Health IT Foundations for Community Outcomes Improvement

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Intrepid Ascent
Presentation for the Lifetime of Wellness / Prevention First Grantees
California Department of Public Health
Chronic Disease Control Branch
Frameworks for Health System Interventions
The Triple Aim

- From volume to value
- Value = quality / cost
- Outcomes improvement at the community level
Figure 1

Medicare as a Share of the Federal Budget, 2015

- Social Security: 24%
- Defense: 16%
- Nondefense Discretionary: 16%
- Medicare: 15%
- Other: 14%
- Net Interest: 6%
- Medicaid: 9%

Total Federal Outlays, 2015: $3.7 trillion
Net Federal Medicare Outlays, 2015: $540 billion

NOTE: All amounts are for federal fiscal year 2015. ¹Consists of mandatory Medicare spending minus income from premiums and other offsetting receipts. ²Includes spending on other mandatory outlays minus income from offsetting receipts.
SOURCE: Congressional Budget Office, Updated Budget Projections: 2016 to 2026 (March 2016).
Value-Based Care

• Increasing pressure for providers to demonstrate value for service

• Key challenges:
  • Shift in care model from face-to-face visits to more proactive care with expanded teams
  • Enhance and integrate data systems to support improvement in clinical and operational outcomes
  • Keep providers and staff engaged in a time of continuous and dramatic change

• Synergize efforts across value-based programs to tip the scales toward higher quality and lower costs
Learning Health System - ONC
Health IT Foundation #1

Electronic Health Records (EHRs)
Hospital EHR Adoption

Figure 1: Percent of non-Federal acute care hospitals with adoption of at least a Basic EHR with notes system and possession of a certified EHR: 2008-2015

- Certified EHR
- Basic EHR

9.4% 12.2% 15.6% 27.6%* 44.4%* 59.4%* 75.5%* 83.8%*
71.9% 85.2%* 94%* 96.9%* 96%

NOTE: Basic EHR adoption requires the EHR system to have a set of EHR functions defined in Table A1. A certified EHR is EHR technology that meets the technological capability, functionality, and security requirements adopted by the Department of Health and Human Services. Possession means that the hospital has a legal agreement with the EHR vendor, but is not equivalent to adoption.

*Significantly different from previous year (p<0.05).

SOURCE: ONC/American Hospital Association (AHA), AHA Annual Survey Information Technology Supplement
Figure 1. Percentage of office-based physicians with EHR systems: United States, 2001–2013

NOTES: EHR is electronic health record. “Any EHR system” is a medical or health record system that is either all or partially electronic (excluding systems solely for billing). Data for 2001–2007 are from in-person National Ambulatory Medical Care Survey (NAMCS) interviews. Data for 2008–2010 are from combined files (in-person NAMCS and mail survey). Estimates for 2011–2013 data are based on the mail survey only. Estimates for a basic system prior to 2006 could not be computed because some items were not collected in the survey. Data include nonfederal, office-based physicians and exclude radiologists, anesthesiologists, and pathologists.

SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey and National Ambulatory Medical Care Survey, Electronic Health Records Survey.
EHR Technical Assistance

• Regional Extension Center (REC) program
  • ONC > CalHIPSO, HITEC LA, Orange County REC
  • Support for small practices, health centers, and public hospital systems
  • Concluded in 2014

• California Technical Assistance Program (CTAP)
  • DHCS > CalHIPSO, Object Health, and HITEC LA
  • Support for providers attesting to Meaningful Use through Medicaid
  • Intrepid Ascent is a subcontractor to Object Health
  • Began in 2015

*Up to $63,750 per provider available; last year to sign up*
Medicare Access and CHIP Reauthorization Act of 2015 (MACRA)

- Final rule released October 14, 2016
- Focus on pay-for-performance over pay-for-reporting
- Replaces the Sustainable Growth Rate (SGR) with two paths for Medicare Part B providers:
  - Merit-based Incentive Payment System (MIPS)
  - Advanced Alternative Payment Models (APMs)
- Must report 90-day period in 2017 to avoid penalties
- $100M available in Technical Assistance for small clinics & providers serving rural or under-served areas
- More information available at: https://qpp.cms.gov/
# MIPS Performance Categories

<table>
<thead>
<tr>
<th>Performance Category</th>
<th>Corresponding Prior Program</th>
<th>Category Description</th>
<th>Reporting Options</th>
<th>Year 1 Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>Physician Quality Reporting System (PQRS)</td>
<td>Report on 6 of 200+ available measures, with new population health measures calculated by CMS</td>
<td>Qualified Clinical Data Repository (QCDR), EHR, Qualified Registry, CMS Web Interface (groups)</td>
<td>60%</td>
</tr>
<tr>
<td>Advancing Care Information (ACI)</td>
<td>Medicare Meaningful Use (MU)</td>
<td>Report on updated measures covering 5 objectives (previously 8 under Meaningful Use)</td>
<td>Attestation, QCDR, EHR, Qualified Registry, CMS Web Interface (groups)</td>
<td>25%</td>
</tr>
<tr>
<td>Clinical Practice Improvement Activities (CPIA)</td>
<td>N/A</td>
<td>Complete up to 4 activities to achieve a total of 40 points</td>
<td>Attestation, QCDR, EHR, Qualified Registry, CMS Web Interface (groups)</td>
<td>15%</td>
</tr>
<tr>
<td>Resource Use</td>
<td>Value-Based Payment Modifier (VBPM)</td>
<td>Compare resource use for treatment of similar care episodes across practices</td>
<td>No reporting, based on Medicare claims data</td>
<td>0%</td>
</tr>
</tbody>
</table>
Health IT Foundation #2

Health Information Exchange
What Is HIE?

• **HIE (verb)** – The exchange of health information within or between health care organizations

• **HIE (noun)** – An organization that facilitates, oversees, and governs HIE activities (ie the movement of data) among a specific group of health care organizations
  - Governance framework
  - Technical framework
  - Administrative framework

• Delivery of the right information, to the right user, at the right time, in the right format, embedded in the right functionality / workflow
Reducing Readmissions – JAMIA 2015;22

The potential for community-based health information exchange systems to reduce hospital readmissions

Joshua R Vest1,2,3, Lisa M Kern1,2,3,4, Michael D Silver1,2,3, Rainu Kaushal1,2,3,4,5,6

for the HITEC investigators

ABSTRACT

Background Hospital readmissions are common, costly, and offer opportunities for utilization reduction. Electronic health information exchange (HIE) systems may help prevent readmissions by improving access to clinical data by ambulatory providers after discharge from the hospital.

Objective We sought to determine the association between HIE system usage and 30-day same-cause hospital readmissions among patients who consented and participated in an operational community-wide HIE during a 6-month period in 2009–2010.

Methods We identified a retrospective cohort of hospital readmissions among adult patients in the Rochester, New York area. We analyzed claims files from two health plans that insure more than 60% of the area population. To be included in the dataset, patients needed to be continuously enrolled in the health plan with at least one encounter with a participating provider in the 6 months following consent to be included in the HIE system. Each patient appeared in the dataset only once and each discharge could be followed for at least 30 days.

Results We found that accessing patient information in the HIE system in the 30 days after discharge was associated with a 57% lower adjusted odds of readmission (OR 0.43; 95% CI 0.27 to 0.70). The estimated annual savings in the sample from averting readmissions associated with HIE usage was $605,000.

Conclusions These findings indicate that usage of an electronic HIE system in the ambulatory setting within 30 days after hospital discharge may effectively prevent hospital readmissions, thereby supporting the need for ongoing HIE efforts.
The Opportunity Today

• Value-based care has strengthened the business case for HIE
• Improved technical standards for interoperability
• Greater clarity on policy, shift against “information blocking”
• Attention to workflow and user experience
• Sustainability of existing HIEs, and new networks for exchange emerging
• Patient engagement alignment

Payers, government bodies, and other partners are increasingly incorporating data-sharing requirements into their programs
<table>
<thead>
<tr>
<th>Community HIEs</th>
<th>Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Coast Health Connect</td>
<td>Monterey</td>
</tr>
<tr>
<td>Central Valley Health Information Exchange</td>
<td>Fresno, Madera, Tulare, Kings</td>
</tr>
<tr>
<td>ConnectHealthcare</td>
<td>Sonoma, Napa, Solano, Yolo</td>
</tr>
<tr>
<td>Inland Empire Health Information Exchange</td>
<td>Riverside, San Bernardino</td>
</tr>
<tr>
<td>Los Angeles Network for Enhanced Services (LANES)</td>
<td>Los Angeles, Orange</td>
</tr>
<tr>
<td>North Coast Health Information Network</td>
<td>Del Norte, Humboldt</td>
</tr>
<tr>
<td>Orange County Partnership Regional Health Information Organization (OCPRHIO)</td>
<td>Orange</td>
</tr>
<tr>
<td>RAIN-Live Oak Health Information Exchange and Telemedicine Network</td>
<td>Santa Barbara, Ventura</td>
</tr>
<tr>
<td>Redwood MedNet</td>
<td>Mendocino, Lake, Sonoma, Marin, Humboldt</td>
</tr>
<tr>
<td>SacValley MedShare</td>
<td>Siskiyou, Modoc, Trinity, Shasta, Lassen, Tehama, Plumas, Glenn, Butte, Colusa, Sutter, Yuba</td>
</tr>
<tr>
<td>San Diego Health Connect</td>
<td>San Diego, Imperial</td>
</tr>
<tr>
<td>San Joaquin Community Health Information Exchange</td>
<td>San Joaquin, Merced, Stanislaus</td>
</tr>
<tr>
<td>Santa Cruz Health Information Exchange</td>
<td>Santa Cruz</td>
</tr>
</tbody>
</table>
Map of HIE Architectures in California

Key:
- Red – Federated
- Blue – Hybrid
- Green – Centralized
- Yellow – More than one HIE Present
- Grey – Unclear
# Health System / Payer Enterprise HIEs

<table>
<thead>
<tr>
<th>Health System / Payer Enterprise</th>
<th>Hospital and practice locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Integrated Date Exchange (Cal INDEX)</td>
<td>Anthem / Blue Shield</td>
</tr>
<tr>
<td>Dignity Health</td>
<td></td>
</tr>
<tr>
<td>Kaiser Permanente</td>
<td></td>
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<tr>
<td>St Joseph Health</td>
<td></td>
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<tr>
<td>Sutter Health</td>
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</tbody>
</table>

*And others...*
Other Emerging Networks
A Network of Networks
Bringing it all Together

Community Outcomes Improvement
Relevant Programs

• EHR Meaningful Use Program
• Medi-Cal 2020
  • Public Hospital Redesign and Incentives in Medi-Cal (PRIME)
  • Whole Person Care (WPC)
  • Global Payment Program (GPP)
• Medicare
  • Merit-based Incentive Payment System (MIPS)
  • Shared Savings Program Accountable Care Organizations (ACOs)
• California Accountable Communities for Health Initiative (CACHI)
• California Alternative Payment Methodology Pilot (for FQHCs)
• Million Hearts Initiative
• Lifetime of Wellness / Prevention First
Meaningful Use eCQM Requirements

• Report on 9 eCQMs across 3 National Quality Strategy Domains
  • Patient and Family Engagement
  • Patient Safety
  • Care Coordination
  • Population / Public Health
  • Efficient Use of Healthcare Resources
  • Clinical Process/Effectiveness

• Recommended Core Sets for adults and children
Lifetime of Wellness

• Four-year CDC grant awarded in Sept 2014 to California Dept. of Public Health

• Goals: Reduce death and disability due to diabetes, heart disease and stroke by 3%, and to reduce prevalence of obesity by 3%

• CDPH contracted with local health departments to carry out multi-pronged, evidence-based approach covering:
  • Environmental strategies to promote health and support and reinforce healthy behaviors
  • Strategies to build support for healthy lifestyles
  • Health system interventions to improve the quality of health care delivery to high-risk populations
  • Community clinical linkage strategies to support prevention efforts

• Awarded Counties: Fresno, Tulare, Merced, Shasta, San Joaquin, Solano
### NQF Measures 18 and 59 – eCQMs

<table>
<thead>
<tr>
<th>NQF Measure # / CMS eCQM</th>
<th>Description</th>
<th>National Quality Strategy Domain</th>
<th>In MU recommended set for EPs?</th>
</tr>
</thead>
<tbody>
<tr>
<td>NQF 18 CMS 165v1</td>
<td>Controlling high blood pressure</td>
<td>Clinical process / effectiveness</td>
<td>Yes – for adults</td>
</tr>
<tr>
<td>NQF 59</td>
<td>HbA1c Poor Control</td>
<td>Clinical process / effectiveness</td>
<td>No</td>
</tr>
</tbody>
</table>

- Prevention First / Lifetime of Wellness environmental scans identify provider organizations tracking these measures.
- Pair this knowledge with an understanding of existing health system interventions focused on hypertension and diabetes.
# Million Hearts Initiative Measures

<table>
<thead>
<tr>
<th>Domain</th>
<th>Measure</th>
<th>National Quality Forum (NQF)</th>
<th>CMS Physician Quality Reporting System (PQRS)</th>
<th>CMS Medicare EHR Incentive Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin When Appropriate</td>
<td>Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic</td>
<td>#0068</td>
<td>#204</td>
<td>CMS164v2</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 18 years and older with IVD with documented use of aspirin or other antithrombotic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure Screening</td>
<td>Preventive Care and Screening; High Blood Pressure</td>
<td>n/a</td>
<td>#317</td>
<td>CMS22v2</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 18 years and older who are screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure readings as indicated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Pressure Control</td>
<td>Hypertension (HTN): Controlling High Blood Pressure</td>
<td>#0018</td>
<td>#236</td>
<td>CMS165v2</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 18 through 85 years who had a diagnosis of HTN and whose blood pressure was adequately controlled (&lt;140/90) during the measurement year</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Cholesterol Management</td>
<td>Preventive Care and Screening; Cholesterol—Fasting Low Density Lipoprotein (LDL) Test Performed AND Risk-Stratified Fasting LDL</td>
<td>n/a</td>
<td>#316</td>
<td>CMS61v3 CMS64v3</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 20 through 79 years who had a fasting LDL test performed and whose risk-stratified fasting LDL is at or below the recommended LDL goal.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholesterol Management — Diabetes</td>
<td>Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control in Diabetes Mellitus</td>
<td>#64</td>
<td>#2</td>
<td>CMS163v2</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 18 through 75 years with diabetes mellitus who had most recent LDL-C level in control (less than 100 mg/dL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cholesterol Management — Ischemic Vascular Disease</td>
<td>Ischemic Vascular Disease (IVD): Complete Lipid Panel and Low Density Lipoprotein (LDL-C) Control</td>
<td>#0075</td>
<td>#241</td>
<td>CMS182v3</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 18 years and older with Ischemic Vascular Disease (IVD) who received at least one lipid profile within 12 months and who had most recent LDL-C level in control (less than 100 mg/dL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking Cessation</td>
<td>Preventive Care and Screening; Tobacco Use</td>
<td>#0026</td>
<td>#226</td>
<td>CMS138v2</td>
</tr>
<tr>
<td></td>
<td>Percentage of patients aged 18 years and older who were screened about tobacco use one or more times within 24 months and who received cessation counseling intervention if identified as a tobacco user</td>
<td></td>
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</tr>
</tbody>
</table>
Identifying Patients with Undiagnosed Hypertension to Improve Population Health

- Utilize national or provider-specific guidelines to screen individuals at point-of-care
- Extract data from EHR or disease registry to ID patients who may have undiagnosed hypertension, in order to conduct outreach
- Train providers and other care team members on in-reach
- Train staff to record relevant information into EHR
- Patient outreach, panel management, self-management
Many provider organizations in CA have begun to conduct Population Health Management with existing data sets.

Early efforts driven by specific program or reporting requirements & work with defined populations.

Value-based and risk-sharing payment models are driving transition from episodic model to PHM.

Organizational realignment around data strategy and governance is necessary for improvement.

Intermediary organizations starting to deliver essential data services for PHM, especially in ambulatory settings.
Looming Challenges
Health Information Security

- Size and prevalence of health-sector data breaches is on the rise
- Organizations face challenge of aligning new industry paradigms & technologies with security policies
- Beyond technical infrastructure, organizations must address:
  - Culture and leadership
  - Information and access
  - Policies and processes

**CULTURE**
- Behavioral Norms
- Privacy/Security
- Team Structure
- Process/Policies
- Alignment

**INFORMATION**
- Access Controls
- Encryption
- API Security
- Central Access Management

**POLICY/PROCESS**
- Alignment with best practices outside of HIPPA (NIST, CSC, etc.)
- Enterprise Privacy & Security Plan
Addressing Data Quality

- Data quality problems typically remain unidentified or unaddressed
- Data needs to be trustworthy for clinical decision-making, business operations, and reporting
- Organizations can protect against risk by establishing a Data Quality Framework to address technical & organizational challenges
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