Harnessing the Power of EHRs & Health IT to Improve Care, Health, and Efficiency: *The Next 20 Years*

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I WILL DISCUSS THE FOLLOWING HIT *TWO-DECADE IMPACT AREAS*

- The evolving *digital health milieu*

- The *health data-economy* shift

- The challenges of *interoperability*

- The new *e-patient / e-clinician* dyad

- HIT as an enabler for *population health*

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THE DIE IS CAST

HEALTH IT AND E-HEALTH ARE RAPIDLY BECOMING THE "VIRTUAL GLUE" OF THE HEALTH CARE SYSTEM

The new Digital Health Care Milieu

EHRs

Web-Portals

PHRs

CDS / POE

Integrated Delivery System/ ACO/ Virtual Network

Practice Team

Physician

Patient

Family

Community/ Population

PH/ HR IT

Claims /MIS/ HIS

Biometric/ Telemed

Secure Messaging

ICT / wireless & wired

M-health Apps

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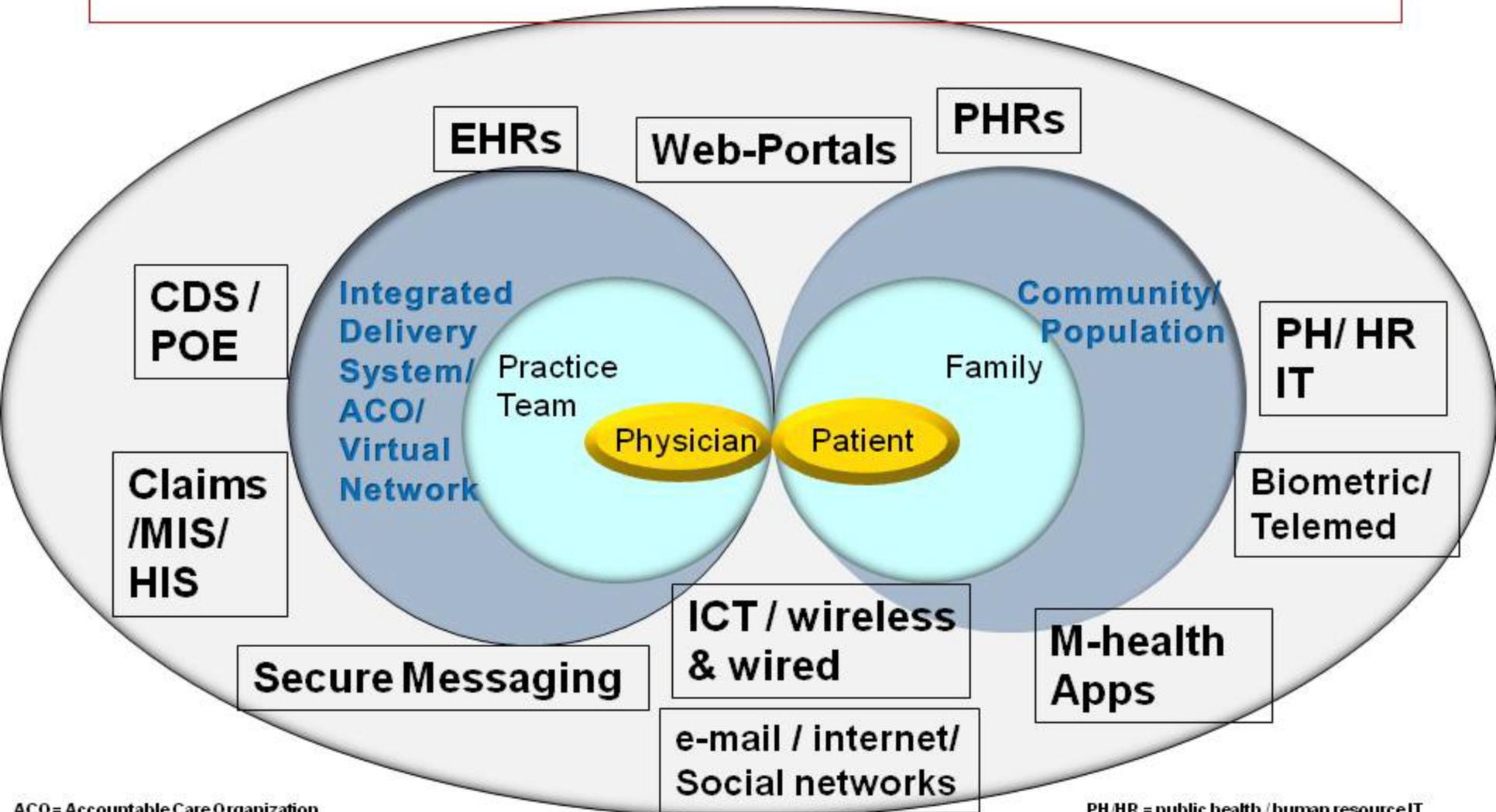
ACO = Accountable Care Organization
EHR = electronic health record
PHR = personal health record
CDS = clinical decision support IT systems
MIS/HIS = Management/Health IT systems
POE = provider order entry IT systems

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

# FOR 5 DECADES, GETTING PAID HAS BEEN THE MOTIVATION FOR MOST HIT

FROM HERE ON, SUPPORTING THE CLINICAL CARE PROCESS WILL BE HIT'S RAISON D'ÊTRE

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

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

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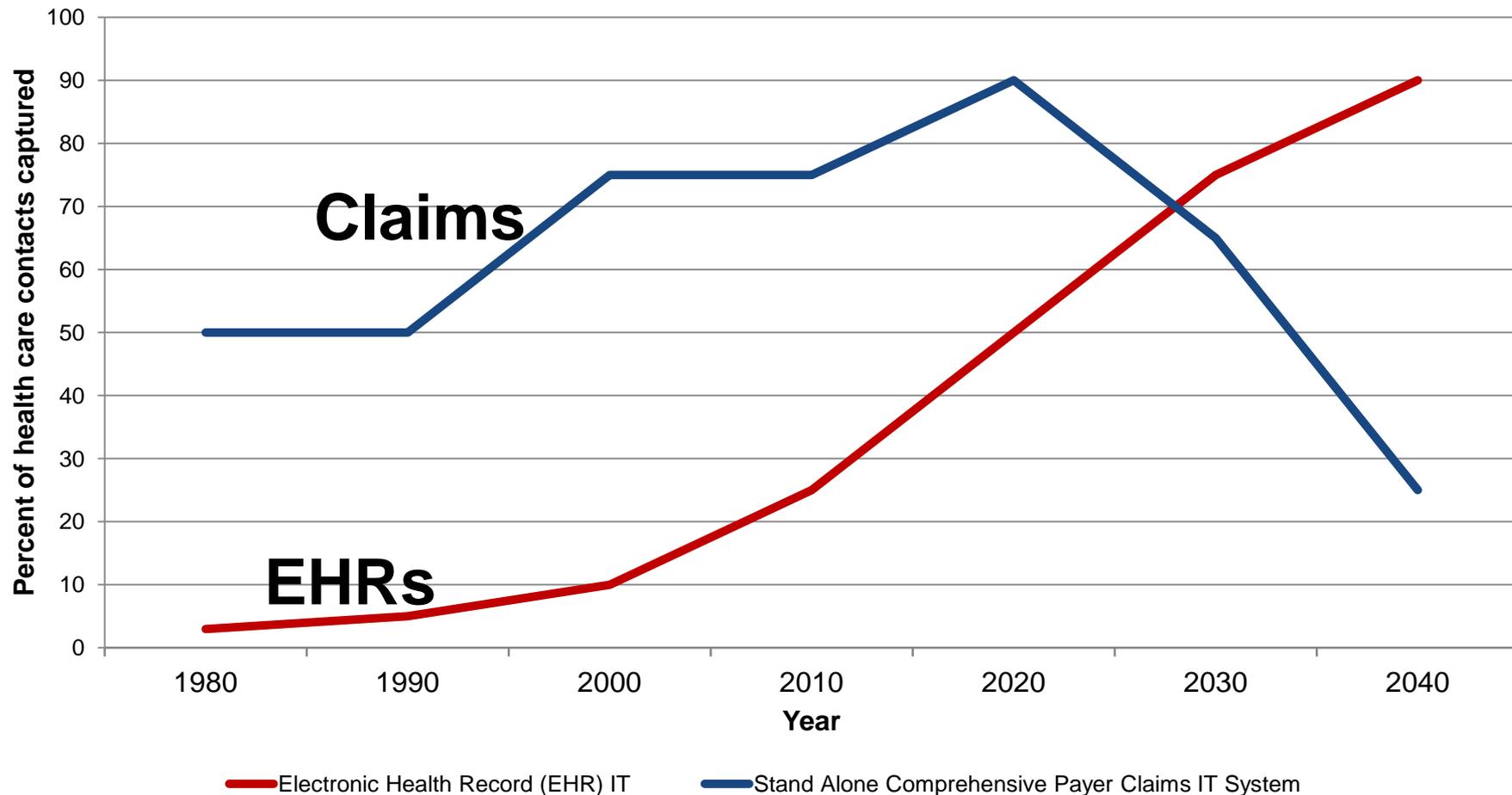
TODAY, LESS THAN 5% OF US EHR / HIT SYSTEMS ARE FULLY INTEROPERABLE

BRIDGING THESE HIT SILOS WILL BE THE CHALLENGE OF THE DECADE

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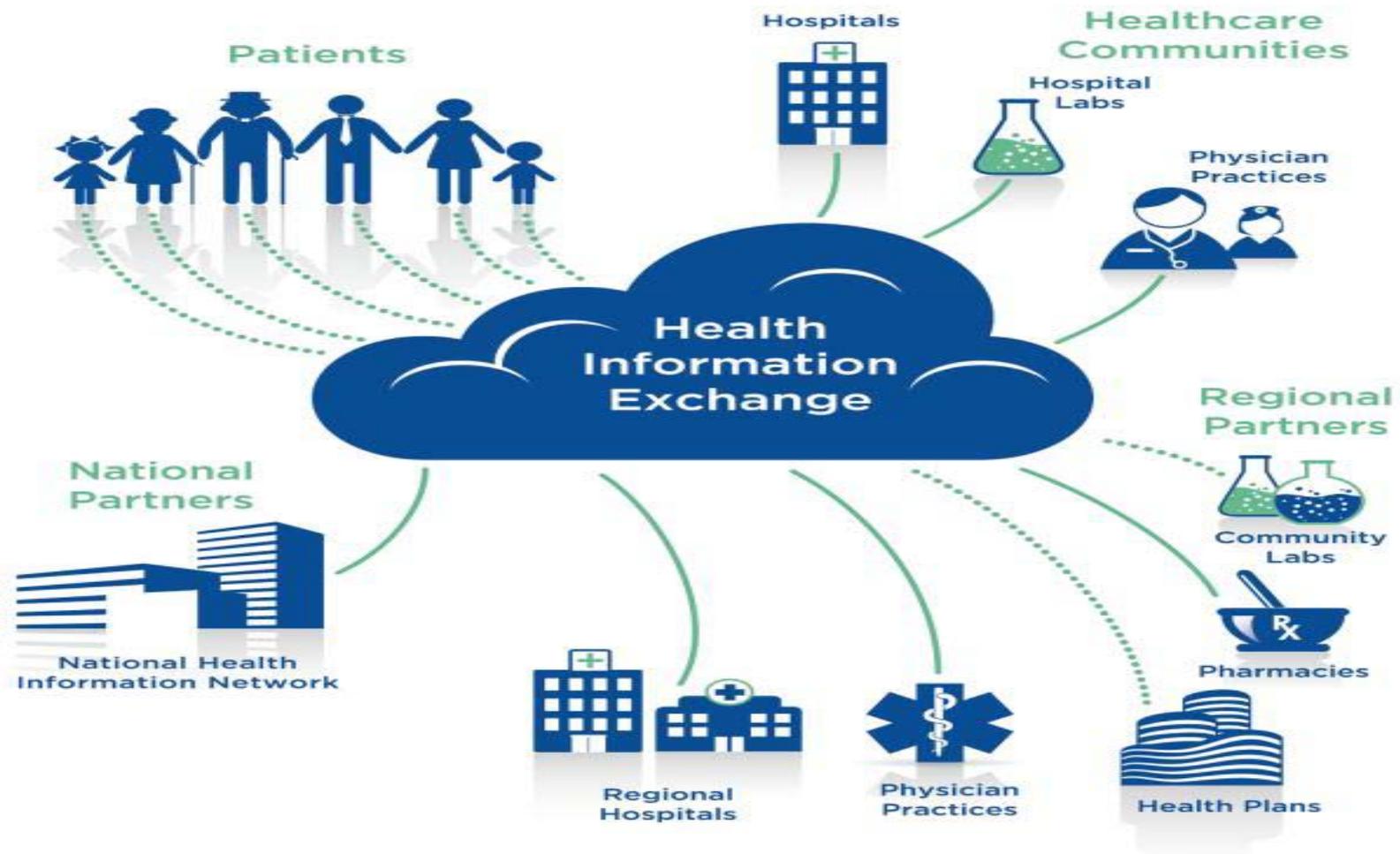
Source of Graphic: New Orleans Beacon Exchange

HIE "Deliverables" by Constituency

Hospitals:
- Clinical messaging
- Medication reconciliation
- Shared EHR
- Eligibility checking

Physicians:
- Result reporting
- Secure document sharing
- Shared EHR
- Clinical decision support
- Eligibility checking

Laboratory:
- Clinical messaging
- Orders

- **Public Health:**
  - Needs assessment
  - Biosurveillance
  - Reportable conditions

- **Consumers:**
  - Personal Health Records
  - consumer health apps

- **Researchers:**
  - De-identified longitudinal data

- **Payers:**
  - Claims adjustment/payment
  - Quality measures / P4P
  - Secure document transfer

Adapted from: HiMSS

AS HIT / E-HEALTH SUPPORTED INFRASTRUCTURE BECOMES THE NORM

# REAL-TIME IN-PERSON PATIENT / DOCTOR INTERACTIONS WILL DECREASE SUBSTANTIALLY

15% or more of care will soon be real-time but "remote," using telemedicine and "e-referrals"

Mobile health apps and biometric devices will increase exponentially as care alternative / adjunct

EXPANDING PHYSICIAN CAPACITY
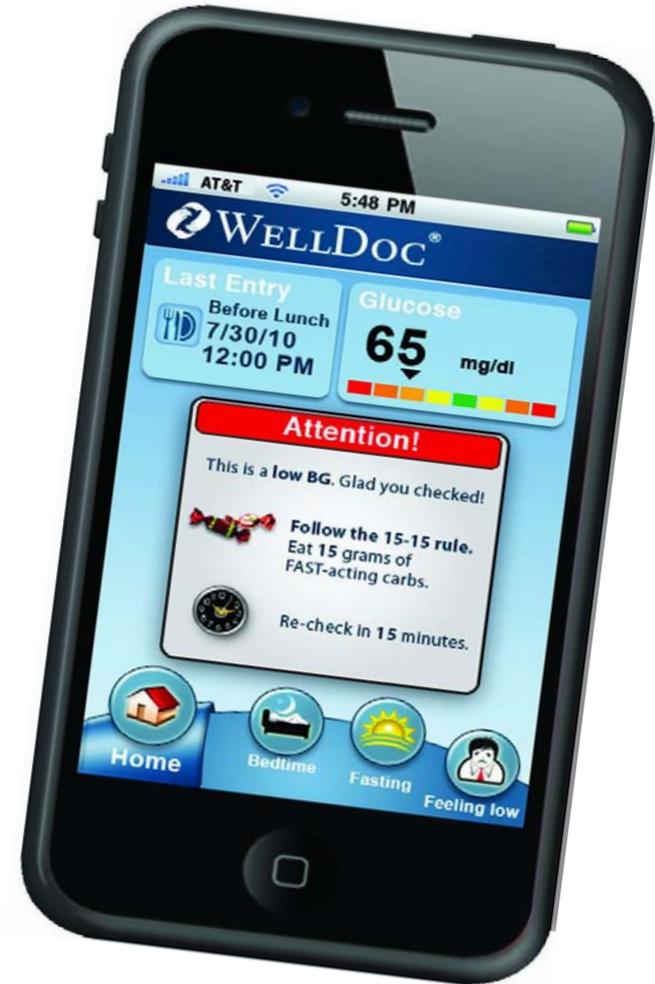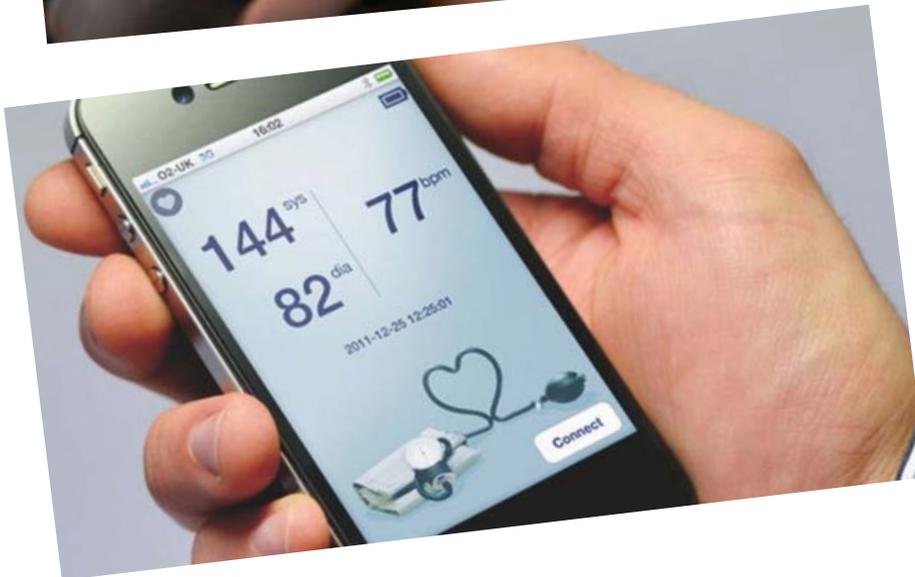
By Jonathan P. Weiner, Susan Yeh, and David Blumenthal

The Impact Of Health Information Technology And e-Health On The Future Demand For Physician Services

- *10-25% Gains in Efficiency*
- *10-20% NP/PA Delegation*
- *5-15% Specialist to PCP Delegation*
- *5-15% "Remote" Care*
- *10-20 "Asynchronous" Care*

MAXIMIZING HEALTH (AND VALUE) FOR POPULATIONS

HIT WILL MAKE IT FEASIBLE … AND INEVITABLE

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.

Hot-Spotting Baltimore Hospitalizations Using HIE Data

Source: CMS Innovation Planning Grant Received by the Maryland DHMH

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
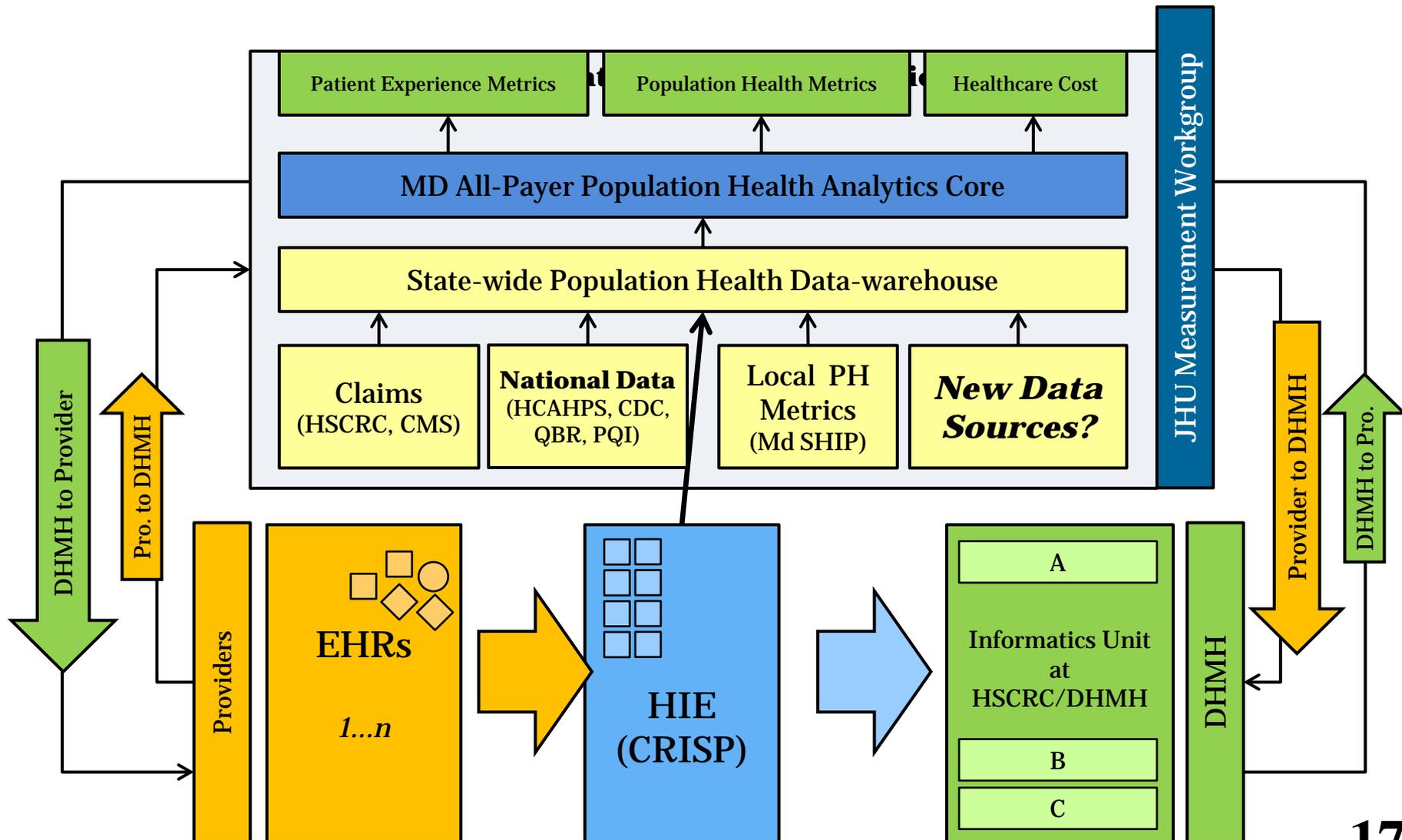
IN CONCLUSION

THE NEXT TWO DECADES WILL BE THE MOST DYNAMIC AND EXCITING TIME EVER IN THE FIELD OF HEALTH IT / E-HEALTH

Questions / Further Information

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http://www.jhsph.edu/cphit
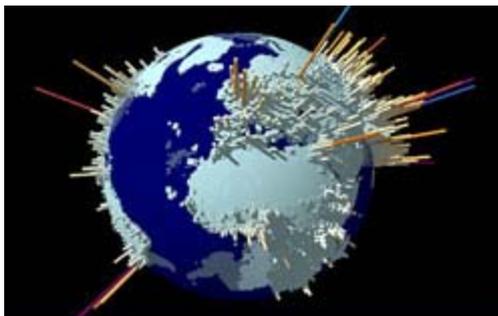
The Johns Hopkins Center for Population Health Information Technology