The Office of the National Coordinator for Health Information Technology

HIT Policy Committee Certification/Adoption Workgroup

Subgroup: Health IT Workforce Development

Larry Wolf, Kindred Healthcare, Co-Chair
Norma Morganti, Cuyahoga Community College, Co-chair

March 11, 2014

HealthIT.gov

Subgroup Membership

Co-Chairs:

Larry Wolf	Kindred Healthcare
Norma Morganti	Corporate College, A Division of Cuyahoga Community College

Members:

• Patricia Dombrowski	Bellevue College (Grantee)
• Michelle L. Dougherty	AHIMA Foundation
• Susan Fenton	UT Health School of Biomedical Informatics
• Don Gull	Bryan University
• Samantha Burch	Quality & HIT, Federation of American Hospitals
• Bill Hersh	Oregon Health and Science University
• Joe Heyman	Whittier IPA, C/A Workgroup Physician
• Roger Holloway	Rural Health Services, Northern Illinois University
• JoAnn W. Klinedinst	HIMSS (Healthcare Information and Management Systems Society)
• Elizabeth Royal	SEIU (Service Employees International Union)
• Steve Waldren	American Academy of Family Physicians

Federal Ex officio

• Nadra Tyus	National Center for Health Workforce Analysis, DHHS/HRSA
• Nancy Brooks	U.S. Department of Education's Office of Vocational & Adult Education
• Jennifer Pirtle	Employment and Training Administration, U.S. Department of Labor

Health IT Workforce Update

I. **Description of the Standard Occupational Classification (SOC)**
   I. Revision Process
   II. Inclusion of Health IT in the Classification System

II. **Evaluation of ONC Funded Workforce Programs: Key Findings**

III. **Tools, Training and Transformation: Health IT Training needs and competencies for practice transformation**

What is the SOC?

- A Federal statistical standard set and required by the Office of Management and Budget (OMB)
  - Applies to Federal agencies that publish occupational data for statistical purposes
  - Common standard for Federal statistical data sources

Uses for the SOC

- Many uses for occupational information
  - Estimating supply and demand
  - Decisions on education and training
  - Job search and placement assistance
  - Employer decisions on compensation, training, business location

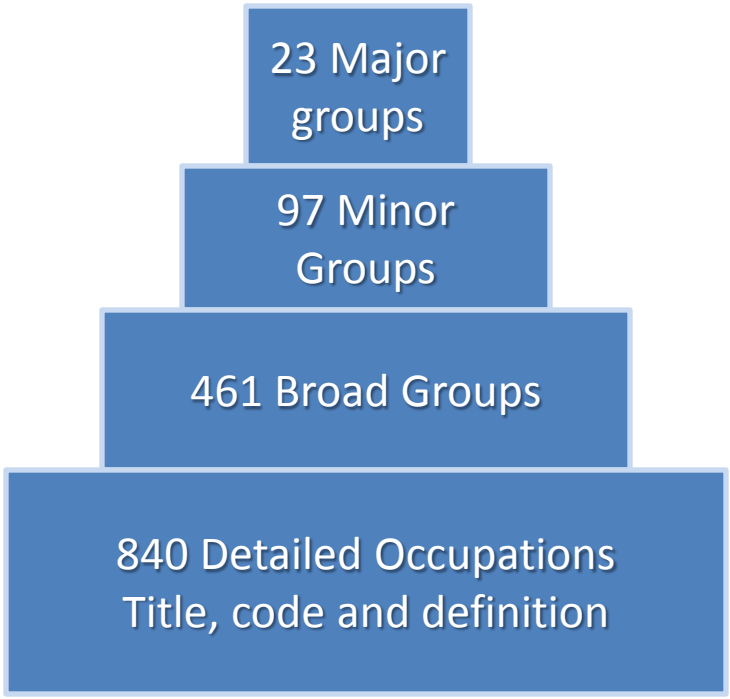
Who is Responsible for the SOC?

- OMB
  - Requires use of SOC in Federal Statistics
  - Makes final decisions about the SOC
  - Publishes the SOC Manual
  - Charters the SOC Policy Committee
- SOC Policy Committee (SOCPC)
  - Recommends SOC changes to OMB
  - Maintains the SOC and supports SOC users
  - Is an Interagency committee

How the SOC is structured

- Occupational hierarchy - four-level hierarchy

Based on the 2010 SOC



SOC Revised every 8 Years. (*Next Scheduled Update 2018*

SOC Example – Occupational Heirarchy

Major Group	29 – 0000 Healthcare Practitioners and Technical Occupations
Minor Group	29 – 2000 Health Technologists and Technicians
Broad Occupation	29 – 2010 Clinical Laboratory Technologists and Technicians 29 - 2011 Medical and Clinical Laboratory Technicians
Detailed Occupation	29-2011 Medical and Clinical Laboratory Technicians Perform complex medical laboratory tests for diagnosis, treatment and prevention of disease. May train or supervise staff

2018 SOC Revision: General Timeframe

SOC codes revised every 8 years. Revising the SOC is a multi-year process. The SOC Policy Committee (SOCPC) formulates recommendations for revision that are submitted to OMB for consideration. Process for revision begun in 2012

1st *Federal Register* notice soliciting public input	Early 2014
SOCPC reviews public input, Federal agency input, and conducts own research; develops recommendations to OMB	Through 2014
2nd *Federal Register* notice requesting comments on SOCPC recommendations	Late 2014 or early 2015
SOCPC reviews comments and develops final recommendations to OMB	Through 2015
OMB reviews SOCPC recommendations	Late 2015
3d *Federal Register* notice announcing the final 2018 SOC structure, and occupation codes and titles	Early 2016
SOCPC completes occupational definitions and SOC Manual	Through 2016
OMB publishes 2018 SOC Manual	Early 2017
Federal statistical agencies implement 2018 SOC	Beginning 2018

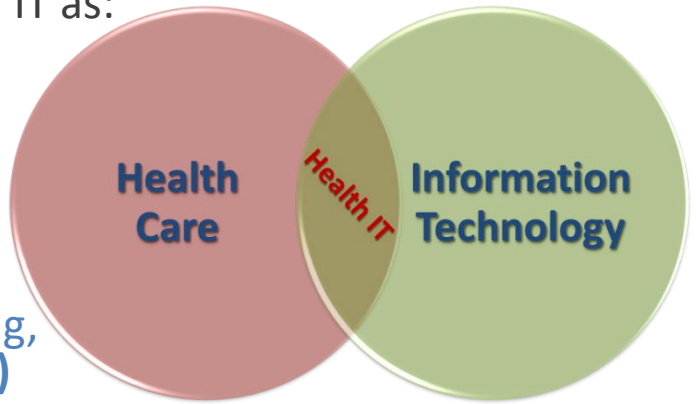
Responding to the Notice for Public Comment

A critical part of the SOC revision is to solicit public input – on what should be added, changed or deleted from the SOC

- Recommending a new or revised occupation for Health IT as:
  - **Major Occupation Group**: 29-0000, Health Care Practitioners and Technical Occupations
    - **Minor Occupation Group**: Health Information Technology (HIT)
      - **Broad Occupation:** *Examples*
        - » Clinical Health IT or Informatics (Nursing, Medical, Dental, Pharmacy, Laboratory)
        - » Health Informatics/information management
        - » Health IT Systems Support
        - » Public Health Informatics – CDC/APHA
        - » Biomedical Informatics
        - » Analytics
        - » Consumer Health Informatics

        ***Detailed Occupation*: Provide descriptions for each of the above**

New



Subgroup's Response

Information Required by SOCPC	Subgroup's Response
Nature of Work Performed (Include Specific Activities and tasks)	List of tasks, activities, knowledge, skills and abilities required have been developed
Unique nature of the Profession	Tasks, activities and knowledge will help define professional requirements
Job Titles Commonly Used	HIMSS, AMIA, AHIMA on-line job boards a resource
Number of workers in the occupation	Data sources on workforce to be reviewed
Types of employers	Job boards as a resource
Tools and Technologies generally used	List compiled
Education and Licensing requirements	Certification/Credentials required
Professional/Trade associations	List of medical associations and vendors

Next Steps

In anticipation of the *Federal Register* notice

- Complete the detailed occupational descriptions in
- Prepare a response to be submitted by the HIT Policy Committee

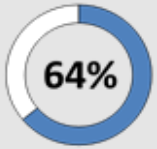
Evaluation of ONC Funded Workforce Programs: Key Findings

ONC Workforce Development Program

University-Based Training Program

1,704 Students Trained

Employment at Program Completion



Employment 6 Months After Program Completion

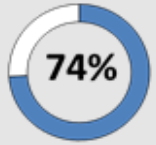
Close to two-thirds of students were *employed in health IT* 6 months after program completion

Community College Consortia Program

19,733 Students Trained

Employment at Program Completion

Employment 6 Months After Program Completion



Two-thirds of students were *employed in health IT or health IT related responsibilities* 6 months after program completion*

Curriculum Development

20 Components Developed

18,000+ Downloads

HITPro Exam

9,500+ Exams Administered

*Data is from the third cohort only. The first two cohorts asked students whether they were employed in health IT. The third cohort had a follow-up question asking students that answered "no" to health IT employment, whether they had health IT responsibilities. The measure above reflects students employed in health IT or had health IT related responsibilities.

Cross-Cutting Findings

Importance of communication and clarity of purpose at the outset

- Rapid implementation posed challenges for structured communication channels
- For example, the Developers felt more communication with the CCCs and the HIT Pro Exam Developer would have helped them better target the materials

ONC's decision to allow grantees flexibility was a great asset

- The community colleges and universities were afforded significant latitude in structuring their curricula to meet their needs, capacities, and programmatic priorities
- CCC and UBT students, instructors, and administrators appreciated the opportunity to use online learning platforms

Schools' efforts to forge connections with the employer community were of paramount importance to graduates' satisfaction and employment prospects

- Many employers were unaware of both the training programs; however, once they learned about them, they felt confident the training could fill gaps in the workforce
- Reaching out to industry experts and employers was an effective means of enriching training, setting up internship programs, and introducing the program to employers
- Hands-on experience helped prepare students for employment; schools with well-developed employer partnerships were better able to support students in this regard

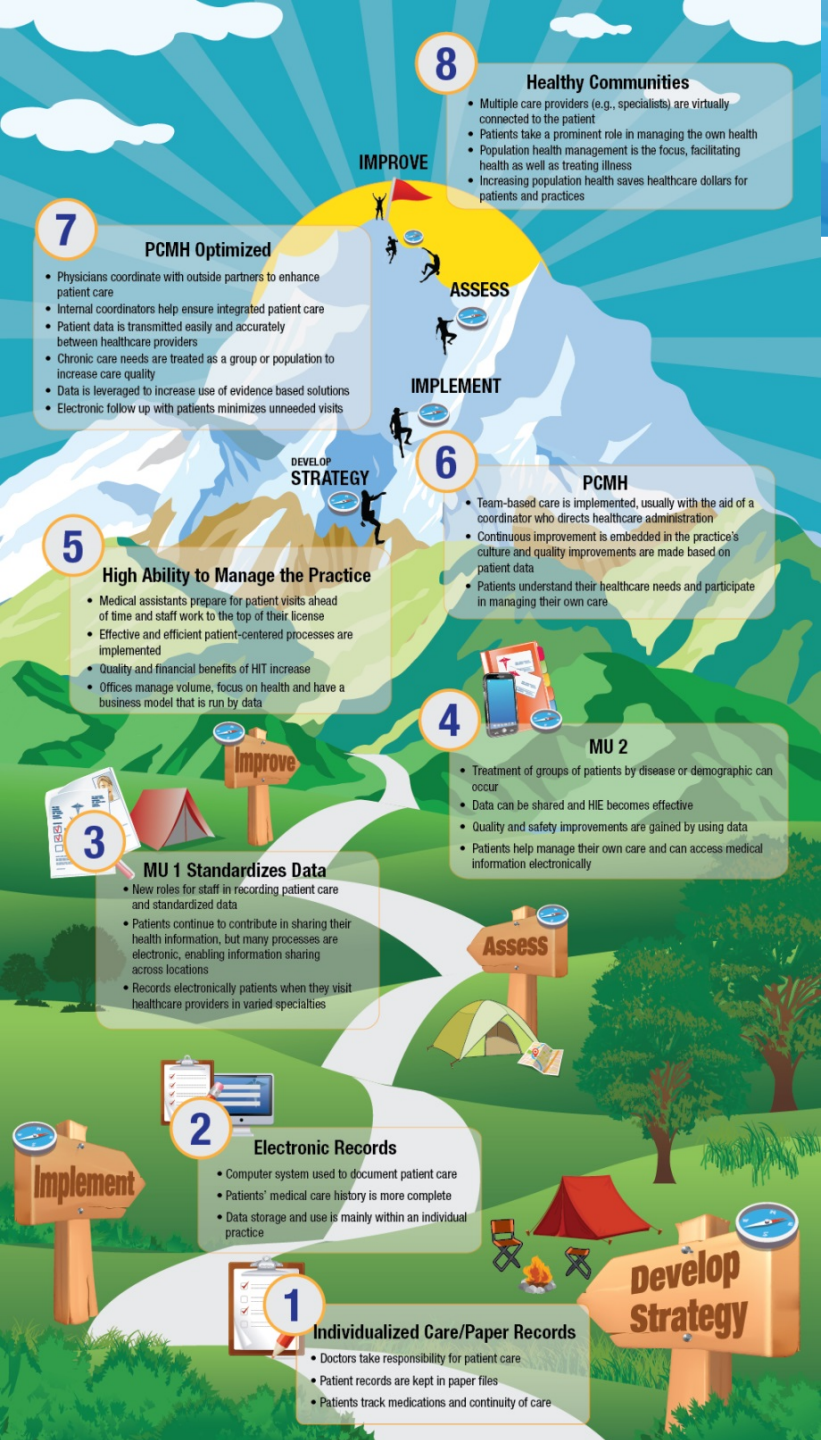
Plans for Sustainability

- Continued health IT education offerings
  - 63 of the original CCCs and all 9 of the UBTs are continuing health IT educational offerings.
  - Developers' materials are still being used by educational institutions, individuals, and others.
  - Universities and colleges will charge students for training.
  - Some colleges plan to allow students more than six months to complete their training and to focus more on hands-on and virtual lab learning.
  - Several colleges are moving the curriculum into existing health IT programs, offering training on a not-for-credit basis or through continuing education, or creating a degree program
  - In 2013, the competency exam was converted to AHIMA-certified Healthcare Technology Specialist credentials; AHIMA and Pearson VUE continue to offer the exam.

- Need to adapt continuously to the changing health IT landscape
  - CCC and UBT administrators and faculty note that programs need to adapt to the changing health IT landscape to remain successful and relevant.
  - Several CCC and UBT administrators are reaching out regularly to employers to gauge their needs and identify the specific skills they are seeking in potential employees

Tools, Training and Transformation: *Health IT Training needs and competencies for practice transformation*

Road Map and Resources



- *Identify Existing Resources/Advocate to Build and Curate Workforce Resources to Support Transformation*

- *ONC Patient-Centered Care through Health IT frameworks, Practice Fitness Assessments, Leadership Competencies, Lean Principles for the PCMH*

- *HealthIT.Gov, National Curriculum, (20 Components), UBT, Community College Consortia, HRSA, DOL*

Framework for Practice Transformation

HealthIT.gov

Cuyahoga Community College

Workforce Competencies for Patient-Centered Health Care Delivery through Health IT: A Framework for Practice Transformation

** This project supported in whole or in part by ARRA HIT Grant # 90CC0079/02-04 awarded to the Cuyahoga Community College by the Federal HHS Office of the National Coordinator.*

Key Competency

Broken Down into Detailed Competencies – Note the Numbering

Each Learning Objective Aligns to a Detailed and Key Competency

Comp. #		DC#		LO#		PSR, Schedulers, Front Desk, Med Secretaries	Nurses (LPNs/RNs), MAs	Providers (MDs, DOs, NPs, PAs)	Care Coordinators	PharmDs, Pharmacy	Health Care Mgmt (Practice Mgrs, Admin)	Health Info Mgmt Medical Records RHIA	IT Professionals
		1d	De e intersects between P on Management, HIE and MU, a ow they impact PCMH	1d.1	Artic e intersects between Population Ma ent, HIE and MU, and how all three impact P		X	X	X	X	X		X
				1d.2	st the core objectives for meaningful use that relate to population management		X	X	X	X	X		X
2	Demonstrate effective use of technology to perform population management functions appropriate to role	2a	Determine what data is needed, where it is located, and who has access to it	2a.1	Compile data from various sources for a given population			X	X	X	X		X
				2a.2	Propose solutions to the challenges involved in gathering data			X	X	X	X		X
				2a.3	Map tools and systems used in the health care setting to the roles that are authorized to access them			X			X		X
		2b	Define populations for internal interventions and external reporting	2b.1	Define and track populations in order to meet MU reporting requirements or other reporting requirements		X	X	X	X	X		
				2b.2	Define populations for whom the health care setting will implement and track interventions (e.g. populations based on preventive services vs. chronic services)		X	X	X	X	X		

Using Aligned Learning Resources Found in the Secondary Frameworks

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Population Management Detailed Competency	LO#	Population Management Learning Objectives	Resources/Recommendations
Data & Documentation			
Create effective workflows for tracking patient data and ensuring that it is correctly entered in the EHR	5a.1	Map current processes used to track and compile patient referrals, labs and other patient services	**Recommendation** • Develop a toolkit to aid health care practices in mapping current processes for gathering and tracking patient referrals, labs, and patient services. Point the way toward next steps. • Include a brief eLearning module to support the users in implementing the toolkit.
	5a.2	Create improved workflows to ensure that accurate and complete records are entered in the EHR	**Recommendation** • Develop a toolkit to aid health care practices in the process of defining and improving workflows to support accurate, timely entry of data in the EHR. • Include a brief eLearning module to support the users in implementing the toolkit.
Utilize patient and health care practice data to improve patient care	6a.1	Use health care practice data to create an intervention to improve care for a patient population.	**Recommendation** • Develop a toolkit to aid health care practices in defining and structuring a patient population intervention. • Include a brief eLearning module to support the users in implementing the toolkit.
	6a.2	List how each role in the health care setting is involved in Population Management-related interventions to improve patient care	• http://www.hrsa.gov/healthit/toolbox/HealthITAdoptiontoolbox/StaffingandExpertise/specificexpertise.html **What Specific Expertise Do We Need?** This article is part of the US Department of Health and Human Services' (HRSA) Health IT Adoption Toolbox. The article includes related resources on skills assessment, and sample job descriptions.
	6a.3	List ways that EHR systems support patient self-management	• http://www.providersedge.com/ehdocs/ehr_articles/Supporting_Care_Management-the_Role_of_EHR_Systems.pdf **Supporting Care Management: The Role of Electronic Health Record (EHR) Systems.** Overview, put out by Doctors Office Quality – Information Technology (DOQ-IT), of how EHR Systems can be used to support physicians and other healthcare professionals in the delivery of care management services.

Leadership Competencies that Support Transformation in Healthcare

INCREASINGLY RICH

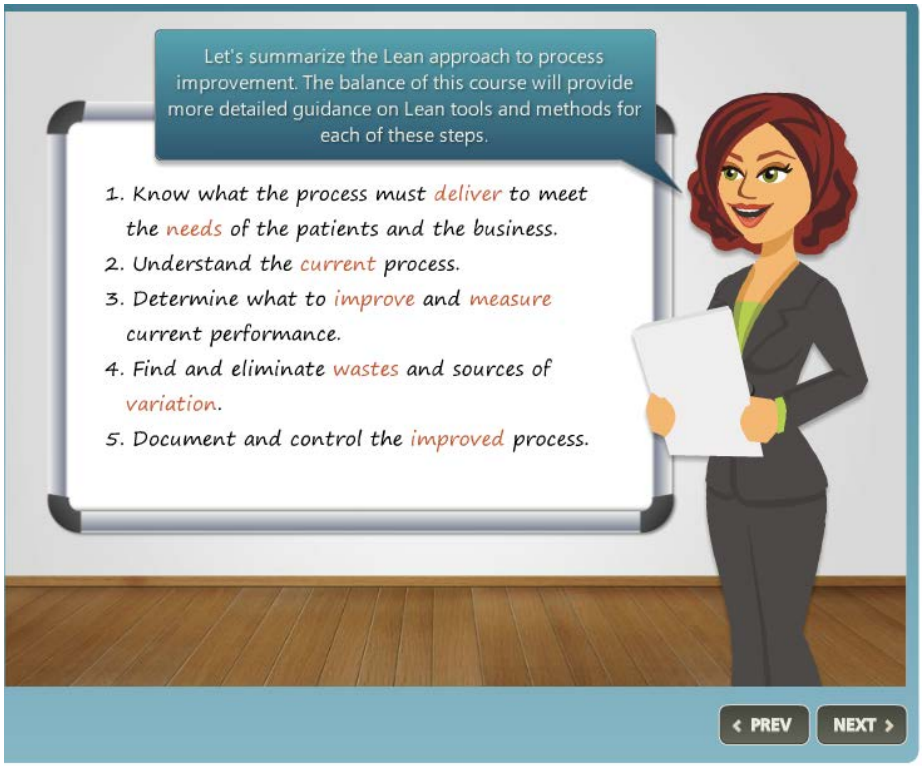
Strategic Thinking & Planning	Communication	Attitude & Engagement	Team Building	Orchestration
Identify Core Values	Understand Communication Basics	Build Positive Attitudes	Create Safe Zones	Align Personal and Professional Goals
Create a Vision	Empower Active Listening	Know Yourself / Take Responsibility	Understand Team Basics	Turn Planning Into Actions
Overcome Resistance	Increase Awareness Around Non-Verbal Communication	Seek to Understand Others	Develop Trust	Manage Your Time
Embrace Change	Cultivate Effective Communication	Engage Emotional Intelligence	Be a Successful Team Leader	Drive Behavior to Results
Align Strategy	Identify Communication Channels	Differentiate Authority & Power	Create Winning Teams	Make Good Decisions
Assess the Practice	Understand Cultural, Gender & Multigenerational Differences	Be a Visionary, Coach, Mentor, Director	Support Successful Teams	Honor the 'Oath'
Identify Success Factors	Receive and Give Productive Feedback	Understand Motivation, Reward, Punishment	Develop a Collaborative Model	
Set Goals and Plan				

Training to Support Quality Improvement

Course Objectives

- *Understand what a process is and be able to identify the clinical and business processes of a medical care practice*
- *Create current state maps of clinical and business processes to facilitate process improvement*
- *Establish measures that will enable staff to assess performance of the current state processes*
- *Critically analyze current state processes to identify constraints and sources of waste*
- *Create maps of future state processes in which technology, procedural, or physical changes have been made to relieve constraints and to reduce or eliminate wastes*
- *Develop a plan for transition from the current state to the future state processes*
- *Use measures to assess the impact of process changes and to identify opportunities for further process improvement*

Introduction to Lean Principles for the PCMH



Supporting New Frontiers in Healthcare through Technology

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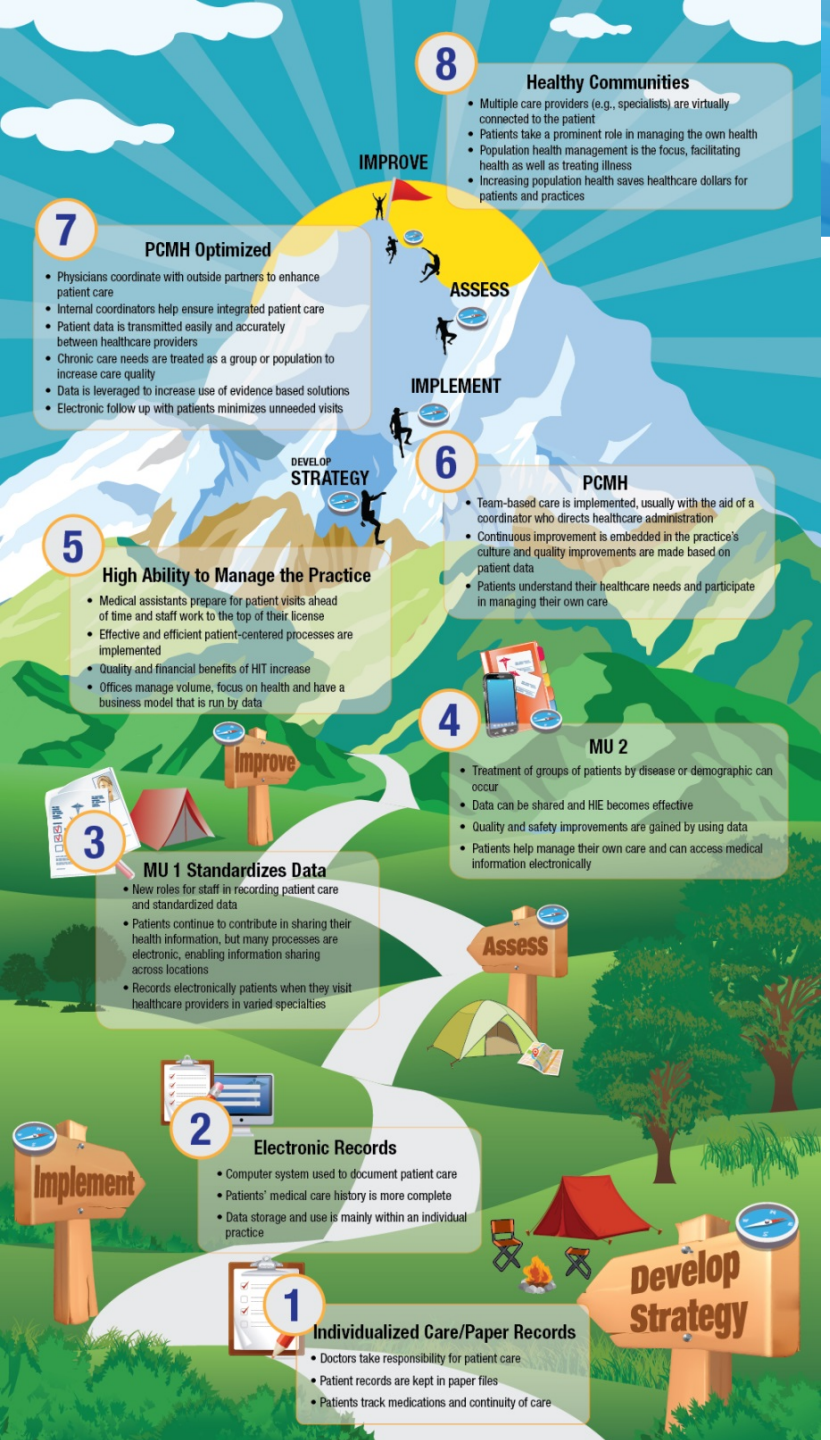
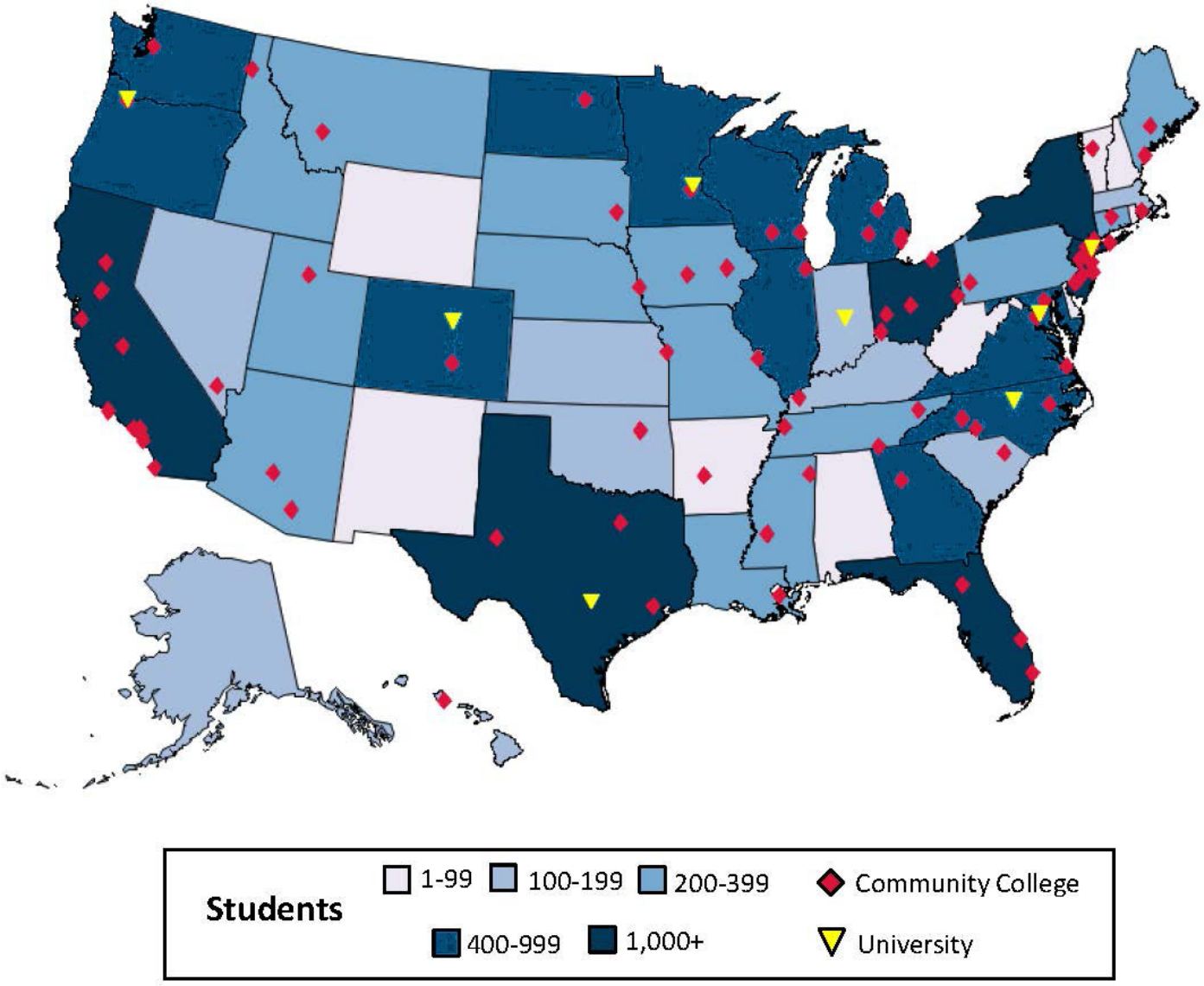


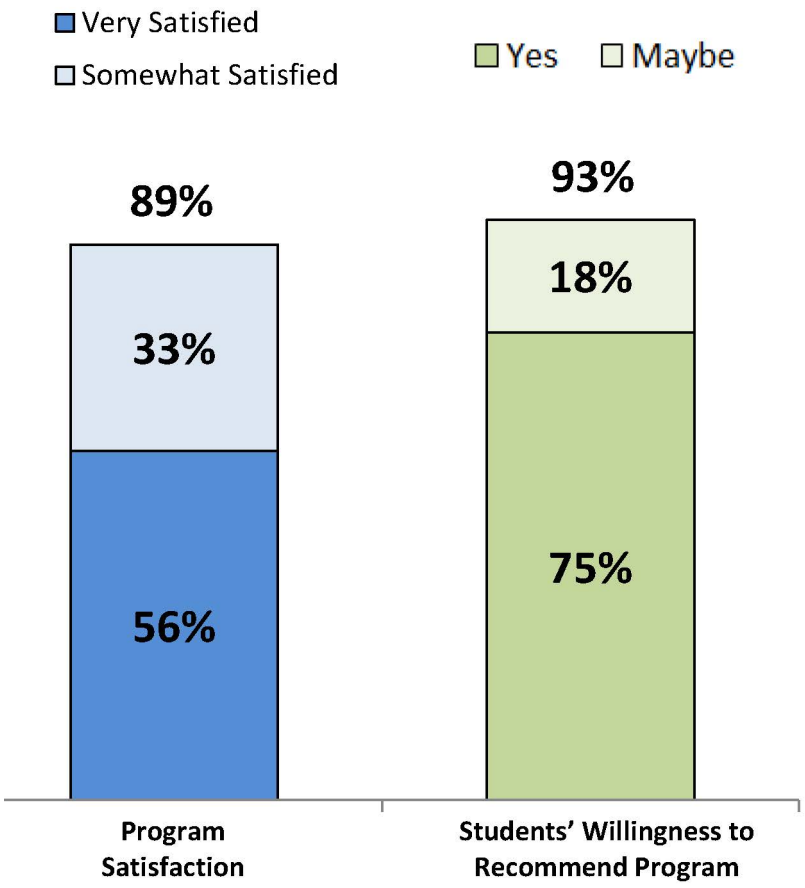
- *Innovative Education and Training for Continuous Learning*
- *Develop Training to Address the New Initiatives, (MU2, MU3, ACA, New Payment Models)*
- *Supporting the Diverse Healthcare Workforce that Will Require Different Modalities of Training*

Evaluation of ONC Funded Workforce Programs: Key Findings - Appendix

Students Trained for Health IT Employment



UBT Students: Perceptions of Program

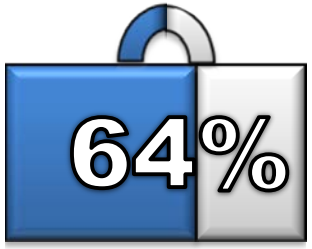


Program provided a solid foundation, but students often experienced difficulties transitioning into the health IT field

- Emphasized importance of hands-on experience with EHRs
- Appreciated opportunities for group work – citing soft skills development and exposure to classmate's diverse backgrounds as an added benefit.

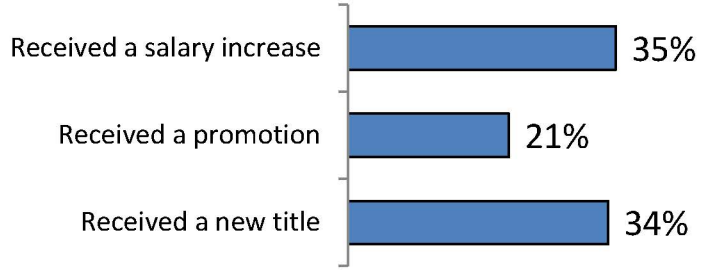
Employment in Health IT Among UBT Students

Close to two-thirds of students were *employed in health IT or health IT related responsibilities* 6 months after program completion



Employed in health IT

Working in health IT with the same employer as prior to the program

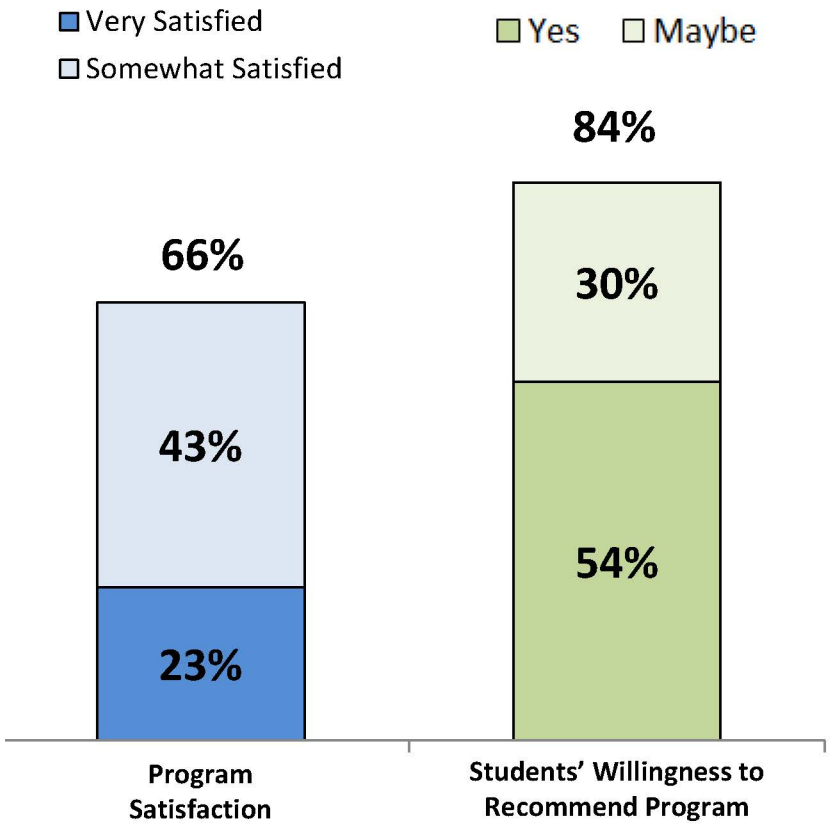


Employers' Views of the Workforce Program

- **Most employers were not familiar with the ONC program**
- **Employers generally thought the training roles aligned well with their employment needs. However…**
  - Job titles did not always correspond with training roles, making it challenging for students to know what positions to apply for—and for some employers to grasp applicants' skills
  - Many employers ideally wanted employees who could cover multiple roles
- **Programs need to be nimble and update curricula in "real-time" to reflect ongoing changes in the industry**

Summary of Key Findings
Community College Consortia Program

CCC Students: Perceptions of Program



- Two-thirds of students took courses exclusively online (popular for many, but some desired more opportunities for in-person and hands-on training)
- Preferred for-credit programs
- Appreciated instructors w/ real-world health IT experience
- Those with health care backgrounds found IT course material challenging; those with IT backgrounds found the job market more challenging
- Many not sufficiently prepared for the difficulty or workload of the courses
  - Posed challenges in light of the six-month timeline
  - Employers also skeptical about a six-month, non-credit program without a certification

Key Site Visit Findings: Employment

Concerns with Program Structure

- Program directors, instructors, and students expressed anxiety regarding graduates' job prospects and were skeptical that a six-month, non-credit program without a certification would provide sufficient health IT training.

Context

- Regional labor market conditions play critical role in the job-search experience.

Improvements

- Students requested additional opportunities for hands-on experience, including internship opportunities as well as an appropriate workload.
- Employers requested a central repository to help connect employers and students.
- Many schools would have liked other ONC-funded health IT grantees to be more involved in their programs, particularly in helping connect students to possible jobs.

Summary of Key Findings
Curriculum Development Centers

Key Findings: Curriculum Development Centers

- In general, instructors and students appreciated the materials and found them comprehensive
- Instructors and students noted numerous typos in the first release as well as points of overlap, but this improved in subsequent releases
- Developers felt the materials should have been developed prior to the start of the program as opposed to in parallel with implementation
- Developers noted that the short development timeline limited collaboration
- Developers struggled to create materials appropriate for the types of students who ended up enrolling in the CCC programs; many wished for more communication with both the CCCs and the HIT Pro Exam grantees

Key Site Visit Findings: Curriculum Materials

Quality

- The schools appreciated the availability of ONC-funded curriculum materials. Although several programs raised concerns over the quality of some of those materials, many commented they noticed improvements since Version 1.0, but that some problems do still exist.

Quantity

- The Curriculum Development Centers intentionally created a large volume of materials in order to create a "buffet" of options for instructors; however, some schools noted that the sheer volume of materials received was overwhelming, making it difficult for them to decide what to include in their courses.

Revisions

- While some colleges left it to individual instructors to revise the materials on their own, in most cases, instructors received refined versions of the materials from the colleges.

Utility

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Results from Faculty Survey

Modification of Materials

- More than three-quarters did not modify the materials or modified minimally.

Usefulness of Materials

- The vast majority (94%) found the materials useful. Close to half found them very useful.

Satisfaction with the Materials

- Close to three-quarters (73%) perceived students to be satisfied with the materials. 20% perceived them to be very satisfied.

NORC invited all 648 CCC instructors to participate in the survey.

- Survey was in the field from 9/22/2011-1/3/2012
- 460 instructors responded (80% response rate).

Summary of Key Findings
Competency Exam

Competency Exam: Key Findings

- In 2012, the number of exams administered was lower than expected
- Developers attributed this to:
  - Colleges not placing an emphasis on the exam
  - The fact that the exam was not a graduation requirement
  - Lack of advertising, the absence of a credential
  - Employers' lack of awareness of the exam
- Employers remained largely unaware of the exam and what it reflected
- Providing all exams free of charge and allowing exam takers to sit for more than one exam led to a large increase in the number of exams delivered at the end of grant period

Cross-Cutting Findings

Importance of communication and clarity of purpose at the outset

- Rapid implementation posed challenges for structured communication channels
- For example, the Developers felt more communication with the CCCs and the HIT Pro Exam Developer would have helped them better target the materials

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Plans for Sustainability

- Continued health IT education offerings
  - 63 of the original CCCs and all 9 of the UBTs are continuing health IT educational offerings.
  - Developers' materials are still being used by educational institutions, individuals, and others.
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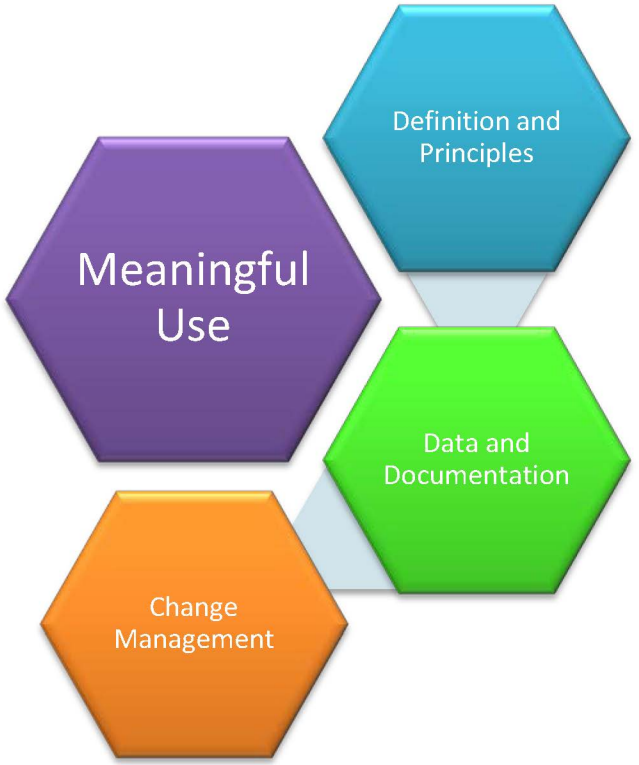
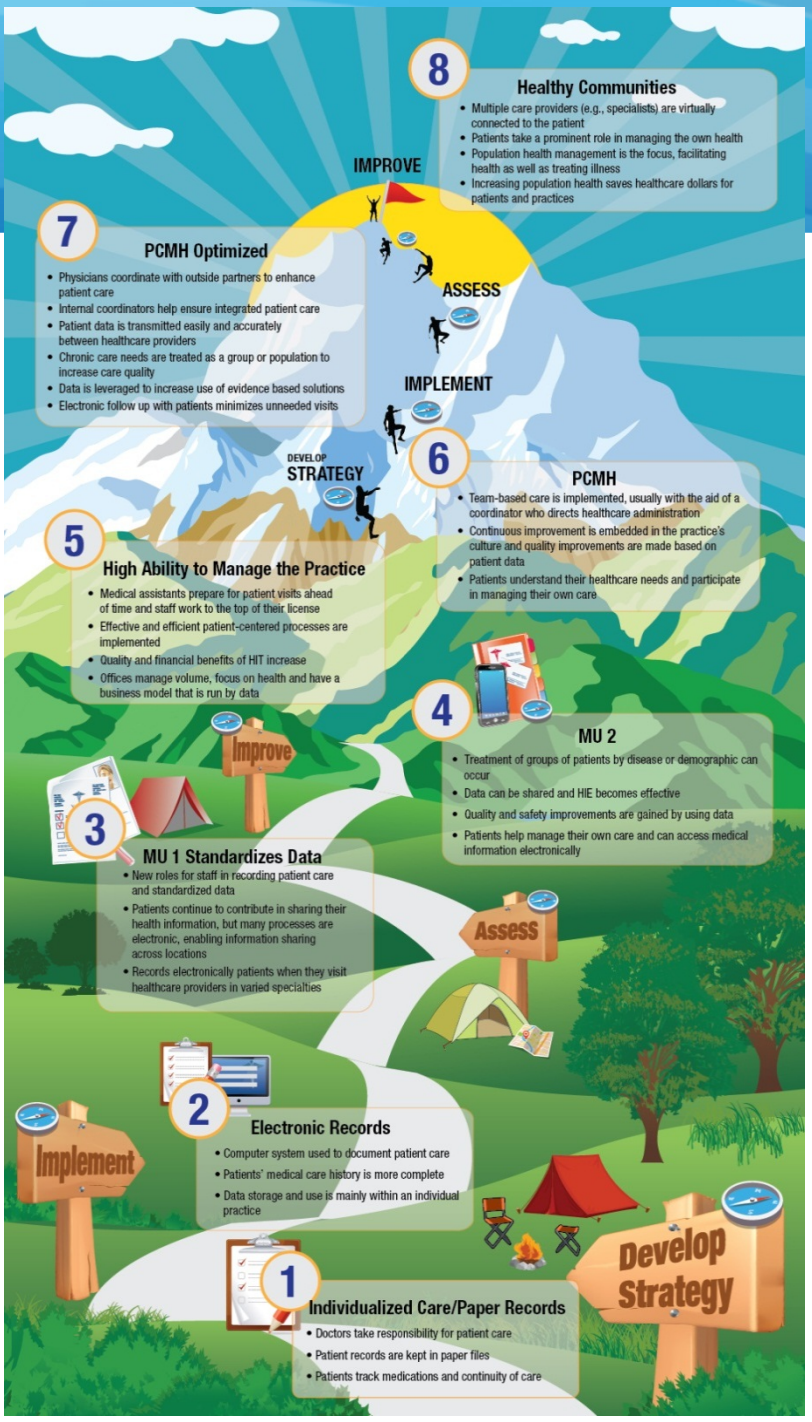
Tools, Training and Transformation- Appendix

Workforce Competency Frameworks for Practice Transformation – Key Competency Areas



Workforce Competency Frameworks for Practice Transformation – Key Competency Areas

Road Map



"The implementation of Patient-Centered Team Based Care, supported by health IT, brings about many challenges for new workers and incumbents, alike. Both groups will find interpersonal dynamics to be an unexpected focus and new technologies will emerge that will have to be learned and integrated into their workflows. On the job success will likely stem from a work environment with a ***consistent understanding of the transformation process, visible leadership and support****, and* ***established outcomes that can be measured against contextual factors during delivery of care.*** *"*

Mohla, C., Reed, C., Keesey, P., McKenzie, H., Damico, D., & Sital, S. Agency for Healthcare Research and Quality, (2013). *Readying the health it workforce for patient-centered team based care: Understanding training needs* (ARRA NRC D2 HITECH)

E-Learning Modules – To Support Field Based Transformation

- *Introduction to the Patient-Centered Medical Home*
- *Team-Based Care*
- *Patient Self-Management*
- *Technical Skills and Applications*
- *Quality Improvement*
- *Change Management*

Workforce Development Programs

Workforce Development Programs

As the nation moves towards a more technologically advanced health care system, providers will need a highly skilled health information technology (IT) workforce to support them in the adoption, implementation and meaningful use of electronic health records.

Begin Developing Health IT Competencies Today

Competency models and learning resources for all:

- Patient Centered Medical Homes (PCMH)
- Health Information Exchange (HIE)
- Meaningful Use (MU)
- Population Management

Learn more ›

Health IT Curriculum for Educators

The Health IT field continues to change it is vital that new and incumbent workers have the skills necessary to make meaningful use meaningful in creating the best care possible for patients

Learn more ›

Health IT Educational Opportunities

Learn about educational programs to gain the skills needed for Health IT

Learn more ›

Resources

Read about innovative approaches to delivering Health IT training and education: