University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Public Health Resources

Public Health Resources

2012

Most Physicians Were Eligible For Federal Incentives In 2011, But Few Had EHR Systems That Met Meaningful-Use Criteria

Chun-Ju Hsiao

Centers for Disease Control and Prevention's National Center for Health Statistics, Hyattsville, Maryland

Sandra Decker

National Center for Health Statistics

Esther Hing

National Center for Health Statistics

Jane Sisk

Institute of Medicine, in Washington, D.C

Follow this and additional works at: <https://digitalcommons.unl.edu/publichealthresources>

Part of the [Public Health Commons](#)

Hsiao, Chun-Ju; Decker, Sandra; Hing, Esther; and Sisk, Jane, "Most Physicians Were Eligible For Federal Incentives In 2011, But Few Had EHR Systems That Met Meaningful-Use Criteria" (2012). *Public Health Resources*. 147.

<https://digitalcommons.unl.edu/publichealthresources/147>

This Article is brought to you for free and open access by the Public Health Resources at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Public Health Resources by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Most Physicians Were Eligible For Federal Incentives In 2011, But Few Had EHR Systems That Met Meaningful-Use Criteria

DOI: 10.1377/hlthaff.2011.1315
HEALTH AFFAIRS 31,
NO. 5 (2012): –
©2012 Project HOPE—
The People-to-People Health
Foundation, Inc.

ABSTRACT As more physicians adopt electronic health record systems in their practices, policy interest is focusing on whether physicians are ready to meet the federal “meaningful use” criteria—a vital threshold to qualify for financial incentives. In our analysis of a 2011 nationally representative survey of office-based physicians, we found that 91 percent of physicians were eligible for Medicare or Medicaid meaningful-use incentives. About half of all physicians intended to apply. However, only 11 percent both intended to apply for the incentives and had electronic health record systems with the capabilities to support even two-thirds of the stage 1 core objectives required for meaningful use. Although the federal Medicare incentives will be available through 2016, and Medicaid incentives through 2021, widespread gaps in readiness throughout the states illustrate the challenges physicians face in meeting the federal schedule for the incentive programs.

Chun-Ju Hsiao (hwd3@cdc.gov) is a health services researcher at the Centers for Disease Control and Prevention's National Center for Health Statistics, in Hyattsville, Maryland.

Sandra L. Decker is an economist at the National Center for Health Statistics.

Esther Hing is a survey statistician at the National Center for Health Statistics.

Jane E. Sisk is a consultant and scholar-in-residence at the Institute of Medicine, in Washington, D.C.

Physicians' adoption of electronic health records (EHRs) has continued to climb as federal efforts have promoted their use.^{1,2} By 2011, 57 percent of office-based physicians reported using EHR systems, and 34 percent reported having systems with key basic features,¹ including patient history and demographics, patient problem lists, physician clinical notes, comprehensive lists of patients' medications and allergies, computerized orders for prescriptions, and the ability to view laboratory and imaging results electronically.

Concurrent with implementation of the Health Information Technology for Economic and Clinical Health (HITECH) provisions of the American Recovery and Reinvestment Act of 2009, policy attention has moved from overall adoption of EHRs to encouraging and documenting “meaningful use” of the systems. The legislation specified that eligible professionals must show that they are using certified EHRs in a meaningful manner to receive these incentives.³ The Depart-

ment of Health and Human Services set three stages for eligible professionals to meet meaningful-use requirements by gradually integrating these technologies into clinical practice. Eligible professionals have until 2014 to meet the first, or stage 1, EHR objectives,⁴ which include capabilities such as recording patients' demographic information and prescription history as well as reporting on quality measures. For providers in the Medicare program, the payments can total up to \$44,000 over five years beginning in 2011; for those in the Medicaid program, payments can be up to \$63,750 over a six-year period that can begin as late as 2016 and run through 2021.³ Physicians eligible for both programs may apply for only one of them.

Who is likely to apply for these incentive programs, and how ready are physicians' EHR systems to meet meaningful-use criteria? Estimates based on the 2007–08 National Ambulatory Medical Care Surveys of office-based physicians concluded that about 83 percent would be eligible to apply.⁵

To update those estimates, we used 2011 data to calculate physicians' eligibility for each incentive program. We analyzed both their intention to apply for incentives and their EHR systems' capabilities and readiness to support meaningful use. We also looked at how prevalent the systems were at the state level, and we summarized selected EHR capabilities required for meaningful use by state. Our resulting analysis may help policy makers target efforts to improve the systems' adoption and use.

Study Data And Methods

We used data from the 2011 mail survey supplement to the National Ambulatory Medical Care Survey—an annual, nationally representative sample—which included telephone follow-up that collected information on physicians' EHR systems. The survey was conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics and sponsored by the Office of the National Coordinator for Health Information Technology.

The survey sampled office-based physicians, excluding radiologists, anesthesiologists, and pathologists, in all fifty states and the District of Columbia.⁶ The weighted response rate adjusted for nonresponse was 61 percent; the unweighted response rate was 64 percent. The data set is available for analysis through the Research Data Center at the National Center for Health Statistics.⁷

INTENTION TO APPLY We first examined physicians' reported intention to apply for Medicare or Medicaid incentive payments nationally. We next assessed physicians' readiness to meet meaningful-use objectives by whether they had computerized capabilities to support ten of the fifteen objectives that the Centers for Medicare and Medicaid Services requires to meet stage 1 core criteria. These ten objectives are recording patients' demographic information; recording patients' problem lists; recording medications; recording allergies; ordering prescriptions; sending the pharmacy prescriptions electronically; providing drug-drug and drug-allergy warnings; providing clinical summaries for each visit; exchanging clinical summaries electronically with other providers; and providing reminders for guideline-based interventions or screening tests.^{1,3,6}

Researchers at the Office of the National Coordinator for Health Information Technology first developed the concept of using this survey to define readiness for stage 1 core criteria and for an earlier crosswalk—that is, a comparison—between the core objectives and the survey questions for another study.⁸

The survey and hence our analysis did not address the other five objectives in the core set: recording and charting changes in specified vital signs; recording smoking status for patients age thirteen and older; providing patients with an electronic copy of their health information; reporting ambulatory clinical quality measures to the Centers for Medicare and Medicaid Services or the states; and protecting electronic health information created or maintained by certified EHR technology.

Achieving meaningful use also requires meeting at least five of ten additional objectives in a separate stage 1 menu set. We examined whether physicians' systems had capabilities to meet the three of the ten objectives that the survey included. These were incorporating lab results into the electronic health record; electronic reporting to immunization registries; and electronically sending public health reports of “notifiable” diseases—that is, diseases that the law requires be reported to government authorities.

We described physicians' intention to apply for incentives across physician characteristics, including physician age group and specialty group, which included general and family practice, internal medicine, pediatrics, obstetrics-gynecology, and nonprimary care.

We also characterized physicians by practice size; ownership status, whether physician, physician group, or other; Metropolitan Statistical Area versus non-Metropolitan Statistical Area; and eligibility for Medicare or Medicaid incentive payments.

We used *t* tests to examine whether these characteristics were associated with intention to apply. Among physicians intending to apply for incentives, we also examined the association between these physician characteristics and readiness for meaningful use in both unadjusted analysis and multivariate analysis using a logit model.

Because effect size cannot be directly inferred from coefficients of logit models, we estimated marginal effects as the change in the predicted probability of being ready for a one-unit change in the independent variable, holding all other covariates at observed values.

ELIGIBILITY To be eligible for Medicare incentives, federal regulations require a physician to have received Medicare payment for covered services.³ Following these rules, we deemed a physician to be eligible if he or she reported receiving any revenue from Medicare.

Federal regulations give states the option to propose alternative approaches for Medicaid eligibility. However, the two options that the meaningful-use regulations specify both hinge on the percentage of a physician's encounters that were

with patients covered by Medicaid or with needy individuals, including physicians who provided uncompensated care. The eligibility rules for meaningful use also require that these Medicaid or needy patients and their encounters account for at least 30 percent of a physician's volume during a ninety-day reporting period, or 20 percent in the case of a pediatrician. In our analysis, we conservatively deemed a physician eligible for Medicaid incentives if the physician reported that at least 30 percent of his or her patients were on Medicaid, or 20 percent for pediatricians.

To impute the percentage of revenue from Medicare and the percentage of patients on Medicaid for the 15 percent and 19 percent (unweighted) of cases missing these variables, respectively, we used a linear model and predictors consisting of physician sex, age group, detailed specialty category, Metropolitan Statistical Area status, practice size, and county fixed effects.

Finally, we examined physicians' intention to apply and the readiness of their EHR systems by state. We were also interested in physicians' ability to exchange patients' clinical summaries with other providers—an indicator of interoperability. We therefore examined estimates of the percentage of physicians who reported having exchanged patients' clinical summaries with other providers by state.

SAMPLE Our sample for national and state-specific analyses consisted of 3,996 physicians. Physicians who were missing information regarding intention to apply for incentives, readiness for stage 1 core objectives, or ownership were excluded (7.3 percent). Estimates of numbers of physicians exchanging patient summaries with other providers excluded an additional 0.8 percent who were missing this information.

All analyses used weights accounting for non-response, and standard errors accounted for the complex sample design. *Significant* means statistically significant at the 0.05 level.

LIMITATIONS Our results were subject to certain limitations. The analyses could cover only the computerized capabilities of EHR systems that the survey included. Therefore, the results for capabilities to support the ten of the fifteen core objectives and the three of the five objectives from the menu set almost certainly overestimated the readiness of physicians' systems to meet all of the meaningful-use criteria.

Other factors may lead to underestimates. Individual physicians may have lacked knowledge about their practice organizations' intentions to apply or about the full range of their systems' capabilities. This limitation may have affected responses from physicians in larger practices more than those in smaller ones. In addition, small sample sizes may have limited

our ability to detect states in which physicians' systems had lower-than-average levels of readiness.

Study Results

In 2011, 51 percent of physicians intended to apply for meaningful-use incentives, and 11 percent of all physicians reported both intending to apply and having the ten capabilities to support stage 1 core meaningful-use objectives in the survey (Exhibit 1). Forty-one percent of physicians intended to apply but did not have these ten capabilities. Only about 14 percent of all physicians reported having the ten capabilities.

About 85 percent of office-based physicians were eligible for Medicare meaningful-use incentives, and 18 percent for Medicaid incentives. Given the overlap among these categories, a total of 91 percent were eligible for one of these programs (Exhibit 2). Older physicians were significantly less likely than younger ones to intend to apply for incentives. Physicians in practices with three or more physicians were more likely than those in solo or two-physician practices to intend to apply, as were physicians eligible for Medicare incentives compared to those who were not.

Compared to national averages of physicians intending to apply for Medicare or Medicaid incentives, specialists in cardiovascular disease were more likely than others to intend to apply (82 percent), and specialists in psychiatry were less likely (15 percent; data not shown). Also among those intending to apply, internists were more likely (33 percent) and obstetricians and gynecologists less likely (10 percent) to be ready

EXHIBIT 1

Physicians' Readiness For Ten Stage 1 Core Objectives, By Intention To Apply, 2011

SOURCE Authors' analysis of data from the National Ambulatory Medical Care Survey Electronic Medical Records Supplement, 2011. **NOTES** N = 3,996. Does not include physicians missing various types of data; see text. For details on the ten capabilities required for readiness for stage 1 core meaningful-use objectives, see text. *Figure does not meet standards of reliability or precision.

EXHIBIT 2

Physicians' Intention To Apply For Incentives And Readiness For Stage 1 Core Objectives, By Physician And Practice Characteristics, 2011

Physician/practice characteristics	Percent of sample	Intend to apply (unadjusted)	Intend to apply, ready ^a		
			Unadjusted	Difference ^c	Adjusted ^b
			Percent	— ^d	— ^d
All physicians	100%	51.3%	20.5%		
PHYSICIAN AGE (YEARS)					
≤ 44	25.5	57.6	25.5	Ref	Ref
45–54	28.3	57.5	18.6	–6.9	–6.0
≥ 55	46.2	44.0 ^e	18.5	–7.0	–5.8
SPECIALTY					
Primary care	47.8	53.8	24.0	Ref	Ref
Nonprimary care	52.2	48.9	17.0	–7.0 ^e	–9.0 ^e
PRACTICE SIZE (PHYSICIANS)					
1–2	39.2	38.9	15.1	Ref	Ref
3–10	45.2	57.7 ^e	18.7	3.6	1.2
≥ 11	15.6	63.6 ^e	33.6	18.5 ^e	14.3 ^e
OWNERSHIP					
Physician or physician group	64.5	53.0	16.1	Ref	Ref
Other ^f	35.5	48.1	29.5	13.4 ^e	11.1 ^e
IN METROPOLITAN STATISTICAL AREA					
Yes	88.8	50.9	21.2	Ref	Ref
No	11.2	54.1	15.4	–5.8 ^e	–4.4
ELIGIBLE FOR MEDICARE INCENTIVE					
No	15.3	31.6	21.3	Ref	Ref
Yes	84.7	54.8 ^e	20.5	–0.8	–8.1
ELIGIBLE FOR MEDICAID INCENTIVE					
No	81.7	50.4	22.3	Ref	Ref
Yes	18.3	55.2	13.4	–8.9 ^e	–13.7 ^e

SOURCE Authors' analysis of data from the National Ambulatory Medical Care Survey Electronic Medical Records Supplement, 2011.

NOTES N = 3,996. Data for physicians missing information regarding intention to apply for incentives, readiness for stage 1 core objectives, or ownership are omitted. *Primary care specialties* are defined as general or family practice, internal medicine, pediatrics, or obstetrics-gynecology. Readiness for stage 1 core meaningful-use objectives is defined in Exhibit 1. We considered a physician eligible for Medicare incentives if she or he had positive revenue from Medicare, and eligible for Medicaid incentives if she or he reported that at least 30 percent of her or his patients were on Medicaid (20 percent for pediatricians). ^aPhysicians who intended to apply and had EHR systems that met ten of the stage 1 core objectives were included in the analysis. ^bAdjusted percentages consist of marginal effects from a logit model controlling for each variable listed in the table. ^cPercentage points. ^dNot applicable. ^eSignificant difference relative to reference category based on a *t* test (*p* < 0.05). ^fOther ownership arrangements are defined as health maintenance organizations, community health centers, medical/academic health centers, other hospitals, other health care organizations, and other.

with the ten capabilities, compared with the national average (data not shown).

Among those intending to apply for incentives, practices with eleven physicians or more were fourteen percentage points more likely to have the needed ten computerized capabilities than physicians in solo or two-physician practices (Exhibit 2). Physicians in practices not owned by a physician or physician group were about eleven percentage points more likely to have these capabilities than physicians in practices that were owned by a physician or physician group. Being eligible for Medicaid incentives or being in non-primary care specialties made it

less likely that practices would have the capabilities.

Compared to the national average of 51 percent, the percentage of physicians planning to apply for incentive payments was significantly lower in California, New Mexico, and Hawaii and significantly higher in Delaware, Florida, Iowa, Nebraska, and South Dakota (Exhibit 3). In California, Minnesota, New Hampshire, Hawaii, Washington State, and Wisconsin, physicians were significantly more likely to be ready with the ten capabilities, compared to the 14 percent national average (Exhibit 4).

In twenty-six states, the percentage of physi-

EXHIBIT 3**Percentage Of Physicians Intending To Apply For Meaningful-Use Incentives, By State, 2011**

SOURCE Authors' analysis of data from the National Ambulatory Medical Care Survey Electronic Medical Records Supplement, 2011. **NOTES** Data for physicians missing information regarding intention to apply for incentives, readiness for stage 1 core objectives, or ownership are omitted. The national average is 51.3 percent. Significance tested at $p < 0.05$. A version of this map with each state's value labeled is available in an online Appendix. To access the Appendix, click on the Appendix link in the box to the right of the article online.

cians with the ten capabilities was below the national average and based on unreliable data. In the states with reliable estimates, the percentage of physicians likely to be ready was the same as or greater than the national average. Nationally, about 3 percent of physicians reported capabilities to support the three objectives in the menu set that the survey included (data not shown). State-specific estimates were not reliable.

Across the country, about 29 percent of physicians reported exchanging clinical summaries with other providers (Exhibit 5). Given the wording in the survey, this finding may include those who exchanged clinical summaries with other providers within the same practice organization. This percentage was significantly lower in Alabama, Arkansas, Louisiana, Nevada, and Wyoming, and significantly higher in California, Massachusetts, Minnesota, New Hampshire, North Dakota, Utah, Vermont, Washington State, and Wisconsin.

Discussion

In 2011 an estimated 91 percent of office-based physicians were eligible to apply for financial incentives under Medicare or Medicaid. Regardless of eligibility, 51 percent of all physicians intended to apply. Only 11 percent of all physi-

cians, however, reported both intending to apply and having the computerized capabilities to support ten of the fifteen stage 1 core objectives that the Centers for Medicare and Medicaid Services requires. Because the survey did not cover the other five objectives, this figure is likely to overestimate readiness.

Younger physicians and physicians in a practice with more than two physicians were more likely to report intending to apply for incentive

EXHIBIT 4**Percentage Of Physicians Ready For Stage 1 Core Meaningful-Use Objectives, 2011**

SOURCE Authors' analysis of the National Ambulatory Medical Care Survey Electronic Medical Records Supplement, 2011. **NOTES** All states shown are significantly higher than the national average ($p < 0.05$). For detail on readiness for stage 1 core meaningful-use objectives, see text.

EXHIBIT 5

Percentage Of Physicians Exchanging Patient Clinical Summaries Electronically, By State, 2011

SOURCE Authors' analysis of the National Ambulatory Medical Care Survey Electronic Medical Records Supplement, 2011. **NOTES** Data for physicians missing information regarding intention to apply for incentives, readiness for stage 1 core objectives, or ownership are omitted. The national average is 29.4 percent. Significance tested at $p < 0.05$. Estimate in New Jersey does not meet standards of reliability or precision. A version of this map with each state's value labeled is available in an online Appendix. To access the Appendix, click on the Appendix link in the box to the right of the article online.

payments, compared to older physicians and those in smaller practices. In multivariate analysis, we found that physicians intending to apply who were in practices with eleven or more physicians, or in practices not owned by a physician or physician group were more likely to be ready with the ten computerized capabilities, compared to those in smaller practices or practices owned by physicians. Physicians in non-primary care specialties and those who were eligible for Medicaid incentive payments were less likely to be ready with these capabilities than physicians in other specialties or who were ineligible.

The 51 percent of physicians intending to apply for incentives represented an increase from the 41 percent in the comparable 2010 National Ambulatory Medical Care Survey.¹ A 2010 survey of Florida physicians who had recently billed Medicaid found that 66 percent intended to apply for incentives.⁹ Like our analysis, the Florida study found that physicians in larger practices were more likely to intend to apply.

Our study is one of the first to report differences in readiness for meaningful use and intention to apply for incentives by state. State patterns for intention to apply did not overlap with physicians' readiness for the stage 1 core objectives. In none of the states with physicians more likely to apply for incentives were physi-

cians also more likely to be ready with computerized capabilities.

FUTURE RESEARCH Investigating the reasons for differences in readiness and in intention to apply for incentives across states is an important topic for future research. It is likely that no one single variable explains these differences.

For example, in none of the three states with lower than average physician intentions to apply did average practice size differ from the national average (data not shown). It is also unlikely that the initiatives that the Office of the National Coordinator for Health Information Technology first undertook in 2010 and 2011 would have affected the results of this survey, which took place during the first half of 2011.

In the future, it would be valuable to examine differences in intention to apply and readiness over time, and especially the influence of federal strategies to promote adoption and meaningful use.

FEDERAL INITIATIVES The Office of the National Coordinator has undertaken several initiatives to address areas where electronic health record adoption is lower and promote the adoption and meaningful use of EHR systems.¹⁰ Particularly noteworthy are the regional extension centers, which are intended to help physicians and other providers become meaningful users of

the systems. Sixty-two centers throughout the country offer providers technical assistance in implementing systems.

Funding to states to build infrastructure for exchanging health information complements these efforts. Grants are also funding the training of health information professionals. Evaluation of these programs is needed to assess their effectiveness and guide future efforts.

The Physician Workflow Supplement, a three-year annual longitudinal survey that the Office of the National Coordinator is funding through the National Ambulatory Medical Care Survey, will be valuable in helping identify problems that physicians are experiencing and monitor the effects of federal initiatives.^{11,12}

CONCLUSION In the 2010 final rule adopted for stage 1 meaningful use, the Centers for Medicare and Medicaid Services estimated that 10–36 percent of Medicare-eligible professionals and 15–47 percent of Medicaid-eligible professionals would demonstrate meaningful use in 2011.³ Our survey results fall at the low end of those ranges (Exhibit 2).

During 2011, the first year of the incentive programs, almost 124,000 eligible professionals, including physicians, had registered for Medicare incentives, and the Centers for Medicare and Medicaid Services had paid nearly \$275 million to 15,000 participants.¹³ Medicaid meaningful-use incentives, which flow through states, totaled about \$220 million and went to approximately 10,500 physicians.

Nevertheless, our results show that a great discrepancy exists between physicians' inten-

tions to apply for incentives and their readiness to meet even two-thirds of the core objectives for meaningful use. The 85 percent of physicians likely to be eligible for Medicare incentives face more pressure to meet the criteria.

Eligible professionals who meet the criteria can receive Medicare incentives for up to five years.³ Moreover, eligible professionals who do not meet the criteria will receive decreased Medicare payments for covered services starting in 2015. In contrast, Medicaid-eligible professionals have more flexibility because they may receive incentive payments for six years—which need not be consecutive—through 2021, and those who meet the criteria will not face reduced payments for covered services.

The 2011 survey results portray widespread gaps in readiness. Among physicians intending to apply, about 21 percent were ready with the ten core capabilities. Even in Wisconsin, the state with the highest percentage ready with those capabilities, only 32 percent of all physicians reported this degree of readiness.

However, physicians may be planning to rapidly acquire new systems with the required capabilities. Of those intending to apply but not ready, 43 percent reported plans to install a new electronic health record system within the next eighteen months.

These results can guide activities of the regional extension centers to target efforts to improve meaningful use. The low level of current readiness illustrates the challenges in meeting the federal schedule for financial incentives. ■

The authors thank the Office of the National Coordinator for Health Information Technology for funding the Electronic Medical Records Supplement to the National Ambulatory Medical

Care Survey. The findings and conclusions in this article are those of the authors and do not necessarily represent the views of the Centers for Disease Control and Prevention, the

Institute of Medicine, or the Office of the National Coordinator for Health Information Technology. [Published online April 24, 2012.]

NOTES

1 Hsiao CJ, Hing E, Socy TC, Cai B. Electronic health record systems and intent to apply for meaningful use incentives among office-based physician practices: United States, 2001–2011 [Internet]. Hyattsville (MD): National Center for Health Statistics; [revised 2012 Feb 8; cited 2012 Mar 21]. (NCHS Data Brief No. 79). Available from: <http://www.cdc.gov/nchs/data/databriefs/DB79.pdf>

2 Decker SL, Jamoom EW, Sisk JE. Physicians in nonprimary care and small practices and those age 55 and older lag in adopting electronic health record systems. *Health Aff (Millwood)*. 2012;31(5). Epub ahead of print.

3 Centers for Medicare and Medicaid Services. Medicare and Medicaid Programs; electronic health record incentive program. Final rule. *Fed Regist*. 2010;75(144):44314–588.

4 Department of Health and Human Services [Internet]. Washington (DC): HHS. Press release, We can't wait; Obama administration takes new steps to encourage doctors and hospitals to use health information technology to lower costs, improve quality, create jobs; 2011 Nov 30 [cited 2012 Mar 21]. Available from: <http://www.hhs.gov/news/press/2011pres/11/20111130a.html>

5 Bruen BK, Ku L, Burke MF, Buntin MB. More than four in five office-based physicians could qualify for

federal electronic health record incentives. *Health Aff (Millwood)*. 2011;30(3):472–80.

6 National Center for Health Statistics. National Ambulatory Medical Care Survey (NAMCS): Electronic Medical Records Supplement 2011 [Internet]. Hyattsville (MD): NCHS; 2011 [cited 2012 Mar 20]. Available from: http://www.cdc.gov/nchs/data/ahcd/2011_EMRS_Survey.pdf

7 National Center for Health Statistics. Ambulatory health care data: data products [Internet]. Hyattsville (MD): NCHS; [page last updated 2012 Mar 15; cited 2012 Apr 10]. Available from: http://www.cdc.gov/nchs/ahcd/new_ahcd.htm#data

8 Patel V, Jamoom EW, Hsiao CJ,

Furukawa MF, Buntin MB. Variation in electronic health record adoption and readiness for meaningful use: 2008 to 2011. Unpublished paper, 2012.

- 9 Menachemi N, Yeager VA, Bilello L, Harie CA, Sullivan CB, Siler-Marsiglio KI. Florida doctors seeing Medicaid patients show broad interest in federal incentives for adopting electronic health records. *Health Aff (Millwood)*. 2011(8): 1461-70.

- 10 Office of the National Coordinator for Health Information Technology. HITECH programs [Internet]. Washington (DC): Department of Health and Human Services; 2011

[last updated 2011 Jan 27; cited 2012 Apr 10]. Available from: http://healthit.hhs.gov/portal/server.pt/community/healthit_hhs_gov_hitech_programs/1487

- 11 National Center for Health Statistics. National Ambulatory Medical Care Survey: Physician Workflow Supplement 2011 [for EHR nonadopters] [Internet]. Hyattsville (MD): NCHS; [cited 2012 Jan. 20]. Available from: http://www.cdc.gov/nchs/data/ahcd/2011_Physician_Workflow_Supplement_for_EHR_Non-Adopters.pdf
- 12 National Center for Health Statistics. National Ambulatory Medical Care Survey: Physician Workflow Supple-

ment 2011 [for EHR adopters] [Internet]. Hyattsville (MD): NCHS; [cited 2012 Jan. 20]. Available from: http://www.cdc.gov/nchs/data/ahcd/2011_Physician_Workflow_Supplement_for_EHR_Adopters.pdf

- 13 Centers for Medicare and Medicaid Services. January 2012 EHR incentive program [Internet]. Baltimore (MD): CMS; 2012 Jan [cited 2012 Apr 10]. Available from: https://www.cms.gov/EHRIncentivePrograms/Downloads/MonthlyPaymentRegistration_Report_Updated.pdf

ABOUT THE AUTHORS: CHUN-JU HSIAO, SANDRA L. DECKER, ESTHER HING & JANE E. SISK

Chun-Ju Hsiao is a health services researcher at the National Center for Health Statistics.

In this month's *Health Affairs*, Chun-Ju Hsiao and coauthors report that 91 percent of physicians who responded to a nationally representative survey in 2011 were eligible for federal incentive payments for adoption of electronic health records (EHRs). Yet only about 10.5 percent intended to apply for the program and had EHR systems in place capable of supporting so-called meaningful use. The findings underscore a readiness gap that the federal push to adopt nationwide EHRs will need to monitor and address, the authors say.

Hsiao is a health services researcher at the National Center for Health Statistics (NCHS) within the Centers for Disease Control and Prevention (CDC). She is also the main coordinator for the supplemental electronic medical record questionnaire (now in its fifth year) of the CDC's National Ambulatory Medical Care Survey.

Hsiao received a doctorate in health services research and a master's degree in health science from Johns Hopkins University.

Sandra L. Decker is an economist at the National Center for Health Statistics.

Sandra Decker is an economist at the NCHS. Her research examines causal connections between state Medicaid eligibility and provider reimbursement rules, on the one hand, and insurance status, use of health care services, and health outcomes, on the other hand. Decker earned a doctorate in economics from Harvard University.

Esther Hing is a survey statistician at the National Center for Health Statistics.

Esther Hing is a survey statistician at the NCHS, working in the Ambulatory and Hospital Care Statistics Branch of the Division of Health Care Statistics. She received a master's degree in public health from Johns Hopkins University.

Jane E. Sisk is a consultant and scholar-in-residence at the Institute of Medicine.

Jane Sisk, a consultant and scholar-in-residence at the Institute of Medicine, was director of the NCHS Division of Health Care Statistics until the fall of 2011. She received a doctorate in economics from McGill University and a master's degree in economics from the George Washington University.