Office of the National Coordinator for Health Information Technology
Electronic Health Record Adoption and Utilization
2012 Highlights and Accomplishments

Introduction

We are at the cusp of a truly revolutionary change in how we deliver health care in the United States

The momentum to expand the adoption and meaningful use of electronic health records to improve the health and care of each and every patient continues. For almost 10 years, the Department of Health and Human Services, through the Office of the National Coordinator for Health Information Technology (ONC), has taken a leadership role to help establish health IT as a key enabling technology in our health care system

Federal efforts toward ensuring that all Americans benefit from electronic health record (EHR) technology were expanded and supported through the American Recovery and Reinvestment Act of 2009 (ARRA) funds. ARRA funds included $30 billion for the Centers for Medicare & Medicaid Services' (CMS) EHR incentive payment program for health care providers adopting and meaningfully using EHRs and $2 billion for ONCs certification, standards, interoperability and education and outreach programs. Both CMS and ONC programs were established by the Health Information Technology for Economic and Clinical Health Act (HITECH) as part of ARRA.

ONC's programs provide financial and technical support to eligible professionals and eligible hospitals to foster the adoption and meaningful use of certified EHRs. Program and service grant awards across the United States are underway to help eligible providers plan and implement health IT, enable health information exchange, conduct specialized health IT pilot projects and train the new health IT workforce. Program highlights include:

- Our 62 Regional Extension Programs (RECs) provide direct hands on assistance throughout the United States to help eligible providers adopt and become meaningful users of health IT. To date, more than 137,000 eligible providers are working with RECs.
- Recognizing the critical shortage of trained health IT workers, ONC established a wide range of community college, university based and remote learning programs to help build the future health IT workforce. More than 14,000 students have completed the community college workforce training program. An additional 2,500 students have earned advanced training certificates through our University based program.
- To demonstrate how health IT investments and the meaningful use of electronic health records (EHRs) can advance the vision of patient-centered care, ONC established 17 specific health pilot projects through our Beacon Community Program. Each program tackles unique community-based health issues working to achieve the three-part aim of better health and better care at lower cost.

These programs and efforts are beginning to pay off: The number of health care providers adopting and integrating health IT into their practices are growing at greater rates than ever before and the trend is expected to continue. The adoption patterns for hospitals and physicians show increasing rates of adoption since HITECH was enacted.

Technology as we know it today has improved every aspect of our lives. It is now time to ensure that information technology is as an important a tool to help improve the efficiency, quality and cost effectiveness of the patient care experience as technology has become in other segments of our society.

ONC is taking this opportunity to share health IT highlights and accomplishments. These statistics and program highlights offer insight into the adoption and use of health IT and showcase federal programs that are working to continue this forward momentum   We hope you will share this information with your colleagues to help "get the word out" about health IT and our programs and efforts to continue to advance health IT adoption throughout the United States.

Trends in EHR Adoption and Utilization

Electronic health records are here and here to stay

Recent data show that health care providers are adopting and integrating health IT into their practices at greater rates than ever before**.** This trend is expected to continue. The adoption patterns for hospitals and physicians show increasing rates of adoption over the past 3-5 years. Physicians and hospitals throughout the United States are experiencing the many benefits of electronic health records in very personal ways:

- Joplin, Missouri experienced a devastating tornado in 2011. Because St. John's Regional Medical Center, a 370-bed facility in Joplin, had implemented an EHR system prior to the tornado striking the town, St. John's was able to use or transfer all patients' medical records within hours.
- Dr. Jennifer Brull of Kansas realized the benefits of using her EHR system when she proactively identified patients in need of colon cancer screenings. She increased her screening rate from 37% to 81%. While she considered that impressive, she found the real benefit of EHRs came to light when she was able to detect colon cancer early in three patients.   The detection was so early the patients did not require chemotherapy or radiation. For them, it made a huge difference between early colon cancer detection and invasive colon cancer.

The citizens of Joplin, Missouri and Dr. Brull are just two examples of a growing number of health IT success stories

Adoption Statistics for Office-Based Providers

The percentage of office-based physicians who have adopted basic EHRs in their practice doubled from 17 percent in 2008 to 34 percent in 2011. In rural settings, 38 percent of office-based providers have adopted at least basic EHRs in 2011 compared to 14 percent in 2009, a 2.5

fold increase. Among small practices, adoption patterns also show marked increases - nearly doubling from 15 percent in 2009 to 29 percent in 2011.
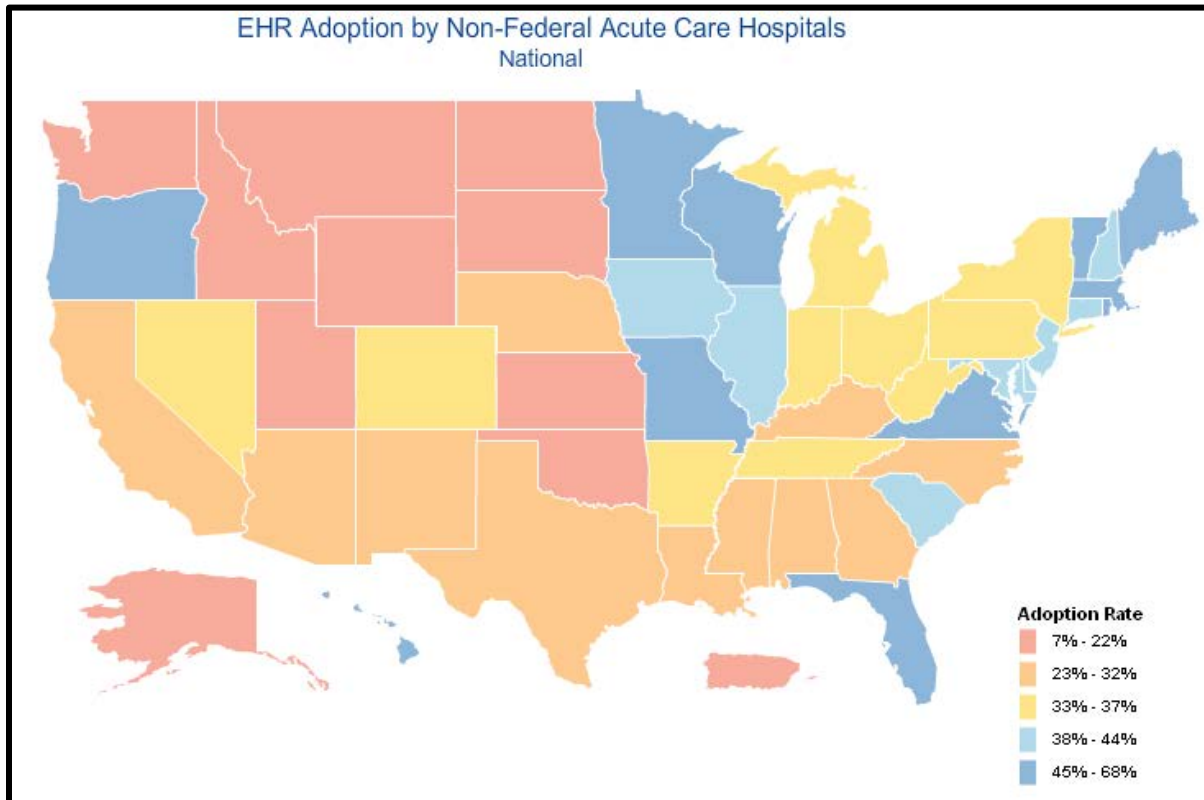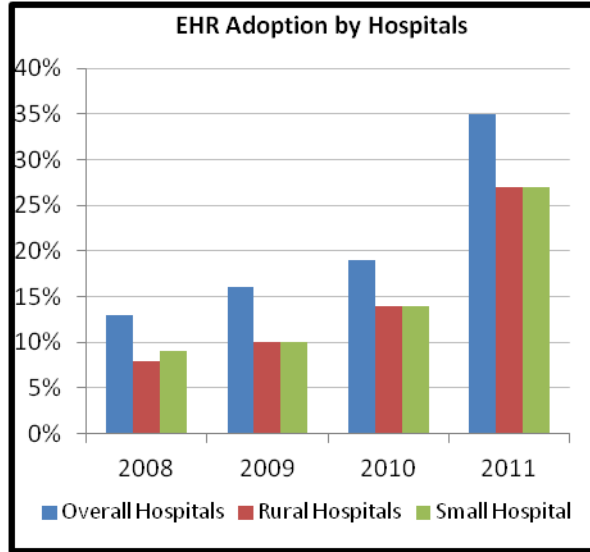

EHR Adoption by Office-Based Physicians

EHR Adoption by Office-Based Providers
National
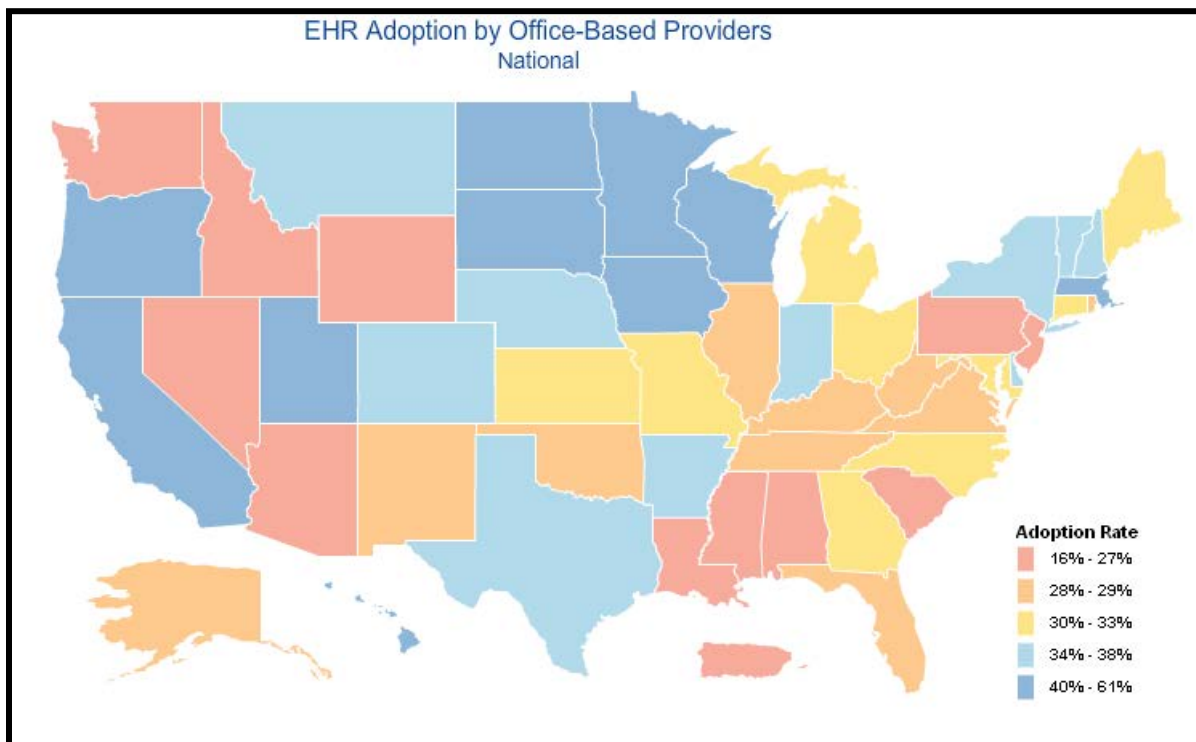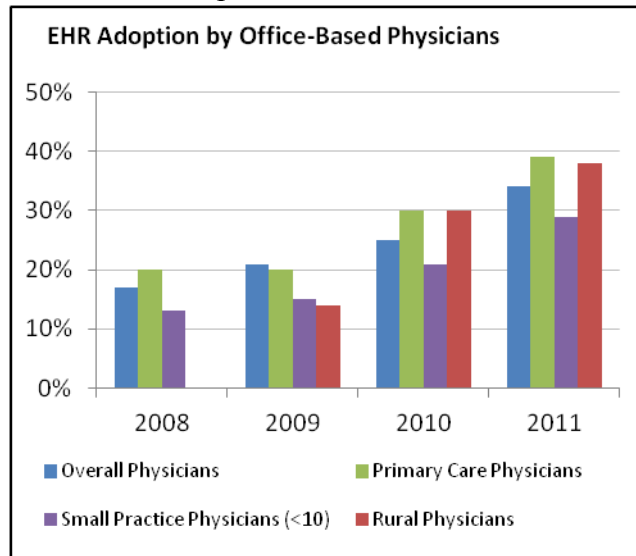
For additional information about EHR adoption among office-based providers, see the related Health IT Dashboard at http://dashboard.healthit.gov/HITadoption

Also, see the Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS) Data Brief 79 Electronic Health Record Systems and Intent to Apply for Meaningful Use Incentives Among Office-based Physician Practices: United States, 2001–2011. http://www.cdc.gov/nchs/data/databriefs/db79.htm

Adoption Statistics for Non-Federal Acute Care Hospitals

Hospital adoption of basic EHR systems has more than doubled – from 13 percent in 2008 to 35 percent in 2011. While EHR adoption in rural and small hospitals has been slower than in urban and larger hospitals, we have made significant gains recently In 2011, 27 percent of rural and small hospitals had implemented at least basic EHRs, compared to 8 percent and 9 percent, respectively, in 2008.

EHR Adoption by Hospitals

EHR Adoption by Non-Federal Acute Care Hospitals
National

Adoption Rate
- 7% - 22%
- 23% - 32%
- 33% - 37%
- 38% - 44%
- 45% - 68%

For additional information about EHR adoption among non-federal acute care hospitals, see the related Health IT Dashboard at http://dashboard.healthit.gov/HITadoption.

Additional discussion about EHR growth among hospitals is also available in *ONC Data Brief 1 - Electronic Health Record Systems and Intent to Attest to Meaningful Use among Non-federal Acute Care Hospitals in the United States: 2008-2011*. http://www.healthit.gov/media/pdf/ONC_Data_Brief_AHA_2011.pdf

HITECH Programs advance the adoption of Health Information Technology

From the beginning, we recognized that health information systems and the transition to these systems would require both financial assistance and ongoing support

CMS Medicare and Medicaid EHR Incentive Payment Programs

The CMS Medicare and Medicaid EHR Incentive payment programs help health care providers reduce the financial barriers they may experience in adopting and achieving meaningful use of EHRs. As of July 2012, program enrollment reports show that over 270,000 providers (XXX percent) had begun participating in the EHR Incentive Programs, including over 267,000 eligible professionals and 3,884 eligible hospitals.[1] As a result of these successful enrollments, more than $6.5 billion in financial incentives has been distributed to over 120,000 health care providers.
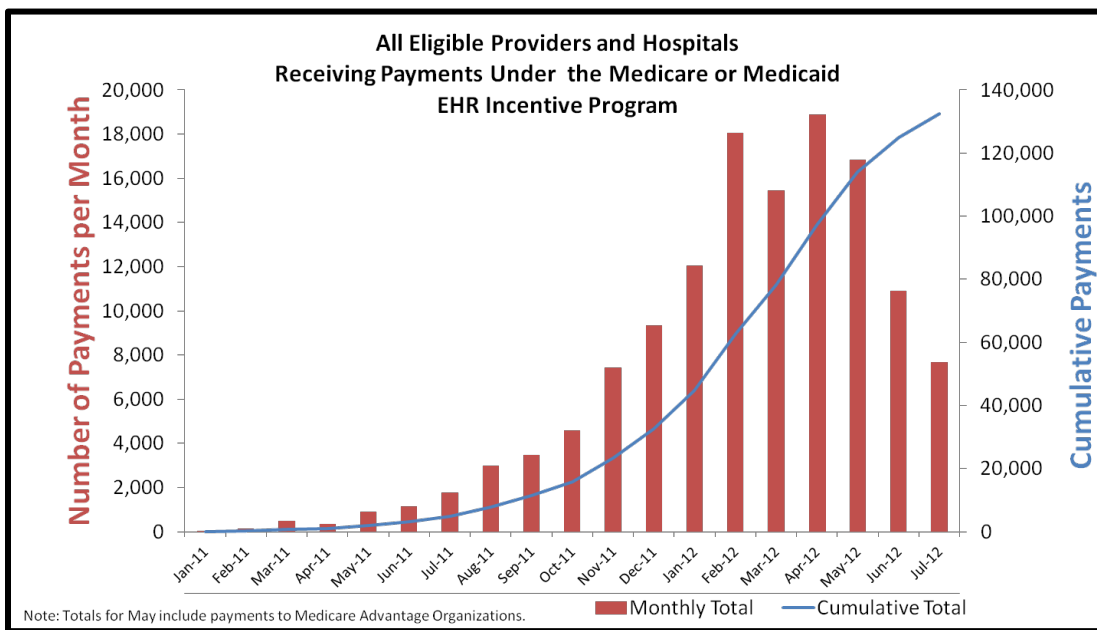
More information about the CMS EHR Incentive Programs recent milestone of making incentive payments to 100,000 providers can be found here: http://www.hhs.gov/news/press/2012pres/06/20120619a.html.

For more information about how the CMS EHR Incentive Programs are being implemented in each state and achieving the planned goals, visit http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/DataAndReports.html.

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[1] CMS Monthly report can be obtained here: https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/DataAndReports.html

ONC's Standards & Interoperability Framework

A complex health care system requires diverse EHR products. One size does not fit all. To realize their full potential, EHRs must be able to share information seamlessly – anywhere, anytime. Establishing a systematic process to develop agreed-upon standards to create the framework to seamless exchange of health information in a private and secure manner is the goal of ONC's Standards & Interoperability (S&I) Framework.   The S& I Framework is the foundation to drive standards development to support interoperable health information exchange. Ultimately, an interoperable environment improves the delivery of health care by making the right data available at the right time to the right people.

 ONC is working to build EHR interoperability, no matter the system or where the patient or provider is located. ONC encourages the development of health IT standards and is taking steps to move toward the seamless exchange of health data across all stakeholders: Federal agencies; State, local, and tribal governments; and the private sector.

The Standards and Interoperability (S&I) Framework represents one investment and approach adopted by ONC to fulfill its charge of prescribing health IT standards and specifications to support national health outcomes and healthcare priorities.

The S&I Framework is an excellent example of "government as a platform for innovation"– by convening the health IT community and supporting it with integrated functions, processes, and tools in order to develop and harmonize health information exchange standards.

Through the S&I Framework, ONC seeks input from the health IT community on what interoperability challenges should be prioritized and then provides a forum for those volunteers to solve these challenges with common solutions.

Since its inception in early 2011, over 1300 people have registered on the [S&I Framework wiki](), and over 500 people have participated in over 800 working sessions. Prior to the S&I Framework, standards development typically took anywhere from 18-36 months; this process has been significantly shortened to 9-18 months with the S&I Framework.

The Nationwide Health Information Network (NwHIN)

The Nationwide Health Information Network (NwHIN) is the set of standards, services and policies that enable health information to flow securely over the Internet. Information needs to follow the patient across geographic, organizational and vendor boundaries for quality care. Since 2004, ONC has been working with private sector organizations and obtaining critical input from our Federal advisory committees to develop and expand trusted information exchange.

Two significant NwHIN developments mark 2012. ONC was charged in the HITECH Act to "develop a governance mechanism for the nationwide health information network." In the Spring, we issued a Request for Information about a proposed approach based on conditions of trusted exchange that organizations could comply with and be recognized as NwHIN validated entities. In addition to over 140 thoughtful public comments, we received substantive input from our federal advisory committees. We will be consider all the input in determining the path forward.

In addition, the group of organizations known as the NwHIN Exchange, which grew out of ONC initiatives and was supported by ONC for many years, transitioned to a new public-private not-for-profit entity known as the eHealth Exchange. The new entity includes key Federal health agencies along with over two dozen private health organizations. ONC looks to this new entity to be a pioneer in health information exchange and provide many useful lessons for others.

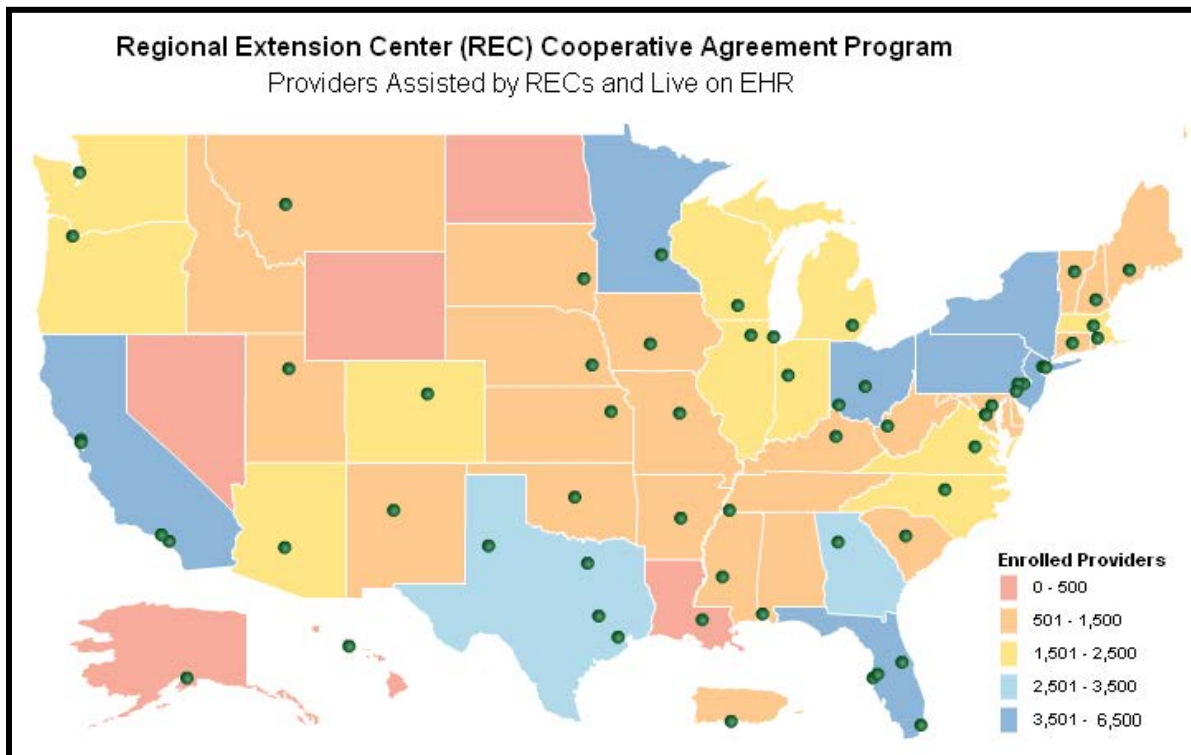*ONC Certified Health IT Products List*

An important component of the success of the CMS EHR Financial Incentive Programs is the establishment of the EHR Certification Program. Through this program, ONC has implemented a regulatory and technical framework that will protect and standardize health information exchange and promote the interoperability of EHRs. This program led to the development of the Certified Health IT Products List (CHPL), As of June 2012, there were 2,268 certified EHR products from some 798 EHR Vendors/Developers. Of the 2,268 products listed in the CHPL, 1,501 were for unique products (e.g., when a new "version" of an existing EHR product is released, it is not double-counted).[2]

ONC Health IT Regional Extension Centers (REC) Program

Regional Extension Centers assist health care providers with the adoption and meaningful use of health IT. The REC program represents a unique opportunity to place "boots on the ground" to provide eligible providers local and immediate access to health IT expertise to provide hands on assistance to adopt and become meaningful users of health IT. As of August 2012, ONC's 62 RECs have recruited over 137,000 primary care providers and nearly 10,000 specialists to achieve Meaningful Use by 2014. Of all providers working with the RECs, over 90,000 were live on an EHR system that had e-prescribing and quality measurement functionality. Over 12,000 REC providers have met the REC program milestone for demonstrating Meaningful Use.[3] And, nearly 49 percent of the eligible providers who have received Medicaid Adopt/ Implement/ Upgrade (AIU) payments from the CMS EHR Incentive Programs as of July 2012 are being supported by a REC.

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[2] The Certified Health IT Products List is located here: http://oncchpl.force.com/ehrcert?q=CHPL
[3] The Health IT Regional Extension Center (REC) Program has a performance-based reimbursement structure that compensates REC grantees for assisting primary care providers through three milestones along the path to meaningfully using electronic health records (EHR). The performance milestones that qualify an REC for grant payment are: (1) a health care provider enrolls to receive assistance from a REC; (2) the provider "goes live" with an electronic health record (EHR) that has e-prescribing and quality reporting functionalities enabled; and (3) the provider or REC attests that the provider has met the Medicare and Medicaid EHR Incentive Program criteria for meaningful use of an EHR.

Regional Extension Center (REC) Cooperative Agreement Program
Providers Assisted by RECs and Live on EHR

Enrolled Providers
- 0 - 500
- 501 - 1,500
- 1,501 - 2,500
- 2,501 - 3,500
- 3,501 - 6,500

Note: dots represent location of Health IT Regional Extension Centers.

For more information about how the REC Program is achieving its goals, visit the
ONC Health IT Dashboard for Health IT: http://dashboard.healthit.gov/rec

Alongside the progress that RECs have had with assisting providers to "go-live" with an EHR, the Health IT Research Center (HITRC) and National Learning Consortium (NLC) projects are leveraging the technical assistance materials created by RECs so that they can have the broadest audience and impact as possible. The HITRC and NLC are particularly valuable for assisting providers in rural and remote areas.

ONC State Health Information Exchange Program

The ability for providers to transfer health information in a safe, secure and continuous manner is critical to create a comprehensive medical record for patients. A secure health information exchange will enable patients to truly access their health information, anywhere, any time. The State HIE Program is accelerating and improving coordination among states to promote the adoption and Meaningful Use of health IT to help achieve this goal. Since the State HIE Program's inception in HITECH, ONC has helped all states develop comprehensive plans to enable and accelerate the development of their own health IT infrastructures. There is clear evidence of momentum and success resulting from the States' Plans and coordination efforts. For instance:

- 51 states and territories are implementing low cost exchange services to support providers in achieving Meaningful Use exchange requirements;

- 25 states are establishing infrastructure, setting standards and adopting policies to connect existing exchange organizations as a way to ensure patient's information can and will follow them across the health care system; and,
- 20 states are working to address exchange disparities by providing an extra helping hand to critical access hospitals, long-term care facilities, rural providers, independent labs and others that cannot afford to participate in exchange.

For more information about how national measures of EHR adoption, health information exchange activity, visit the ONC Health IT Dashboard for Health IT: http://dashboard.healthit.gov/hitadoption

ONC Health IT Workforce Programs

Health care providers need an increasingly skilled workforce of health IT specialists as they transition to EHRs and other health IT resources in their practices and in their offices. In fact, the Bureau of Labor Statistics projected the need for an additional 37,700 health information management workers by 2020.[4] Job growth in health IT professional roles is further outlined in the *ONC Data Brief 2 - HITECH and Health IT Jobs: Evidence from Online Job Postings* http://www.healthit.gov/sites/default/files/pdf/0512_ONCDataBrief2_JobPostings.pdf

To meet current and future demands of trained health IT professionals, ONC's HITECH Workforce Programs were created to build a solid foundation of curricula and training capacity within a network of over 90 community colleges and universities nationwide. Between August 2010 and July 2012, almost 25,000 healthcare or IT professionals have enrolled in training programs, and over 14,000 had completed training programs.

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[4] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Medical Records and Health Information Technicians.

Community College Consortia to Educate Health IT Professionals Program
Professionals that Completed Health IT Workforce Training
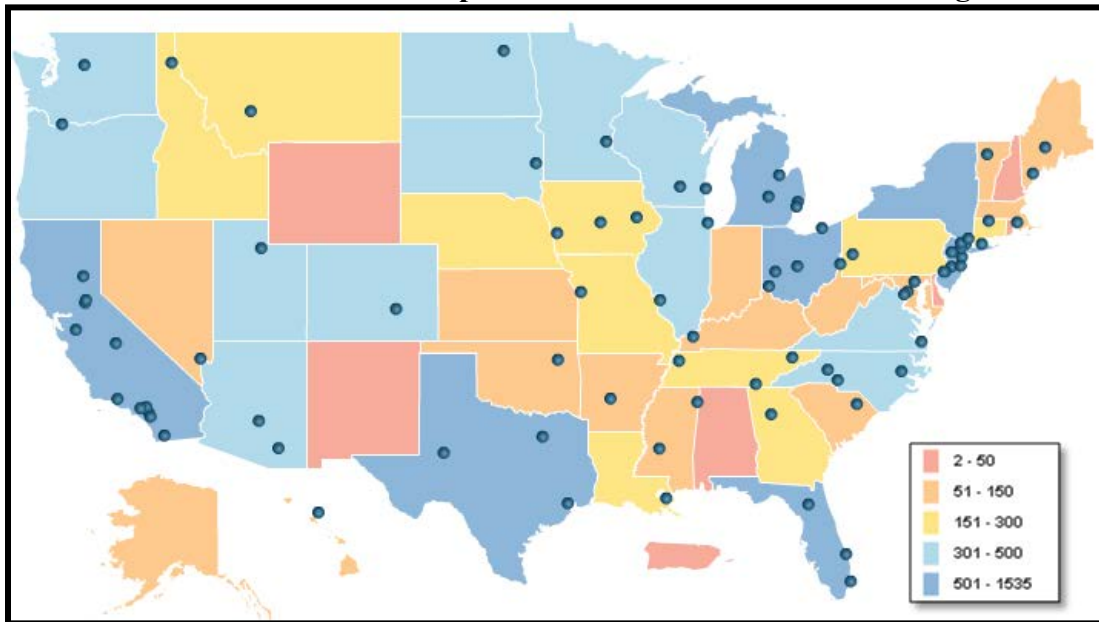
Note: dots represent Community College Consortia to Educate Health IT Professionals Programs.

For additional reporting for the Community College Consortia with regard to achievement of the program's initial goal, view *ONC Data Brief No. 3 – ONC's Community College Program Trains Over 12,000 Health IT Professionals* http://www.healthit.gov/sites/default/files/pdf/0512_ONCDataBrief3_TrainingHIT Prof.pdf

More information about how the Community College Consortia to Educate Health IT Professionals Program has succeeded in improving the Nation's capacity to train a skilled health IT workforce at a local level is available the ONC Health IT Dashboard for Health IT: http://dashboard.healthit.gov/college

The broad interest in the materials developed by the Health IT Workforce Program's Curriculum Development Centers is also remarkable and interesting. In addition to the curricula's pervasive use and adaptation within the Community College Consortia, the materials have also been widely available and distributed publicly over the internet to individuals and educational groups in more than 60 countries.[5]

Coupled with the development of health IT curriculum materials, HITECH authorized ONC and its grantees to establish a Competency Exam Program that could be used by employers to assess the readiness of employees for the health IT workforce. As of March 2012, more than 2,500 health IT professionals had taken exams across the six (6) workforce roles for which competency exams were developed.

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[5] For a more complete list by country, visit:
http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_0_5992_1807_17806_43/http%3B/wci-pubcontent/publish/onc/public_communities/_content/files/globalreach_publiccurriculum050112.pdf

For more information about the status and successes of ONC's Health IT Workforce programs, visit the following websites:

- Curriculum Development Centers, visit http://healthit.hhs.gov/curriculumdevelopment
- Competency Examination Program, visit http://healthit.hhs.gov/competencyexam
- Community College Consortia, visit http://healthit.hhs.gov/communitycollege
- University-Based Health IT Training, visit http://healthit.hhs.gov/programs/UniversityTraining

ONC Beacon Communities

Since they were established under HITECH, the Health IT Beacon Communities have flourished into 17 diverse health care provider networks participating in community building and health IT-based clinical interventions across an impressive range of health care areas. In FY 2011, there were 5,678 health care providers participating in Beacon Communities interventions.

Beacon Communities are building and strengthening critical community technology infrastructure for improvement and accountability. Additionally, they are serving as testing laboratories for a host of new innovative technologies, IT-enabled interventions, data governance models and payment pilots.

Recent quarterly reviews of grantee data show that eight 14 of the 17 Beacon Communities are already reporting improvements in at least two clinical care measures associated with the health IT interventions being implemented within their communities. Communities are demonstrating improvements in the following areas.

- Process, intermediate outcome measures for chronic disease care:
  Between Q4 2010 and Q2 2012, the Bangor Beacon Community improved LDL-C Control for patients with cardiovascular disease from 57 percent to 66 percent.
  Between Q2 2011 and Q2 2012, the Crescent City Beacon Community improved Diabetes HbA1c Screening rates within their first wave of clinics from 85 percent to percent.
  Between Q4 2010 and Q2 2012, the IC3/Utah Beacon Community improved Diabetes HbA1c Screening rates within their community clinics from 75 percent to percent, and Diabetes HbA1c control rates from 51 percent to 59 percent.
  Between Q1 2011 and Q2 2012, the Greater Cincinnati Beacon Collaboration improved the proportion of the high risk study population with asthma control rated as "well controlled" from 61 percent to 76 percent.

- Preventive care, including cancer screenings:
  Between Q1 2010 and Q1 2012, the Central Indiana Beacon Community improved its Colorectal Cancer Screening rate from 58 percent to 66 percent.

- Behavioral health, including depression screening:
  Since the beginning of the Beacon intervention period, the Colorado Beacon Consortium improved Depression Screening for patients with diabetes from 68 percent to 92 percent.
  Between Q2 2011 and Q2 2012, the Rhode Island Beacon Community improved Depression Screening from 50 percent to 80 percent.

- Public health, including tobacco cessation advice:
Between Q2 2011 and Q2 2012, the Rhode Island Beacon Community improved Tobacco Cessation Intervention from 63 percent to 80 percent.

- Utilization, including ED visits, hospital admissions, and readmissions
The Bangor Beacon Community improved hospital admissions from 37 percent to 21 percent and ED visit rate from 41% to 26%; among its "high risk/ high cost" patient cohort that have completed 6 months of care management.
Between `Q1 2011 and Q1 2012, the Keystone Beacon Community (KBC) improved 30-day Readmission Rate among KBC-managed patients with CHF from 21 percent to 15 percent.

For more information about the innovations and health outcome improvements from the Beacon Communities program, visit:
http://www.healthit.gov/sites/default/files/pdf/beacon-communities-academy-health-meeting.pdf

ONC Strategic Health IT Advanced Research Projects (SHARP) Program

The SHARP Program is helping America's universities lead the way in creating a new of generation of innovative technologies to improve health care quality and delivery system performance. The SHARP program is led by major collaborative efforts at the University of Illinois at Urbana-Champaign, the University of Texas at Houston, Harvard University, the Mayo Clinic of Medicine, and Massachusetts General Hospital.

Since the SHARP Program's inception, the University of Illinois at Urbana-Champaign has been helping develop technologies and policy recommendations that reduce privacy and security risks and increase public trust; the University of Texas, Houston is undertaking innovative cognitive research to harness the power of health IT to integrate and support physician reasoning and decision-making as providers care for patients; Harvard University has been leading platform-based research to create new and improved system designs that facilitate information exchange while ensuring the accuracy, privacy, and security of electronic health information; and, the Mayo Clinic of Medicine has been developing strategies to improve the overall quality of healthcare by leveraging existing EHR data to generate new, environmentally appropriate, best practice suggestions. For more informational about the SHARP program, visit http://healthit.hhs.gov/SHARP