

Subject: Electronic Health Record Vendors Reported by Health Care Providers Participating in Federal EHR Incentive Programs

Description: A technical memo describing the contents and creation process for the subject public use data set created by the U.S. Department of Health and Human Services, Office of the National Coordinator for Health IT.

Download: <http://dashboard.healthit.gov/data/EHR-vendors-count-technical-memo.docx>
<http://dashboard.healthit.gov/data/EHR-vendors-count-dataset.xlsx>

Last Updated: August 13, 2013

This public use file combines registration data compiled from two federal programs that are on-going since February 2009 – the Centers for Medicare & Medicaid Services (CMS) Electronic Health Record (EHR) Incentive Programs and the ONC Health IT Regional Extension Centers (REC) Program – which collectively assist nearly 400,000 health care providers in their process to adopt EHRs and demonstrate the meaningful use of health IT.

This file enables tracking trends in the adoption of electronic health record (EHR) technologies by EHR vendor and by health care provider type (i.e., for professionals practicing in office-based settings and non-federal acute-care hospitals in the United States).

The data summarized in this public use file is self reported by health care providers voluntarily participating in the ONC and CMS programs. In merging the data and preparing it for public use, ONC has applied a few methodological refinements to enhance the data. In particular, for providers that reported having multiple EHR vendors' products, ONC assigned the vendors mentioned into primary and secondary categories. Primary vendors have products that meet all or most of the requirements for attestation to the EHR Incentive Programs, whereas secondary vendors do not.

Data Set Contents:

The data sets in this public use file are presented as four complementary worksheets in the downloadable file hyperlinked above:

Sheet Name	Data Sheet Description
Data Dictionary	A data set overview including variable names, descriptions, data set update information, and contact information for when additional questions arise.
Health Care Professionals	Summary data sheet showing each EHR vendor name, the counts of health care professionals by vendor, including when the vendor is the primary or secondary EHR vendor, and the percent of providers by primary EHR vendor as of last update. The professionals in the dataset include those who have: (1) registered for the CMS Medicare or Medicaid EHR Incentive Programs, (2) attested to Meaningful Use as part of the CMS Medicare EHR Incentive Program, <i>or</i> (3) are receiving technical assistance from the ONC REC Program in order to meet the milestones of the CMS EHR Incentive Programs.



Sheet Name	Data Sheet Description
Eligible Hospitals	<p>Summary data sheet showing each EHR vendor name, the count of hospitals by vendor, including when the vendor is the primary or secondary EHR vendor, and the percent of providers by primary EHR vendor as of last update.</p> <p>The EHR hospitals in the data set include those that have registered for the CMS EHR Incentive Programs or attested to Meaningful Use as part of the CMS Medicare EHR Incentive Program.</p>
Professionals' EHR Vendors over Time	Time series version of the variables in the Health Care Professionals data sheet. Data are organized by month and year in YYYY-MM format.
Hospitals' EHR Vendors over Time	Time series version of the variables in the Eligible Hospitals data sheet. Data are organized by month and year in YYYY-MM format.

Data Set Variables:

Data sets contain the following variables:

Variable	Calculation Notes
Vendor	Company name of EHR product vendors as listed in the Certified Health IT Products List (CHPL) or as reported by provider, if not in the CHPL. All vendors reported in the CMS registration and attestation data files are in the CHPL. However, vendors reported in REC program data file are not necessarily in the CHPL.
Total Providers Reporting the EHR Vendor	The sum of the primary and secondary counts for each vendor.
Number of Providers where Vendor is the Primary EHR Vendor	Primary vendors have EHR products in a provider's EHR system that meet the majority of "Meaningful Use" criteria; are the sole vendor of EHR products for the provider; or are a vendor of a complete EHR product as reported in the CHPL.
Percent of Providers with EHR Vendor as Primary	Derived from primary count. Count for each primary vendor is transformed into percent of total.
Number of Providers where Vendor is the Secondary EHR Vendor	Secondary vendors have EHR products in a provider's EHR system that meet the minority of "Meaningful Use" criteria reported in a provider's EHR system and are modular as reported in CHPL.
Month	Month when the provider reported using the EHR(s). Month data is cumulative from the previous month. If a provider changes vendors from one month to the next, this will be reflected in the data.

Data Set Sources:

The following data sources are used to generate this public use file:

- CMS EHR Incentive Program registration data sets¹
- CMS EHR Incentive Program (Medicare) attestation data sets²
- ONC REC Program database³

Data Set Creation:

Step I Source Data from the CMS EHR Incentive Programs

When registering for the CMS EHR Incentive programs, eligible professionals and eligible hospitals may report the EHR products in their EHR system based on their Certified Health IT Products List (CHPL) ID. For providers who attested to achieving “Meaningful Use,” this step is required. A provider’s EHR system can consist of one or several EHR products across vendors listed in the CHPL.

Additionally, in order to successfully attest to “Meaningful Use,” a provider’s EHR system must have required functionalities. Providers can meet these requirements by using any combination of certified EHR products that meet the needs of their practice. The CHPL has two classifications of certified products for providers to attest with: complete and modular. Complete EHR products meet all the criteria for Meaningful Use attestation. Modular EHR products meet one or more of the criteria for Meaningful Use attestation but not enough to be the sole EHR product a provider could use to attest. ONC uses these criteria and classifications to assign the primary and secondary EHR vendors of a provider’s EHR system:

- Primary Vendor: A vendor with one or more EHR products that meet the majority of stage 1 “Meaningful Use” criteria in a provider’s EHR system, or the vendor of any complete products in the provider’s EHR system.
- Secondary Vendor: A vendor with modular EHR products in a provider’s EHR system and the vendor’s products meet the minority of stage 1 “Meaningful Use” criteria.

Adding a vendor’s primary and secondary count yields the total number of providers using at least one product from that vendor.

Step II Source Data from the ONC Health IT Regional Extension Centers Program

Once the primary and secondary EHR vendors are determined, the data set is merged with data from the ONC REC Program. The data are joined using each professional’s unique NPI, thus enabling the Step I data set to be appended with providers who are being assisted by RECs but are not captured in the CMS data sets.

With respect to determining the primary EHR vendor from the REC program data, the primary EHR vendor is gathered when each professional’s site goes “live on an EHR.” Unlike the CMS EHR Incentive Program data, the REC data only includes one vendor per professional.

¹ Summary data for this file is available on <http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/DataAndReports.html>

² A public use version of this file is available on <http://healthdata.gov/data/dataset/cms-medicare-and-medicaid-ehr-incentive-program-electronic-health-record-products-used>

³ A public use version of this file is available on <http://healthdata.gov/data/dataset/office-national-coordinator-rec-program-milestone-and-provider-data>

Step III Adjudicating differences within and between CMS and ONC data.

If there are differences between vendor information for a professional between the CMS registration, attestation, and REC participation files, then the professional's EHR vendor listed in the CMS attestation data set takes precedence over the EHR vendor identified in the REC data set, which takes precedence over the EHR vendor identified in the CMS registration data set. Hospital data is not joined with the REC data. Therefore, data from CMS attestations take precedence over those from registrations.

If there is no vendor information for a provider in the CMS data sets or the REC data set, then that provider's information is not included in the final data set.

Step IV Calculating the Count and Percent Share

The de-duplicated list of providers and their EHR vendor selections is then used to sum the number of providers using each vendor's EHR products. The resulting total for primary EHR vendors is also computed as a percent share to provide a simplified comparison measure. The percent share is calculated as each EHR vendor's provider count divided by the total number of providers with primary EHR vendors.

Potential Limitations of Data:

The data is self reported and derives solely from the CMS EHR Incentive Programs and ONC REC program and may not be representative of the entire EHR market among health care providers. Even still, this public use dataset includes vendor selection data from over 400,000 health care providers, which is approximately 55% of the estimated total number of health care providers in active practice in the United States.⁴ For more information about eligibility requirements for the CMS and ONC programs, see:

- <http://healthit.gov/rec>
- <http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/>

Considering the potential for sampling bias, ONC examined the correlation between the results of this analysis and those made possible from the National Electronic Health Record Survey of Ambulatory Care physicians (formerly NAMCS)⁵ and the IT Supplement to the American Hospital Association's annual survey of hospitals.⁶ The comparisons showed very strong similarities between the findings with an $R^2 = 0.989$, $p < 0.001$ for office-based providers and an $R^2 = 0.956$, $p < 0.001$ among hospitals.

For More Information:

Contact the Office of the National Coordinator for Health IT, Office of Economic Analysis, Evaluation, and Modeling at ONCRequest@HHS.gov. Include a reference to the "EHR Count Public Use File" somewhere in your e-mail subject or body.

⁴ Total provider estimates are derived from the AHA 2012 survey and health care professional data from SK&A 2012.

⁵ The Centers for Disease Control and Prevention, National Center for Health Statistics fields this survey on an annual basis. More information is available here: <http://www.cdc.gov/nchs/ahcd.htm>

⁶ The IT supplement to this survey is partially funded with a grant from the ONC. More information about this survey can be found here: <http://www.ahadataviewer.com/about/it-database/>

Appendix:

Classification Scenarios to Determine a Provider's Primary and Secondary EHR Vendors:

Products reported by provider	Primary Vendor	Secondary Vendor
One Complete EHR product, for example: - Complete EHR product from V1	V1	None
Multiple Complete EHR products, for example: - Complete product from V1 - Complete product from V2	V1 V2	None
One Complete EHR product and Modular EHR products, for example: - Complete product from V2 - Modular product from V3 - Modular product from V4	V2	V3 V4
Multiple Modular EHR products: - Modular product from V3 that meets 2 "Meaningful Use" criteria - Modular product from V4 that meets 13 "Meaningful Use" criteria	V4	V3
Multiple Modular EHR products: - Modular product from V3 that meets 5 "Meaningful Use" criteria - Modular product from V4 that meets 5 "Meaningful Use" criteria - Modular product from V5 that meets 5 "Meaningful Use" criteria	V3 V4 V5	None