

## Select Health Information Technology (Health IT) Publications

Compiled October 2013

This document provides a compilation of select publications from various peer-reviewed journals and media outlets that discuss key aspects of health IT topics. Topics include electronic health record (EHR) adoption; cost savings after adoption; EHR networks, security systems, and scope; and health IT effects on clinical patient outcomes and provider performance. These information resources may be used by Regional Extension Centers (RECs), Health IT Fellows, MUVers and providers in their efforts to conduct outreach within their communities to advance the adoption and meaningful use of EHRs. Additional resources inserted at the end of the document provide detailed information on health IT and tools to initiate or improve its use.

### COST SAVINGS

Title, Authors	Publication, Date	Description	Keywords
<a href="#">Health Information Exchange Saves \$1 Million in Emergency Care Costs</a> , ACEP	<i>American College of Emergency Physicians (ACEP)</i> , October 2013	In South Carolina, physicians' use of a health information exchange (HIE) <b>saved nearly \$2,000 per patient over the course of a year</b> , and quality of care also improved.	HIE · emergency care · cost savings
<a href="#">Effect of Electronic Health Records on Health Care Costs: Longitudinal Comparative Evidence from Community Practices</a> , J Adler-Milstein et al.	<i>Annals of Internal Medicine</i> , July 2013	A comparison of ambulatory clinics adopting EHRs and control communities with paper-based records showed that EHR adoption was associated with <b>slowed cost growth, particularly in radiology services</b> , although there was no change in total costs overall.	Cost savings · ambulatory EHR adoption · radiology

### ADOPTION

Title, Authors	Publication, Date	Description	Keywords
<a href="#">Electronic Health Records: Number and Characteristics of Providers Awarded Medicare Incentive Payments for 2011-2012</a> , L Kohn	<i>U.S. Government Accountability Office</i> , October 2013	In this report, GAO reviews the EHR <b>adoption rates, incentive payments, and achievement of Meaningful Use</b> among Medicare providers, as well as the most common characteristics of those providers.	Urban hospitals · acute care · EHR adoption · incentive payments

<a href="#">Electronic Health Records Inspire Dr. Fleur Sack to Reestablish Her Practice</a> , HealthIT.gov	<i>HealthIT.gov</i> , March 2013	After a family practitioner closed the doors of her practice in 2003 due to rising costs, she <b>reopened in 2012 with help from RECs and EHR incentive programs</b> . She currently uses her EHR system for patient outreach, communication, and reminders. Her practice has also <b>reduced costs and improved care</b> .	EHR adoption · family practitioner · patient outreach · cost savings · quality of care
<a href="#">Accelerating Progress on EHR Adoption Rates and Achieving Meaningful Use</a> , M Kendall	<i>HHS ONC: HealthITBuzz blog</i> , May 2012	An ONC official highlights the <b>national movement toward EHR adoption</b> and achievement of meaningful use, particularly among primary care providers. The REC program has been successful in <b>assisting small practices</b> .	Meaningful use · REC program · EHR adoption

### EHR NETWORKS, SYSTEM SECURITY, AND SCOPE

Title, Authors	Publication, Date	Description	Keywords
<a href="#">Health Records Safe Despite Oklahoma Tornado</a> , J Conn	<i>ModernHealthcare</i> , May 2013	Thanks to an EHR system that backed up patient records at a secure location, <b>2 million patient records were not lost</b> when a tornado tore the roof off of Moore Medical Center in Oklahoma.	HIE · record backup · natural disasters
<a href="#">Rural hospital hooks up with centers for big-city treatment</a> , M Whaley	<i>Denver Post</i> , March 2012	An EMR system allows a rural medical facility to <b>communicate and share records with command centers in other cities</b> . The network has allowed facilities to reduce patient deaths, speed up recovery, and help patients receive treatment close to home. Fewer patient transfers also led to lower costs.	Rural facility · hospital network · quality of care
<a href="#">Finding My Way to Electronic Health Records</a> , R Benjamin	<i>New England Journal of Medicine</i> , August 2010	A Gulf Coast physician describes how her experiences rescuing paper records after Hurricanes Georges and Katrina and then losing them in a fire led her to <b>adopt EHRs in her practice</b> .	natural disasters · small practice
<a href="#">Widespread Adoption of Information Technology in Primary Care Physician Offices in Denmark A Case Study</a> , D Protti & I Johansen	<i>Commonwealth Fund</i> , March 2010	Denmark is one of the world's leading countries in the use of health care technology. This case study describes the <b>applications and success of the fully functional Danish EMR system</b> .	EMR capabilities · clinical notes · electronic prescriptions

## PATIENT OUTCOMES

Title, Authors	Publication, Date	Description	Keywords
<a href="#">Implementation of an Outpatient Electronic Health Record and Emergency Department Visits, Hospitalizations, and Office Visits Among Patients with Diabetes</a> , M Reed et al.	<i>Journal of the American Medical Association</i> , September 2013	Researchers found a statistically significant reduction in <b>ED visits and hospitalizations for diabetes patients</b> following implementation of an outpatient EHR system in Northern California’s extensive Kaiser Permanente health network.	EHR adoption · emergency care · hospital network · hospitalizations
<a href="#">Identifying Patients at Increased Risk for Unplanned Readmission</a> , EH Bradley et al.	<i>Medical Care</i> , September 2013	A risk prediction score automatically generated by patients’ electronic health records allowed clinicians to rank patients by risk of readmission. The tool was accurate, as <b>risk of readmission declined</b> with higher scores (better patient condition).	Preventing readmission · large hospital · EMR capabilities
<a href="#">How one hospital uses EHR info to reduce bloodstream infections</a> , MD Hirsch	<i>FierceEMR</i> , September 2013	Bloodstream infections due to poor IV catheterization can lead to 60,000 deaths per year. A heavy trauma hospital in TN implemented an electronic vascular access program, integrated with its EHR system, to reduce bloodstream infections. The hospital saw <b>reductions in lengths of stay, nurse time, costs, use of antibiotics, and number of infections</b> .	Quality of care · cost savings · preventing infection
<a href="#">Allocating scare resources in real-time to reduce heart failure readmissions: a prospective, controlled study</a> , R Amarasingham et al.	<i>BMJ Quality &amp; Safety</i> , July 2013	A suite of EMR programs was used to determine the risk of readmission among heart failure patients and treat them accordingly. The <b>readmission rate declined</b> after the intervention for heart failure patients but not for the control groups.	Preventing readmission · heart failure · care transition
<a href="#">An Automated Intervention with Stepped Increases in Support to Increase Uptake of Colorectal Cancer Screening</a> , B Green et al.	<i>Annals of Internal Medicine</i> , March 2013	A health care network’s randomized trial used EHR-linked reminders, automated mailings, and RN support to remind patients of colorectal cancer screenings. Patients in these intervention groups were <b>more likely to be current for screening</b> than patients in the usual care group.	PCMH · quality of care · EMR capabilities · cancer screening
<a href="#">EHR use cut health care costs, BCBS says</a> , R Asinof	<i>Providence Business News</i> , December 2011	Blue Cross & Blue Shield’s three-year pilot program in Rhode Island to promote EHR adoption led to significant improvements in <b>quality outcomes for family/children’s health, women’s care, and internal medicine</b> . Cost savings were initially	EHR adoption · PCMH · quality outcomes

		reported at 17-33%, but BCBS retracted the numbers for risk adjustment.	
<a href="#">Electronic Health Records and Quality of Diabetes Care</a> , RD Cebul et al.	<i>New England Journal of Medicine</i> , September 2011	At seven health care organizations in a regional quality-improvement collaborative, 43.7% of patients at EHR sites <b>met at least 4/5 standards of diabetes outcomes</b> , compared to only 15.7% of patients at paper-based sites. A similar gap existed for achievement of quality diabetes care.	Quality of care · paper records comparison · outcome improvement · diabetes

## PROVIDER PERFORMANCE

Title, Authors	Publication, Date	Description	Keywords
<a href="#">Electronic Health Records and Ambulatory Quality of Care</a> , L Kern et al.	<i>Journal of General Internal Medicine</i> , April 2013	Among small ambulatory practices in New York's Hudson Valley, physicians using EHRs provided better quality of care than physicians using paper. The main quality measures were <b>hemoglobin A1c testing in diabetes and screening for breast cancer, chlamydia, and colorectal cancer.</b>	EMR adoption · quality of care · cancer screening · ambulatory care · small practices
<a href="#">Reduction in medication errors in hospitals due to adoption of computerized provider order entry systems</a> , D Radley et al.	<i>Journal of the American Medical Association</i> , February 2013	A literature review found that use of an electronic CPOE system to prescribe medications <b>decreased the likelihood of error per prescription by 48%</b> , amounting to an estimated 12.5% reduction in errors annually.	Medication error · CPOE · electronic prescriptions · hospitals
<a href="#">Health information technology capacity at federally qualified health centers: a mechanism for improving quality of care</a> , J Frimpong et al.	<i>BMC Health Services Research</i> , January 2013	Surveys and data from federally qualified health centers (FQHC) showed a <b>positive association between HIT capacity and quality of care</b> (measured by discharge summaries, patient notification system, and timely appointments for specialty care).	FQHC · quality of care · EMR adoption · care coordination
<a href="#">Effect of a centralized prescription network on inappropriate prescriptions for opioid analgesics and benzodiazepines</a> , C Dormuth et al.	<i>Canadian Medical Association Journal</i> , September 2012	Within 6 months of implementation of a centralized electronic prescription network, the <b>number of inappropriate opioid and benzodiazepine prescriptions filled for patients 65 and older decreased.</b>	Electronic prescriptions · pharmacy networks
<a href="#">The Relationship Between Electronic Health Records and Malpractice Claims</a> , M Quinn et al.	<i>JAMA Internal Medicine</i> , August 2012	Researchers found that <b>rates of malpractice claims when EHRs were used were one-sixth the rate of claims without EHR use</b> for a study population of Massachusetts physicians.	Malpractice rates · EHR adoption

<a href="#">Tracking the delivery of prevention-oriented care among primary care providers who have adopted electronic health records,</a> S Leon & S Shih	<i>Journal of the American Medical Informatics Association,</i> August 2011	The Primary Care Information Project in NYC has assisted with the adoption of EHR systems in over 300 primary care practices to improve preventive care. Small practices that adopted EHRs under the project between 2007 and 2010 showed <b>significant improvements for 8 out of 10 preventive care services.</b>	EMR adoption · preventive care · primary care · small practices · quality of care · Medicaid
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### Additional Resources

- Gain in-depth background information on Health IT, EHR adoption, and Meaningful Use:
  - [HealthIT.gov Fact Sheets on Health IT Networks, Adoption, and Meaningful Use](#)
  - [HealthIT.gov Frequently Asked Questions About Health IT Networks, Adoption, and Meaningful Use](#)
- Read provider Health IT success stories and learn more about the benefits of implementing EHR systems:
  - [Health IT.gov Provider Success Stories from Around the Country](#)
  - [HealthIT.gov Describes the Benefits of Electronic Health Records](#)
- Consult tools for getting started with Health IT and EHR adoption or improving its use:
  - [HealthIT.gov Tips and Resources on How to Implement EHRs](#)
  - [HRSA Health IT Adoption Toolkit with Resources for Health IT Implementation](#)
  - [HRSA Rural Health IT Adoption Toolbox for Providers in Rural Areas](#)
  - [ARHQ HealthIT Tools and Resources](#)
- Follow news coverage and statistics about national trends in Health IT adoption:
  - [HealthIT.gov Case Studies and Data on Meaningful Use](#)
  - [HealthIT.gov Infographics on the State of Health IT Nationwide](#)
  - [Health IT.gov Buzz Blog for an Interactive Discussion About Health IT Adoption](#)