBURSEMENT •MANAGEMENT •P4P/QI/REPORTING	•CARING FOR ONE PT • CARE WORKFLOW • P4P/QI/REPORTING
ADVANTAGES	• UBIQUITOUS • INTEROPERABLE • ACCURATE IF RELATED TO $$ •STANDARDIZED	• CLINICALLY RICH • SELF DOCUMENTING • CONSUMER INFO
DISADVANTAGES	• LIMITED CLINICALLY • INACCURACY RELATED TO $ • DATA HOLES EXIST	• POOR INTEROPERABILITY • ACCURACY INCENTIVES ? • STANDARDS IN FLUX • DATA UNSTRUCTURED

There will be profound opportunities to use HIT to develop population-based performance measures for:

- Quality improvement for **provider** organizations
  - Real time (safety / care management)
  - Retrospective evaluation / QI

- **Community** / regional health monitoring and improvement

- **Knowledge** creation to improve effectiveness / outcomes (the "learning" health system)

- Improving efficiency through **management / financing** initiatives (e.g., P4P targets)

Review of data sources and types of quality / performance measures

Type of Measure

Data Source:	Denominator	Process	Outcome	Pt-Cent.	Cost
Electronic / HIT					
PH records / registry	X				
Payer / provider HIS	X	X	X		X
EHR	X	X	X		X
CPOE (order entry)	X				
PHR /m-health /web-portal		X	X	X	
CDS (clinical support)		X	X		
Non-electronic					
Paper medical record		X	X		
Surveys (mail/phone)			X	X	

A typology for HIT based electronic quality measures ("e-QMs")

1) Translated: Traditional (e.g., paper record and claims) measures translated for use on HIT platforms. (*Level-1*)

2) HIT-facilitated: Measures that while not conceptually limited to HIT, would not otherwise be feasible. *(Level-2)*

3) HIT-enabled: Measures that generally would not be possible outside of EHR context. *(Level -3)*

4) HIT system management / CQI: Measures needed to implement, manage and evaluate HIT systems.

5) "e-iatrogenesis" / HIT safety: Measures of patient harm caused at least in part by sub-optimal application of HIT.

Examples of each type of e-QM

1) Translated: *(Level-1)*
- EHR version of existing NCQA/HEDIS/JCAHO measures (such as % with tests ordered)

2) HIT-facilitated: *(Level -2)*
- % of children > BMI of *x* receiving intervention
- % of <u>entire population</u> achieving BP below certain threshold

3) HIT- enabled: *(Level -3)*
- % of consumer generated web-based shared-care plans accessed by both generalist & specialists within 6 months
- % of in scope care that is routed through CDSS supported workflow algorithm
- % of PCPs who read key sections of specialists referral note

11

Examples of each type of e-QM - cont.

4) HIT system management:

- Attainment of EHR interoperability targets

- % of prescriptions via e-prescribing

- % of CDS alerts ignored by clinicians

5) e-iatrogenesis / safety:

- % of e-prescriptions that result in wrong drug

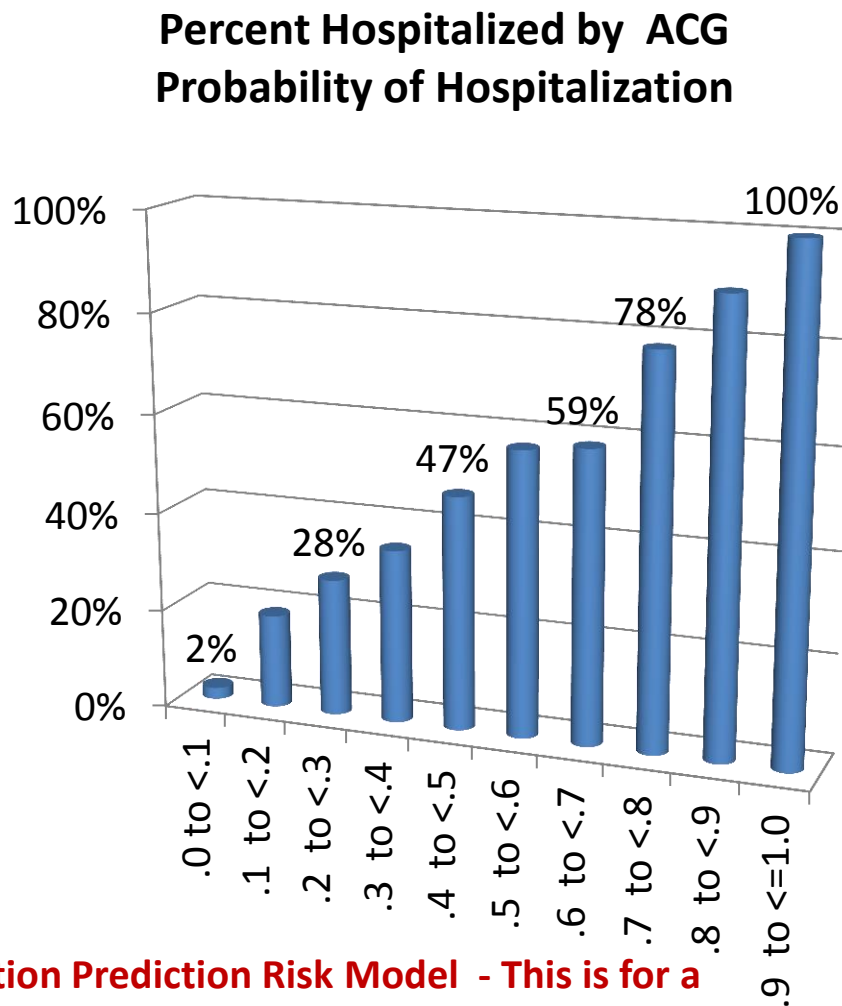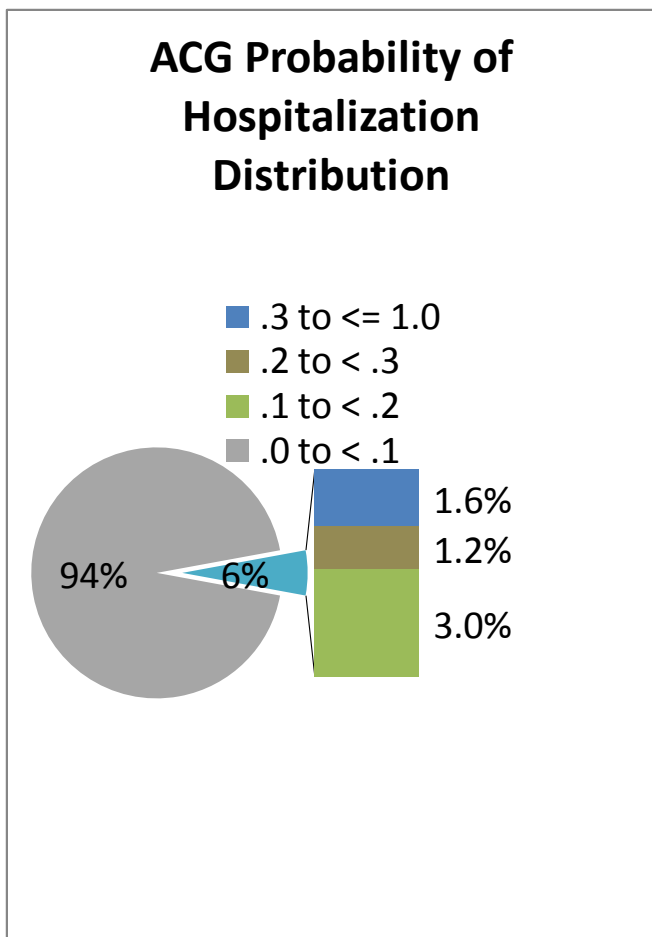# Applications of HIT for "*population health decision support*" within integrated delivery systems

- Risk identification / stratification for targeting priority populations/patients
- Provider focused process improvement focusing on patient "denominator"
- Patient / consumer targeted care management using "e-health" / "m-health" tools.
- High level monitoring of outcomes/value of the entire population

13

Innovative uses of widely used Johns Hopkins ACGs population case-mix measure among the 300+ organizations in 16 nations that apply them (www.acg.jhsph.edu)

Government Agency
- Risk-Adjusted Payments
- Comparative Effectiveness Research
- Disparities measurement
- Medical Homes Support
- Provider performance measurement

Provider Organizations
- Population Stratification
- High Risk Case Identification
- Risk-based contract evaluation

Health Plan
- Provider Performance Measurement
- Population Stratification
- High Risk Case Identification
- Medical Homes Support
- Actuarial / Underwriting/Bid rate
- Revenue Optimization

Using Predictive Models to Identify Patients at Risk for Future Hospitalization:
Johns Hopkins ACG system

ACG Probability of Hospitalization Distribution

- .3 to <= 1.0
- .2 to < .3
- .1 to < .2
- .0 to < .1

94%   6%

1.6%
1.2%
3.0%

Percent Hospitalized by ACG Probability of Hospitalization

2%   28%   47%   59%   78%   100%

.0 to <.1
.1 to <.2
.2 to <.3
.3 to <.4
.4 to <.5
.5 to <.6
.6 to <.7
.7 to <.8
.8 to <.9
.9 to <=1.0

Scores Based on ACG Version 9.0 Hospitalization Prediction Risk Model - This is for a Medicaid Cohort enrolled in private health plans. (See www.acg.jhsph.edu)

NQF certified "Total Cost of Care" (TCOC) Index developed by Health Partner (MN) using Johns Hopkins ACG case mix measure

TCOC Uptake Across the Country — HealthPartners
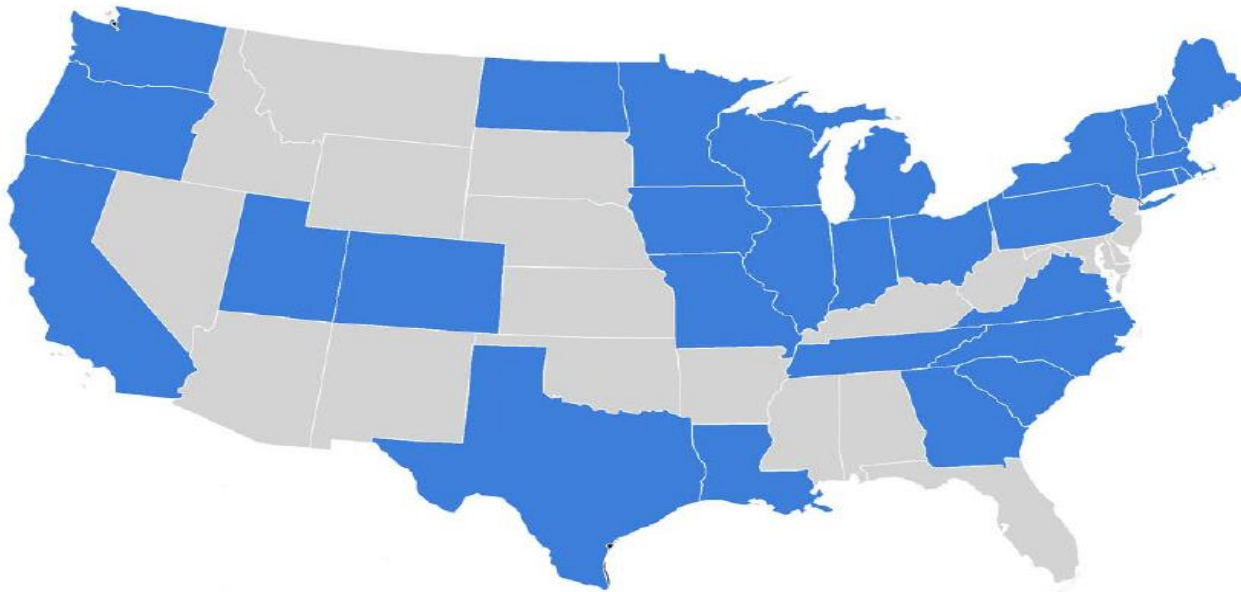
Since the NQF endorsement in 2012,
- 90+ licensees in 29 states (blue colored states).
- Plus several national and regional organizations.

Use of "TCOC" on Performance Dashboard by Alliance of Community Health Plans (ACHP)

FIGURE 1: PRIORITY HEALTH TOTAL COST OF CARE DASHBOARD REPORT

Accountable Care Network	Risk Score	Total Cost of Care	Adm / 1000	Cost per Adm	Readm Rate	OP Fac Cost PMPM	OP Surg Cost PMPM	OP Lab Cost PMPM	ER Visit / 1000	Spec Cost PMPM	2011 Quality Index
Group J	1.25	0.89	0.92	0.98	1.02	0.73	0.82	0.9	0.74	0.94	
Group I	1.27	0.91	0.94	0.91	0.71	0.86	0.87	0.56	1.03	0.96	0.96
Group T	1.76	0.91	0.89	1.06	1.18	0.85	0.89	0.53	0.79	0.92	0.93
Group B	0.96	0.91	1.18	0.83	0.68	0.83	0.87	0.73	1.04	0.87	1
Group G	1.22	0.94	0.82	1	0.74	1.01	1.07	1.19	1.08	0.98	1.02
Group D	1.02	0.98	1.12	0.91	0.77	0.86	0.85	0.95	0.87	0.97	1.03
Group H	1.18	0.99	0.88	1.07	0.75	0.9	1.07	0.85	0.98	1.18	0.85
Group N	1.13	1.03	1.22	1	0.89	0.92	0.81	1.15	0.96	0.94	1
Group S	1.06	1.28	0.98	1.18	0.88	1.74	1.29	2.32	1.17	1.14	0.8
Group O	0.86	1.39	1.09	1.17	0.88	1.64	1.45	2.43	1.44	1.46	0.36

Chart does not include full set of Priority Health network groups.

Legend: ■ High Performance (green) ■ Average Performance (yellow) ■ Low Performance (red)
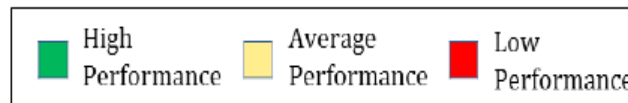
Scores that fall between measurements are shaded accordingly.

EHR and other HIT data offer new profound opportunities to measure risk beyond current claims based models ("e-ACGs")

Clinical Domain
Symptoms/Physical Status
Diagnostics
Therapeutics
Medical History
Genomics

Consumer Domain
Socio-economic
Behavioral/Lifestyle
Family
Preferences
Insurance Status
Knowledge/Attitudes
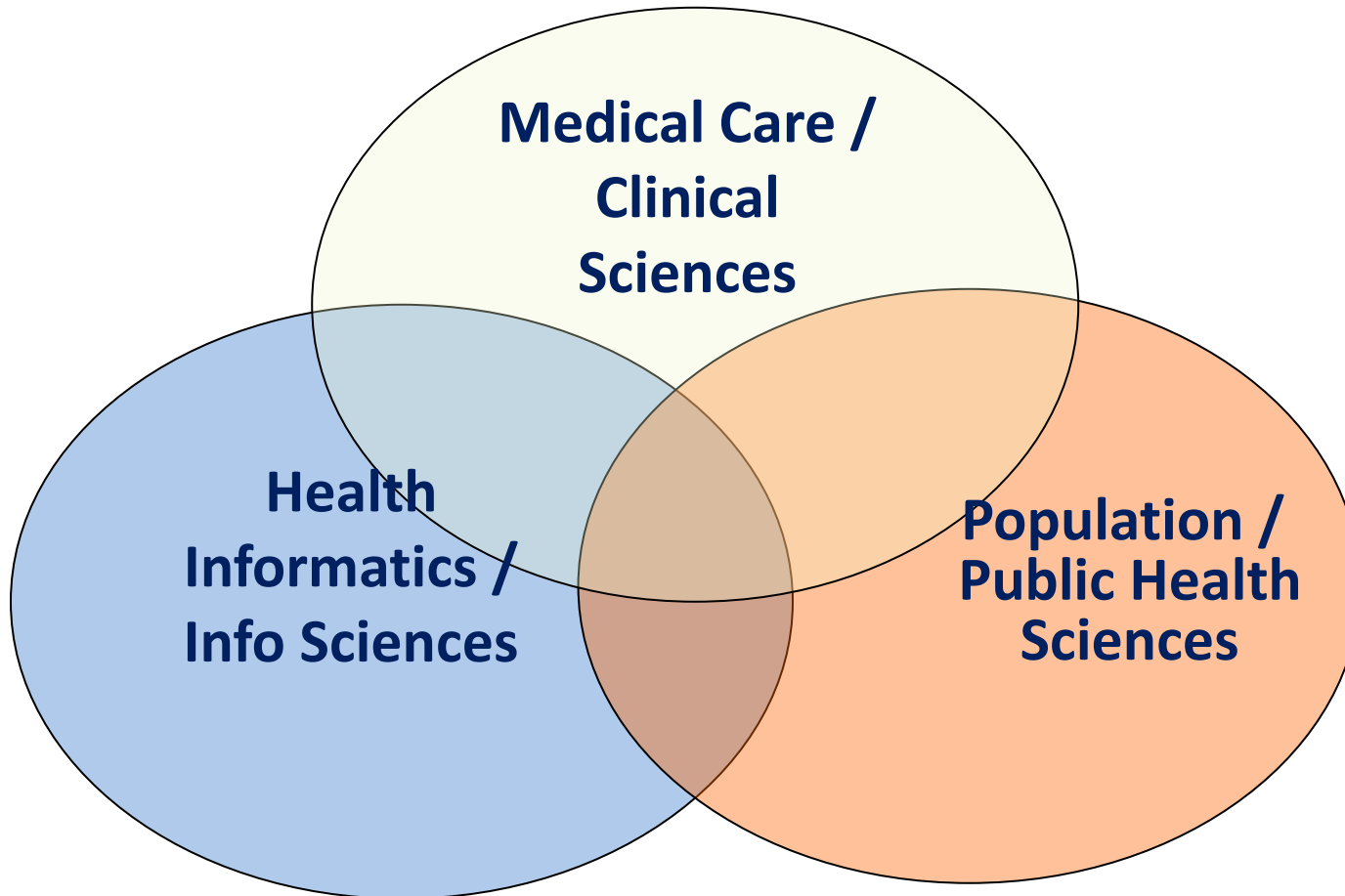Community Norms
Access to Care
Race/ethnicity

Electronic Health Records

MAXIMIZING HEALTH (AND VALUE) FOR POPULATIONS

HIT WILL MAKE IS FEASIBLE… AND INEVITABLE

Population Health Informatics:
An Integration of Three Disciplines

Working Definitions

Population Health

"Population health comprises organized activities for assessing and improving the health and well-being of a defined population."

Population Health Informatics (PHIT):

"Population health informatics is the systematic application of information technologies and electronic information to the improvement of the health and well-being of a defined community or other target population."

A controversy: "Public Health" vs. "Population Health"

HIT WILL ALLOW GREAT ADVANCES IN POPULATION HEALTH

- Ways to integrate disparate "numerators" & "denominators" to define true populations and communities.

- Models and tools to help medical care systems move towards "population value" perspectives.

- Advanced tools for extracting and analyzing unstructured data from many sources.

- Standards and frameworks for integrating across EHR / IT vendors to achieve true community standards.

Conceptual model for the "Maryland Population Health Information Network" (M-PHIN) in Support of the new "All Payer" Population-Based Global Budget Hospital Payment System
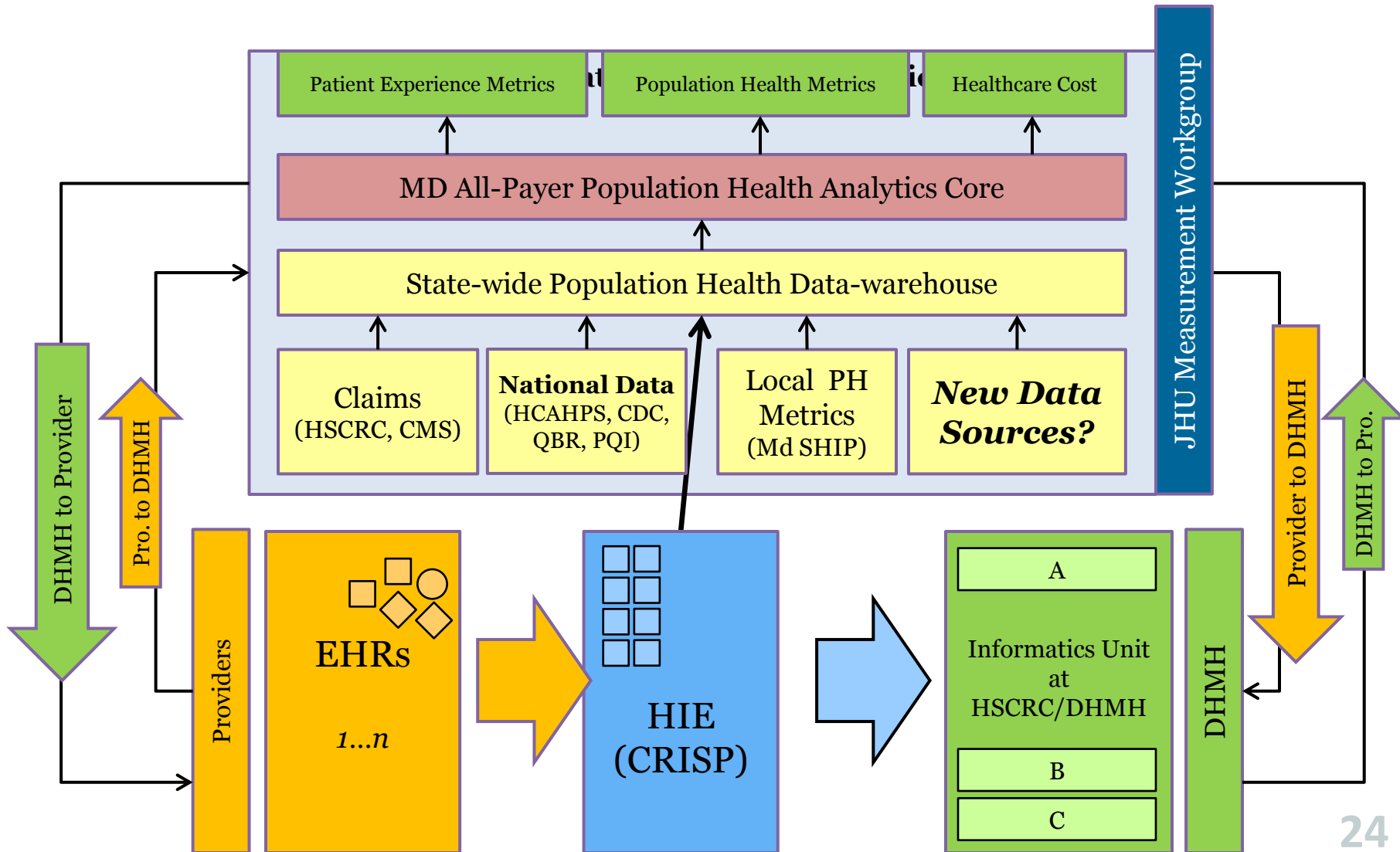
New Measures JHU Team Could Potentially Help to Develop, Pilot and Evaluate

- State-of the-art population health metrics that tap into a broader range clinical, public health, consumer and human service digital sources.

- New quality measures representing broader perspectives: Patient reported outcomes (PROs) / consumer wellbeing; Palliative care measures; Over utilization (aka "choosing wisely").

- Innovative ways to integrate existing quality measures (QMs), EMR meaningful use (MU) metrics into the population framework. (We would work with CMS Innovations center re ACO, MU , PQRS and new "MIPS" - SGR replacement.)

- Expanding EHR sources to create: more timely measures (daily, weekly or real-time), more localized measures (integrating GIS data), more integrated measures (across providers)

- New predictive models for quality (and potentially care management) E.g., forecasting readmission, community residing consumer at high-risk.

- 50% of MD Patients will be captured within the Epic EMR system. Epic has indicated their willingness to work with us on this initiative to support cross-provider linked pop health metrics and management.

Goals of John Hopkins "Overuse" Measure Project

- To identify a set of potentially overused medical procedures (indicator procedures) that can be characterized with administrative claims

- To aggregate these indicators into a **single indicator of overuse**

- To test whether the index is associated with higher costs and worse clinical outcomes.

Source: J. Segal et al. See White paper at:

http://www.hscrc.state.md.us/documents/md-maphs/wp-sub/JHHS-PAU-White-Paper.pdf

Example Potentially Overused Procedures (From JHU Overuse Index)

	Mean	Median	Interquartile Range	
			Per 1000	
Stress echocardiography in symptomatic or ischemic equivalent acute chest pain	33	22.7	2.7	45.5
Abdomen CT, use of contrast material	222	187	133	288
Thorax CT, use of Contrast Material	64.9	47.5	26.8	79.7
MRI Lumbar Spine for Low Back Pain	395	395	356	441
Sinus CT or antibiotics for uncomplicated acute rhinosinusitis	14	12.4	6.9	19.1
Diagnostic tests, like immunoglobulin testing, in evaluation of allergy	4.5	3.7	1.7	5.8

Figure 2. 30-Day Mortality Rate after Hopsitalization vs. Overuse Index
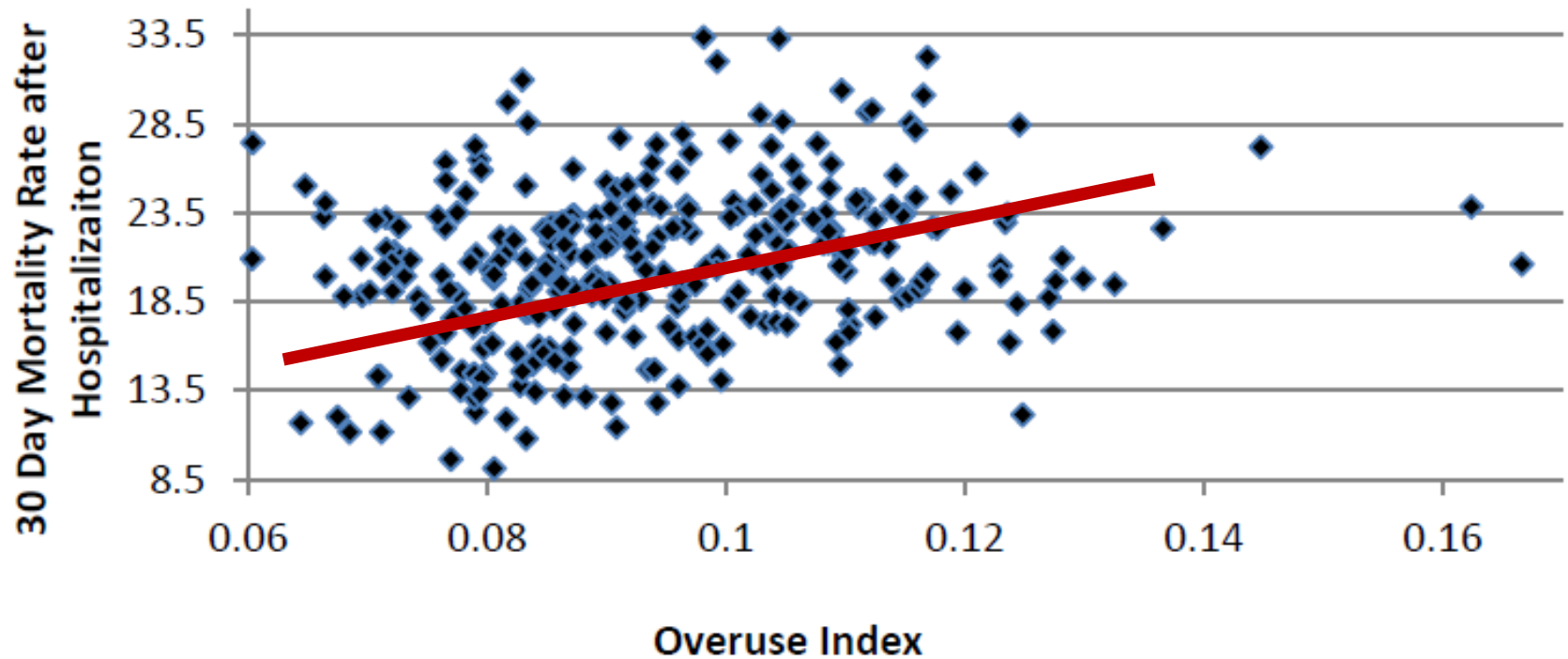
Legend: Overuse Index generated using Medicare Parts A and B, 2008 for each of 306 Health Referral Regions

(r=0.27, p=<0.0001)

Some Challenges and Opportunities in the Measurement / Data Infrastructure Domain Facing the Maryland "All Payer Waiver Community"

- Challenges:

  - There are many transformations that will be required to move from hospital/ episode centric care to the population perspective.

  - Balancing CMS requirement of traditional hospital/claims centric "legacy" metrics with future oriented innovative metrics and tools.

  - Though most electronic data sources we propose to use are available, many technical and standardization challenges will be faced.

- Opportunities

  - The "Stars are in Alignment" for what we propose. The all-payer, PCMH, and data systems are unique here in Maryland.

  - Our new metrics can serve as a national (international?) model.

  - The population centric "M-PHIN" Health IT system we propose is inevitable in the future. Maryland can be the first to build it.

  - We have a unique set of partners at the table to really make this happen!

The new Johns Hopkins Center for Population Health IT (CPHIT) will be central to many of these advances

The **mission** of CPHIT ("see-fit") is to improve the health and well-being of populations by advancing the state-of-the-art of Health Information Technology (HIT) and e-health tools used by private health care organizations and public health agencies.

CPHIT's **focus** will be on the application of electronic health records (EHRs), e-health and other digitally-supported health improvement interventions targeted at communities, special need populations and groups of consumers cared for by integrated delivery systems (IDSs).

JOHNS HOPKINS
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*of* PUBLIC HEALTH

www.jhsph.edu/cphit

JHU - CPHIT Key R&D priorities

1. Health status and quality measures created from HIT systems.

2. Text mining (NLP) and pattern recognition tools.

3. Linking provider- and consumer-centric HIT systems.

4. e-Decision support to manage high risk populations.

5. Approaches for surmounting HIT interoperability.

6. Legal / ethical and policy frameworks for secondary use of HIT

7. EHR-based tools for IDS quality / safety improvement.

8. Integration of "community" data for pop-based interventions.

9. Standardized tools to support pop health IT/informatics R&D.

And while the "direction of travel" of key HIT trends is 100% clear, the journey may not be so simple
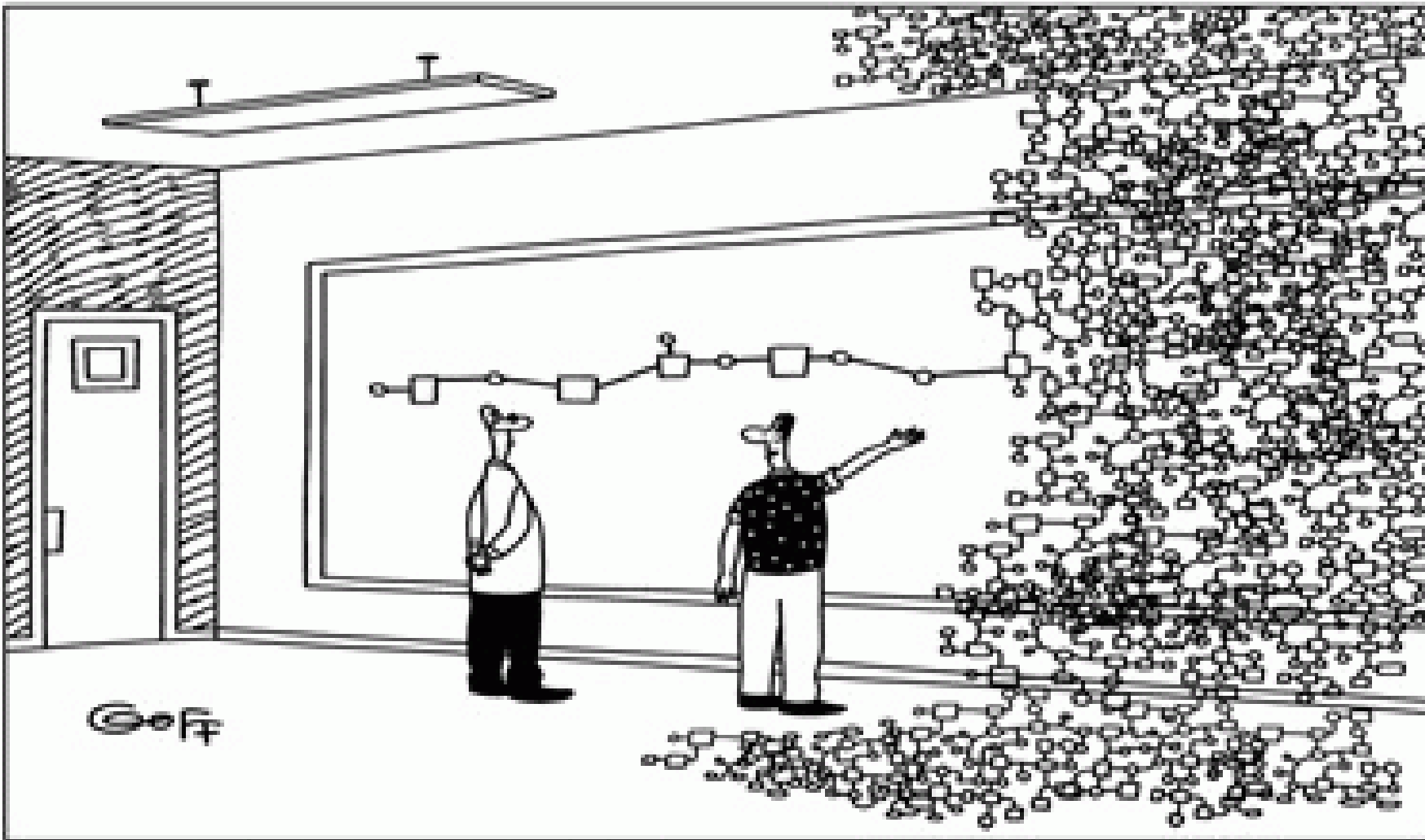
Further Information ??

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