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## Will Adoption of Electronic Health Records Improve Quality in U.S. Hospitals?

The Health Information Technology for Economic and Clinical Health Act of 2009 includes funds to stimulate adoption of health information technology, particularly electronic health records (EHRs), reflecting the general consensus that widespread adoption of information technology will increase efficiency and improve patient care. Approximately \$30 billion in Medicare and Medicaid incentives will be paid out over the life of the program, mostly to hospitals that can demonstrate “meaningful use” of a “certified” EHR.

Will installing a new EHR, or improving the capabilities of an existing one, improve quality over time? To answer this question, RAND researchers integrated extensive data from 2003 and 2006 on EHR adoption, hospital characteristics, and hospital quality in nearly 2,100 hospitals. They examined how EHRs affected 17 measures of hospital process quality across three common clinical conditions: acute myocardial infarction (AMI), heart failure, and pneumonia. EHRs were placed in tiers depending on their capabilities; top-tier hospitals were those with an operational computerized provider order entry system (an advanced EHR), because such a system facilitates decision support where care is being provided. Study findings provide the following insights about the potential effects of EHRs on health care quality:

- Quality of care for AMI, heart failure, and pneumonia improved broadly during the period studied.
- But quality scores for heart failure processes improved significantly more in hospitals with basic EHRs than in those without them.
- However, newly adopting a basic EHR did not significantly affect quality improvement.
- Indeed, quality scores for AMI and heart failure improved less in hospitals that had newly adopted or upgraded to an advanced EHR, compared with hospitals that maintained the status quo.
- “Ceiling effects” may limit the usefulness of existing measures of hospital quality for assessing EHR effects. For example, average quality ratings for AMI and pneumonia are already high, and additional improvement may be challenging.

Better metrics for assessing what constitutes meaningful use should help to identify which elements of EHRs have the greatest effect on quality of care.

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This fact sheet is based on Jones SS, Adams JL, Schneider EC, Ringel JS, and McGlynn EA, “Electronic Health Record Adoption and Quality Improvement in US Hospitals,” *American Journal of Managed Care*, Vol. 16, No. 12, Health Information Technology Special Issue, December 2010, pp. SP64–SP71 (EP-201000-136, [http://www.rand.org/pubs/external\\_publications/EP201000136.html](http://www.rand.org/pubs/external_publications/EP201000136.html)).

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