

Physician Experience With Electronic Health Record Systems That Meet Meaningful Use Criteria: NAMCS Physician Workflow Survey, 2011

Eric Jamoom, Ph.D., M.P.H., M.S.; Vaishali Patel, M.P.H., Ph.D.; Jennifer King, Ph.D.; and Michael F. Furukawa, Ph.D.

Key findings

Data from the National Ambulatory Medical Care Survey's (NAMCS) Physician Workflow Survey, 2011

- About three-quarters of physicians with electronic health record (EHR) systems have systems that meet meaningful use criteria.
- Physicians with EHR systems that meet meaningful use criteria were more likely to report that their system provides time savings than physicians with systems not meeting meaningful use criteria, but only in some areas.
- Physicians with EHR systems that meet meaningful use criteria were more likely to report enhanced confidentiality and less disruption in their interactions with patients than physicians with systems not meeting meaningful use criteria.
- Physicians with EHR systems that meet meaningful use criteria were no more likely to report financial benefits and selected clinical benefits than those with systems not meeting meaningful use criteria.

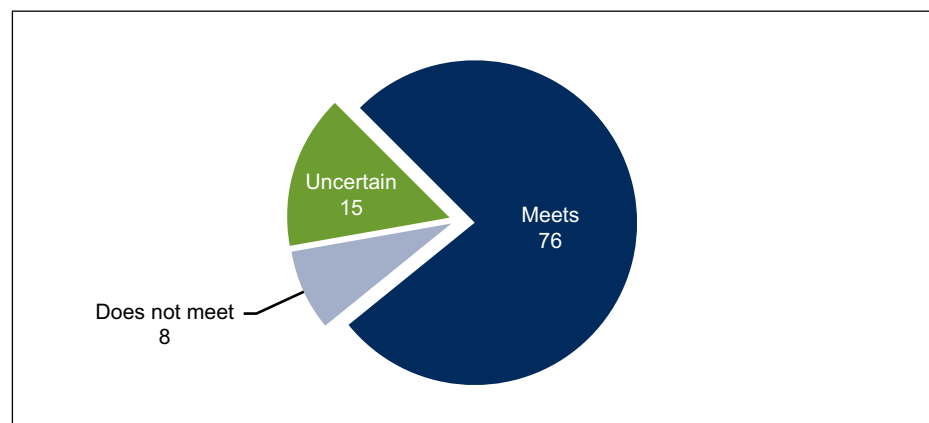
The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 provides financial incentives for physicians who adopt and demonstrate the “meaningful use” of a certified electronic health record (EHR) system (1,2). EHR systems that meet the meaningful use criteria have specific capabilities associated with efficient and high-quality patient care (3). Since enactment of the HITECH Act, nationally representative data about physician experiences with EHRs have been limited (4,5). This report describes physician experiences with EHRs, comparing clinical and financial indicators between physicians with and without EHR systems that meet meaningful use criteria.

Keywords: health information technology • National Ambulatory Medical Care Survey

How common are EHR systems that meet meaningful use criteria in physician practices?

- About three-quarters of EHR adopters (76%) report that they have a system that meets the Centers for Medicare & Medicaid Services (CMS)

Figure 1. Percentage of physicians with electronic health record systems that meet meaningful use criteria: United States, 2011



NOTES: Data represent office-based physicians with electronic health record systems ($n = 1,793$). Missing responses (less than 2%) were excluded. Meaningful use criteria were approved by the federal Centers for Medicare & Medicaid Services. The sample includes nonfederal, office-based physicians and excludes anesthesiologists, radiologists, and pathologists. Percentages may not sum to 100 because of rounding.

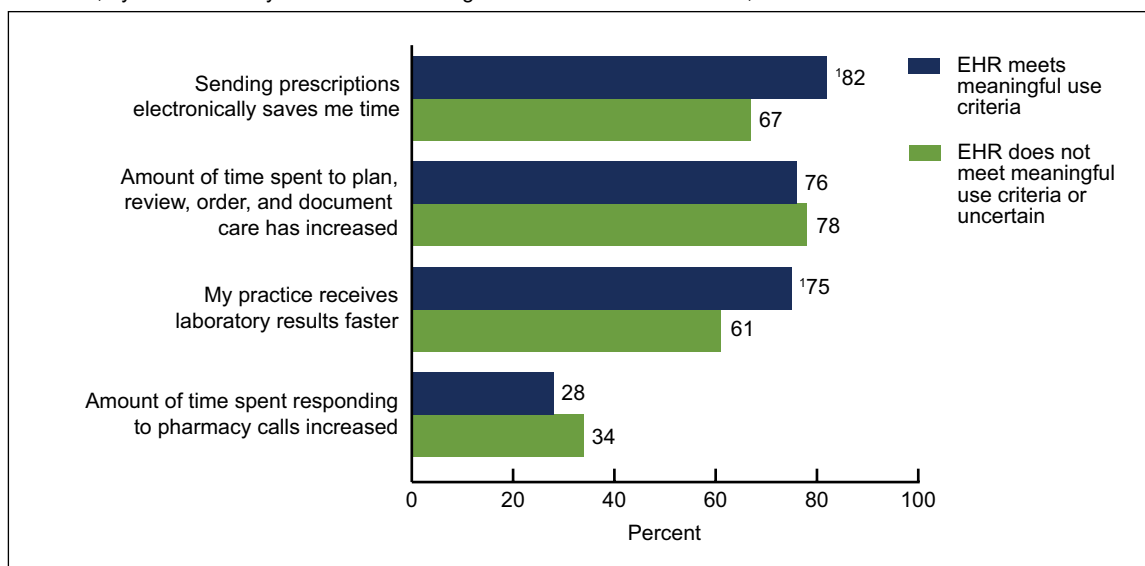
SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey's Physician Workflow Survey, 2011.



meaningful use criteria, whereas 8% have a system that does not meet the meaningful use criteria. About 15% of respondents are uncertain whether their system meets the meaningful use criteria (Figure 1).

Are physicians who have EHR systems that meet meaningful use criteria more likely to report time savings?

Figure 2. Percentage of physicians using electronic health record systems who report agreement with selected efficiency indicators, by whether the systems meet meaningful use criteria: United States, 2011

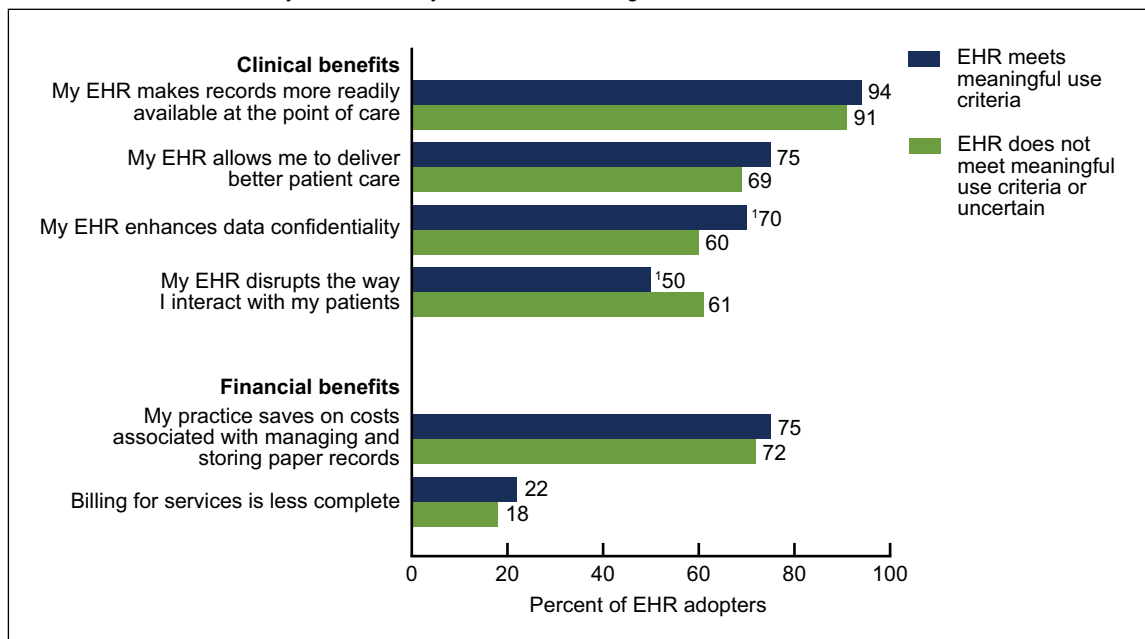


¹Differences between physicians with systems that meet meaningful use criteria and those with systems not meeting these criteria were significant ($p < 0.05$). NOTES: EHR is electronic health record. Data represent office-based physicians with EHR systems ($n = 1,793$). Missing responses (less than 6%) were excluded for each of the items. SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey's Physician Workflow Survey, 2011.

- Eighty-two percent of physicians with an EHR system that meets meaningful use criteria agree that electronic prescribing saves them time, compared with 67% of physicians whose EHR system did not meet meaningful use criteria (Figure 2).
- Seventy-five percent of physicians with an EHR system that meets meaningful use criteria agree that their practice receives laboratory results faster, compared with 61% of physicians whose EHR system did not meet meaningful use criteria (Figure 2).
- Approximately one-third of physicians with an EHR system judged that it increases the time taken to answer pharmacy calls, regardless of whether the system met meaningful use criteria (Figure 2).
- Regardless of whether their EHR system met meaningful use criteria, over three-quarters of these physicians reported that the amount of time taken to plan, review, order, and document care has increased due to using the system (Figure 2).

Are physicians who have EHR systems that meet meaningful use criteria more likely to report clinical and financial benefits?

Figure 3. Percentage of physicians using electronic health record systems who report agreement with selected clinical and financial benefits indicators, by whether the system meets meaningful use criteria: United States, 2011



¹Differences between physicians with systems that meet meaningful use criteria and those with systems not meeting these criteria were significant ($p < 0.05$). NOTES: EHR is electronic health record. Data represent office-based physicians with EHR systems ($n = 1,793$). Missing responses (less than 6%) were excluded for each of the items.

SOURCE: CDC/NCHS, National Ambulatory Medical Care Survey's Physician Workflow Survey, 2011.

- Sixty-one percent of physicians with an EHR system not meeting meaningful use criteria believed that it disrupts the way they interact with patients, compared with 50% of physicians with an EHR system that meets meaningful use criteria (Figure 3).
- Seventy percent of physicians with an EHR system that meets meaningful use criteria agreed that their system enhances patient data confidentiality, compared with 60% of physicians whose EHR system did not meet the criteria (Figure 3).
- Physicians with an EHR system largely agreed that the system makes records more readily available at the point of care (94% meeting meaningful use, 91% not meeting meaningful use), and allows them to deliver better patient care (75% meeting meaningful use, 69% not meeting meaningful use), regardless of whether the system met the CMS criteria (Figure 3).
- Almost three-quarters of physicians with an EHR system (75% meeting meaningful use, 72% not meeting meaningful use) judged that it saves on costs associated with managing and storing paper records, regardless of whether the system met meaningful use criteria (Figure 3).

Summary

Based on nationally representative data, about three-quarters of physicians with an EHR system have a system that meets federal Stage 1 Meaningful Use Criteria.

Physicians with EHR systems meeting these criteria believed that the systems provide some time-saving practice efficiencies, such as receiving laboratory results faster and enabling electronic prescribing, compared with systems not meeting meaningful use criteria. In addition, physicians using an EHR system that meets meaningful use criteria were less likely to perceive their system as disrupting the way they interact with patients than those using a system not meeting the criteria. Moreover, physicians with an EHR system that meets meaningful use criteria were more likely to agree that the system enhanced data confidentiality, compared with those having a system not meeting the criteria.

A majority of physicians judged their EHR system to have various clinical effects, financial benefits, and some efficiencies, regardless of whether their system met the meaningful use criteria. Clinical benefits perceived among EHR system users included the availability of records at the point of care, and the ability to deliver better patient care due to using the system. However, at least one-half of physicians with an EHR system believed that it disrupts the way they interact with patients. A majority of physicians considered their EHR system as providing specific financial benefits, such as allowing them to save on costs associated with managing and storing paper records, and resulting in at least the same or more complete billing. A majority of physicians with EHR systems also believed that their system provided practice efficiencies, such as receiving laboratory results faster, saving time with electronic prescribing, and spending at least the same or less time responding to pharmacy calls. However, most physicians with an EHR system experienced an increase in time spent planning, reviewing, ordering, and documenting care. A majority of physicians with EHR systems judged them as enhancing data confidentiality.

These survey findings provide insight into the effects of using EHR systems since the 2009 enactment of HITECH. The findings indicate common challenges of using EHR systems, including increased time spent documenting care and the disruption of patient interactions. The findings suggest that most physicians have experienced various clinical and financial benefits, as well as practice efficiencies, from using EHR systems, with physicians using an EHR system that meets meaningful use criteria reporting greater specific time-saving benefits.

Definitions

Physician office: A place where physicians who are not federally employed provide direct patient care, within the 50 states and the District of Columbia; excludes radiologists, anesthesiologists, and pathologists.

System meets/does not meet meaningful use criteria: Meaningful use in this report was determined based on whether a respondent's EHR was certified to meet the U.S. Department of Health and Human Services' Stage 1 Meaningful Use Criteria. This variable was created based on responses to the question, "Does your current system meet Meaningful Use criteria, as defined by the Centers for Medicare & Medicaid Services (CMS)?" Response categories were "yes," "no," and "uncertain." Physicians who answered yes were considered to use an EHR system that meets meaningful use criteria. To qualify for the CMS incentive payments for meaningful use, an

eligible provider must use a certified EHR system demonstrating all 15 of the core set objectives and 5 of 10 menu set objectives through associated measures or by attestation in 2011 (2). A system not meeting these criteria was defined as physicians answering “no” or “uncertain,” or a missing response (less than 2%).

EHR adopters: Derived from office-based physicians who answered the National Ambulatory Medical Care Survey (NAMCS) Electronic Medical Records mail survey question, “Does the reporting location use an electronic medical record (EMR) or electronic health record (EHR) system? Do not include billing record systems.” Adopters are those who answered either “yes, all electronic” or “yes, part paper and part electronic,” whereas nonadopters answered “no” to using EMR or EHR systems.

Benefits of an EHR: Physician perceptions were calculated from their responses to questions that asked whether they agree with statements about using EHRs. Response categories were: “strongly agree,” “somewhat agree,” “somewhat disagree,” and “strongly disagree” (6,7). Both sets of agreement and disagreement responses were combined, creating dichotomous variables of agree and disagree. Missing responses represented 1%–6% of physicians. Item nonresponse may indicate that a specific benefit was not applicable to the physician’s scope of work or role in the practice.

Data source and methods

The data for this report come from the NAMCS Physician Workflow Survey and include physicians who have adopted an EHR system. The Physician Workflow Survey, funded by the Office of the National Coordinator for Health Information Technology, is conducted by the Centers for Disease Control and Prevention’s National Center for Health Statistics (NCHS). It represents a 3-year initiative to survey office-based physicians about their experiences with and perceptions of adopting and using an EHR system. Respondents are followed annually over a 3-year period, from 2011 through 2013. More detailed information about the study design is provided in an earlier report (4).

The sample consisted of those physicians confirmed eligible (i.e., seeing ambulatory patients in a physician’s office) and answering the question about EHR use (see Definitions–EHR adopters) in the earlier 2011 NAMCS EMR mail survey (8). Eligible physicians for whom adoption status was not confirmed in the EMR survey were contacted to determine that status. Only eligible NAMCS respondents were mailed a Physician Workflow Survey questionnaire within a 2-month period of determining whether they used a system. Adopters received a different questionnaire from nonadopters (6,7). For this report, nationally weighted estimates are presented for 1,793 EHR adopters from the 2011 physician workflow mail survey.

All comparisons reported in the text are statistically significant unless otherwise indicated. Comparisons not mentioned may or may not be statistically significant. Data analyses were performed using the statistical packages SAS version 9.2 (SAS Institute, Cary, N.C.) and SUDAAN version 10.0 (RTI International, Research Triangle Park, N.C.)

About the authors

Eric Jamoom is with the Centers for Disease Control and Prevention's National Center for Health Statistics, Division of Health Care Statistics. Vaishali Patel, Jennifer King, and Michael Furukawa are with the U.S. Department of Health and Human Services' Office of the National Coordinator for Health Information Technology, Office of Economic Analysis, Evaluation, and Modeling.

References

1. Blumenthal D, Tavenner M. The “meaningful use” regulation for electronic health records. *N Engl J Med* 363(6):501–4. 2010.
2. Centers for Medicare & Medicaid Services. The official Web site for the Medicare & Medicaid EHR incentive programs. Available from: <https://www.cms.gov/ehrincentiveprograms/> [Accessed August 1, 2013].
3. Buntin MB, Jain SH, Blumenthal D. Health information technology: Laying the infrastructure for national health reform. *Health Aff (Millwood)* 29(6):1214–9. 2010.
4. Jamoom E, Beatty P, Bercovitz A, et al. Physician adoption of electronic health record systems: United States, 2011. NCHS data brief, no 98. Hyattsville, MD: National Center for Health Statistics. 2012.
5. DesRoches CM, Campbell EG, Rao SR, Donelan K, Ferris TG, Jha A, et al. Electronic health records in ambulatory care—A national survey of physicians. *N Engl J Med* 359(1):50–60. 2008.
6. National Center for Health Statistics. Physician workflow supplement 2011 [EHR adopters], National Ambulatory Medical Care Survey. 2011. Available from: http://www.cdc.gov/nchs/data/ahcd/2011_Physician_Workflow_Supplement_for_EHR_Adopters.pdf [Accessed August 1, 2013].
7. National Center for Health Statistics. Physician workflow supplement 2011 [EHR nonadopters], National Ambulatory Medical Care Survey. 2011. Available from: http://www.cdc.gov/nchs/data/ahcd/2011_Physician_Workflow_Supplement_for_EHR_Non-Adopters.pdf [Accessed August 1, 2013].
8. National Center for Health Statistics. Electronic medical records supplement 2011, National Ambulatory Medical Care Survey. 2011. Available from: http://www.cdc.gov/nchs/data/ahcd/2011_EMR_Survey.pdf [Accessed August 1, 2013].

**U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES**

Centers for Disease Control and Prevention
National Center for Health Statistics
3311 Toledo Road, Room 5419
Hyattsville, MD 20782

FIRST CLASS MAIL
POSTAGE & FEES PAID
CDC/NCHS
PERMIT NO. G-284

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

NCHS Data Brief ■ No. 129 ■ September 2013

Suggested citation

Jamoom E, Patel V, King J, Furukawa MF. Physician experience with electronic health record systems that meet meaningful use criteria: NAMCS Physician Workflow Survey, 2011. NCHS data brief, no 129. Hyattsville, MD: National Center for Health Statistics. 2013.

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

**National Center for Health
Statistics**

Charles J. Rothwell, M.S., *Acting Director*
Jennifer H. Madans, Ph.D., *Associate
Director for Science*

Division of Health Care Statistics

Clarice Brown, M.S., *Director*

For e-mail updates on NCHS publication releases, subscribe online at:
<http://www.cdc.gov/nchs/govdelivery.htm>.

For questions or general information about NCHS:
Tel: 1-800-CDC-INFO (1-800-232-4636)
TTY: 1-888-232-6348
Internet: <http://www.cdc.gov/nchs>
Online request form: <http://www.cdc.gov/cdc-info/requestform.html>

ISSN 1941-4927 Print ed.
ISSN 1941-4935 Online ed.
DHHS Publication No. 2013-1209
CS 243145