Building the Health Information Technology (HIT) Workforce for Rural Primary Care Practices

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Definitions

[* Health Information Technology (HIT):* “Technologies that manage and transmit health information for use by providers, consumers, payers, insurers, and all the other pertinent groups”

[* Electronic Health Record (EHR):* “An electronic record of health-related information for a patient that contains information captured in clinical visits, lab and imaging studies, and other information important to the patient’s medical past”

PCAST (President’s Council of Advisors on Science and Technology) 2010

Background

* Effective implementation of EHRs and HIT is necessary to deliver the quality and payment reforms included in the Affordable Care Act.

* To enable rural primary care providers to keep pace, specific workforce needs and barriers must be identified and addressed.
### EHR/HIT Incentives and Resources

- **Meaningful Use:**
  - Requirement (linked to Medicare/Medicaid payment and funding) that EHRs possess functionalities needed to meet specific criteria (e.g., e-prescribing, exchange of information with other providers, reporting clinical quality measures to CMS)

- **HITECH (Health Information Technology for Economic and Clinical Health) Act:**
  - Direct dollars to hospitals and providers who adopt and "meaningfully use" an EHR system ($14-20 billion over 5 years beginning 2011)

- **Regional Extension Center (REC) Program:**
  - Assistance to providers to purchase and implement EHR systems, with emphasis on primary care

- **Office of the National Coordinator for HIT (ONC):**
  - Community college and Baccalaureate curriculum for HIT workforce education

### The HIT Workforce Needs of Rural Primary Care Practices

**Study Purpose:**
- To assess HIT workforce resources needed now and in the near future by rural primary care practices, and workforce-related barriers to implementing and using HIT

  - I.e., Do rural primary care practices:
    - Need more staff with HIT skills? If so, what type?
    - Need more health informaticists?
    - Need more vendors and contractors to fill skill gaps?

### Methods

- 2012 cross-sectional survey of 2,000 rural primary care practices in 13 states
- Complex sample identification process (no complete list of rural primary care practices exist)
  - Practice sites identified from physician, physician assistant (PA) and nurse practitioner (NP) professional license addresses
- Mixed method (Paper questionnaire sent by mail with web response option)
- States: AZ, GA, IA, ID, KY, ME, MN, OH, OK, OR, TX, VA, VT (from all US Census regions)
- Rural areas identified using Rural-Urban Commuting Area (RUCA) codes
Key Questionnaire Components

- EHR/HIT implementation status
- EHR/HIT workforce demand
- Barriers to use of HIT
- EHR/HIT workforce skills available and needed
- Practice characteristics (size, type, geographic location)

National Trends in EHR Adoption

Figure 1. EHR adoption rates among primary care physicians: 2008-2011 (n=5,262)

From: Patel et al., Variation in Electronic Health Record Adoption and Readiness for Meaningful Use 2008 – 2011. J Gen Intern Med. 2013 Feb 1 (epub ahead of print) [Note: No significant difference rural vs. urban]

RESULTS
Responses

- Response rates:
  - 34% overall (ranging by state from 25% - 51%)
  - By rural area type:
    - 33% large rural
    - 35% small rural
    - 36% isolated small rural

- Distribution among the 513 responding practices:

- Distribution among the 513 responding practices:
  - Large rural, 43%
  - Small rural, 37%
  - Isolated small rural, 21%

Responding Rural Practices: Facility Type

- Overall: RHC 23%, FQHC 9%, Hospital-affiliated clinic 17%, Other 6%, Private practice (not RHC) 46%

A higher percentage of practices in small and isolated rural areas were RHCs and FQHCs.

Rural Practices Using Both EHR and HIT Systems

- Overall: 74%, Large rural: 70%, Small rural: 71%, Isolated small rural: 75%

Differences between sub-rural area types not significant.
Difficulty Accessing the Internet

- Overall: 23%
- Large rural: 19%
- Small rural: 16%
- Isolated small rural: 11%

p<0.01 among rural area types. No significant differences between Census regions.

Implementation of “Meaningful Use” Standards

- Use certified EHR technology to submit aggregate clinical quality and other measures: 68% currently implemented, 40% plan to implement by 2014
- Exchange data electronically to facilitate patient care transfer between settings: 46% currently implemented, 49% plan to implement by 2014
- Electronically submit lab or immunization data to public health: 32% currently implemented, 39% plan to implement by 2014
- Participate in e-prescribing: 84% currently implemented, 13% plan to implement by 2014
- Participate in the electronic exchange of patient records through participating in a regional health information exchange (HIE): 20% currently implemented, 22% plan to implement by 2014
- Practices use a certified EHR in a “meaningful manner”: 17% currently implemented, 27% plan to implement by 2014

Workforce-Related Barriers to Using HIT: Education and Training

<table>
<thead>
<tr>
<th>Resources not available</th>
<th>Major barrier</th>
<th>Minor barrier</th>
<th>No barrier</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic computer literacy training</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>In-person training (non-degree) about how to use EHRs and HIT</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>On-line (e.g., web-based) training about how to use EHRs and HIT</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Community college training about how to use EHRs and HIT</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Baccalaureate or higher level training about how to use EHRs and HIT</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Resources (including funds and/or release time) for training about how to use EHRs and HIT</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
</tr>
</tbody>
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Workforce-Related Barriers to Using HIT: Recruiting and Retention

- The highly competitive market makes it difficult to retain qualified staff with EHR/HIT skills.
- Recruitment and access to qualified candidates.
- HIT career ladder not well defined, reducing interest in EHR/HIT training.

Workforce-Related Barriers to Using HIT: Other barriers

- Consultants and vendors with understanding of needs of our facility.
- Too expensive.
- Not available.
- HIT software systems not well suited to our practice/office.

HIT Workforce Skills: Questions addressed

- Basic skills:
  - Basic desktop/computer skills, operational medical terminology, patient information flow, understanding how data flow from EHR affects usefulness of information the system can provide.
- Intermediate skills:
  - Knowledge of HIT products, contracting, privacy/security; meaningful use requirements; HIT for patient management/education; data management...
- Advanced skills:
  - Management skills to direct staff in use of EHR/HIT systems, ability to use data from HIT systems to manage care for patient populations.
**Workforce Skills Gaps**

<table>
<thead>
<tr>
<th>For basic, intermediate and advanced-level HIT skills:</th>
<th>Range of %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our practice has adequately skilled staff</td>
<td>46-79%</td>
</tr>
<tr>
<td>We will obtain training for current staff</td>
<td>20-44%</td>
</tr>
<tr>
<td>We will hire new staff</td>
<td>3-6%</td>
</tr>
<tr>
<td>We will hire a contractor or vendor</td>
<td>0-7%</td>
</tr>
<tr>
<td>Our practice does not need</td>
<td>1-4%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2-12%</td>
</tr>
</tbody>
</table>

**Workforce Skills Gaps - Areas of Greatest Need**

<table>
<thead>
<tr>
<th>Need staff training for:</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data management, analysis, report creation and data sharing</td>
<td>44%</td>
</tr>
<tr>
<td>Understanding how the quantity and quality of data entered into an EHR affects the usefulness of information that the system can provide</td>
<td>41%</td>
</tr>
<tr>
<td>How to comply with meaningful use requirements</td>
<td>40%</td>
</tr>
<tr>
<td>Clinical knowledge and understanding of uses of HIT for individual patient management/education</td>
<td>39%</td>
</tr>
<tr>
<td>Ability to use data from HIT systems to manage care for patient populations</td>
<td>38%</td>
</tr>
</tbody>
</table>

**CONCLUSIONS**
Conclusions

EHR/HIT Implementation in rural primary care practices:
- Most rural primary care practices expect to have implemented EHR/HIT systems and be compliant with most "meaningful use" requirements by 2014

Personnel needed:
- Rural primary care practices expect to rely on the existing skills of their current workforce and/or obtain more training for these staff
- Few expected to hire a contractor or vendor for workforce training

Barriers:
- Many practices reported that the expense of consultants and vendors was a barrier to implementing and using EHRs/HIT
- Many practices reported barriers to accessing college EHR/HIT programs or said college programs were not applicable to their workforce needs

EHR/HIT skills training most needed:
- Data management, analysis, report creation and data sharing
- Data quality management
- Compliance with meaningful use
- Patient and population health management
Implications for Policy, Delivery, or Practice

Implications

- To overcome workforce-related barriers to EHR/HIT implementation and use in rural primary care:
  - Intermediate and advanced skills training are needed for staff, but where/how to get the skills?
    - Are community college HIT programs appropriately targeted to needs?
    - Will new HRSA rural HIT workforce grants strengthen community college/rural practice ties?
  - How can vendors/contractors be more accessible and useful to rural primary care practices?

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