

## **CMS 2011 Medicare Electronic Health Record (EHR) Incentive Program**

### **Eligible Professionals Public Use File (PUF) General Documentation**

#### **1. Overview of the PUF**

This release contains the Centers for Medicare & Medicaid Services' (CMS) *2011 Medicare Electronic Health Record (EHR) Incentive Program EHR Incentive Program Eligible Professionals Public Use File (PUF)*. This release contains program year 2011 EHR Incentive Program data on Eligible Professionals (EPs) in the Medicare EHR Incentive Program.<sup>1</sup> The *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* is an EP-level file in which each record provides the type and specialty of the EP together with his/her responses to the meaningful use core and menu measures.<sup>2</sup> The PUF contains data only on EPs who attested through December 22, 2011.<sup>3</sup> The PUF excludes data from hospitals in the Medicare EHR Incentive Program. There is no 2011 data available for participants in the Medicaid EHR Incentive Program, who received incentive payments in 2011 only for adopting, implementing, or upgrading to certified EHR technology.

#### **2. Source Data for the PUF**

The Medicare and Medicaid EHR Incentive Programs provides incentive payments to EPs, eligible hospitals and critical access hospitals (CAHs) as they adopt, implement, upgrade or demonstrate meaningful use of certified EHR technology. The *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* provides detailed attestation data on EPs who met the following criteria:

- a) Registered as Medicare EPs on the Medicare and Medicaid EHR Incentive Program Registration and Attestation System;<sup>4</sup>
- b) Met meaningful use criteria using certified EHR technology, and
- c) Successfully attested, using CMS' Web-based system, that they have met Stage 1 Meaningful Use (MU) requirements using certified EHR technology.

Stage 1 MU requirements include 15 core measures (CMs) and 10 menu set measures (MMs) with specific objectives.<sup>5</sup> EPs must attest to all 15 CMs and to a selection of 5 of the MMs. The

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<sup>1</sup> <https://www.cms.gov/EHRIncentivePrograms/>

<sup>2</sup> [http://www.cms.gov/EHRIncentivePrograms/30\\_Meaningful\\_Use.asp](http://www.cms.gov/EHRIncentivePrograms/30_Meaningful_Use.asp)

<sup>3</sup> Payment status of "received payment," "locked for payment," or "payment in progress" in the program data.

<sup>4</sup> <https://ehrincentives.cms.gov/hitech>

<sup>5</sup> See the online tool (<http://www.cms.gov/apps/ehr/>) or the attestation guide ([https://www.cms.gov/EHRIncentivePrograms/Downloads/EP\\_Attestation\\_User\\_Guide.pdf](https://www.cms.gov/EHRIncentivePrograms/Downloads/EP_Attestation_User_Guide.pdf)) for more information on the objectives and measures.

attestation system also includes clinical quality measures (CQMs), which are excluded from the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF*. Some objectives require the EP to enter a denominator and a numerator based on number of patients while some others require the EP to meet a specific goal (i.e., whether or not the objective is reached).<sup>6</sup> Finally, the EPs can be excluded from meeting an objective if they meet the requirements of the exclusion (e.g., not providing the services required by the measure).

### **3. Content and Variables of the PUF**

The most important aspects of the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* are as follows:

- It contains information from all EPs that qualified for Medicare EHR Incentive Program incentive payments through December 22, 2011;
- It contains detailed information on EP responses to CMs (numbered CM1- CM15) and MMs (numbered MM1 – MM10); and
- To ensure the privacy and confidentiality of EPs, the PUF contains no fewer than 11 records for each combination of EP type and specialty. To accomplish this, some specialties are suppressed for a small number of EPs in the PUF.

The *CMS 2011 EHR Incentive Program Eligible Professionals PUF* contains the following variables:

- 1) EP type;
  - a. Doctors of Medicine or Osteopathy;
  - b. Doctors of Dental Surgery or Dental Medicine;
  - c. Doctors of Podiatric Medicine;
  - d. Doctors of Optometry; and
  - e. Chiropractors.
- 2) EP specialty for each EP type;
- 3) EP responses to 15 CMs and 5 selected MMs; and
- 4) Incentive payment amount to the EP in 2011.

In the *CMS 2011 EHR Incentive Program Eligible Professionals PUF*, the numerators and denominators that are provided by the EPs were used to calculate percentages. These percentages were then converted to categories using 10 percentage point increments. For example, a percentage value between 0 and 9.99 percent was indicated by a value of 1 and a percentage value between 10 and 19.99 percent was indicated by a value of 2. If an EP is

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<sup>6</sup> See <https://www.cms.gov/EHRIncentivePrograms> for information on how EPs qualify for incentive payments based on attestation data.

excluded from a particular measure, then this is indicated by a value of -1. For measures with more than one exclusion criteria, the EP was assumed to be excluded if any of the exclusion criteria was selected by the EP.<sup>7</sup> To ensure privacy and confidentiality of EPs, other variables, such as EP’s state of residence, are not provided in the PUF. Refer to the Data Dictionary for more information on each of the variables.

#### 4. Methodology and Key Assumptions

The *CMS 2011 EHR Incentive Program Eligible Professionals PUF* protects the privacy and confidentiality of the EPs. This is achieved through the use of three de-identification methodologies sequentially. First, the percentages for each measure are categorized (see above). Second, some specialties are suppressed so that every combination of provider type and specialty contains at least 11 records. This step suppresses relatively rare specialties for some types of providers. The number of EPs affected by this step constitutes a very small percentage of the EPs in the PUF as shown in Table 1. Overall, the specialty of the provider is not available for 0.4 percent of the EPs in the PUF. Table 1 also shows that “Doctors of Medicine or Osteopathy” is the largest group of EPs in the PUF and the suppression rate of the specialties is 0.2 percent for this group. Finally, no specialty information is available (i.e., suppression rate of 100 percent) for “Doctors of Dental Surgery or Dental Medicine” because of the small size (30 EPs) of this group in the PUF.

Table 1. Suppression in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF*

EP Type	Specialty Available	Specialty Suppressed	Total	Suppression Rate
	(a)	(b)	(c)	(d)=(b)/(c)
Doctors of Medicine or Osteopathy	26,105	45	26,150	0.2%
Doctors of Dental Surgery or Dental Medicine	0	30	30	100.0%
Doctors of Podiatric Medicine	1,492	17	1,509	1.1%
Doctors of Optometry	982	16	998	1.6%
Chiropractors	266	0	266	0.0%
<b>Total EPs</b>	<b>28,845</b>	<b>108</b>	<b>28,953</b>	<b>0.4%</b>

In order to protect provider identities, randomized data swapping was performed on a small fraction (about 10%) of the records that needed additional disclosure protection. The swapping

<sup>7</sup> The EP can be excluded from the requirement for any of the exclusion criteria for a given measure. The PUF does not provide information on which exclusion criteria led to the EP being excluded.

was done so as to preserve the distributions of all measures within all provider type and specialty, but may have altered the correlations between different measures.<sup>8</sup>

## 5. Analytic Utility of the PUF

The construction of the variables in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* is detailed in the Data Dictionary. Users interested in the source variables and their relationships to the variables in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* are encouraged to review the Data Dictionary. The PUF contains information from CMs and MMs for a total of 28,953 EPs. It also provides information on incentive payments to EPs. Table 2 summarizes the total incentives payments by type of provider.

Table 2. Incentive Payments in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF*

EP Type	Total Incentive Payment*
Doctors of Medicine or Osteopathy	\$254,160,000
Chiropractors	\$1,026,000
Doctors of Dental Surgery or Dental Medicine	\$306,000
Doctors of Optometry	\$5,796,000
Doctors of Podiatric Medicine	\$16,578,000
<b>All EPs</b>	<b>\$277,866,000</b>

\* The *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* includes EPs with attestation status of “accepted”, “payment issued”, and “locked for payment”.

Some CMs ask the EP whether or not he/she has met a specific goal. For example, the EP is required to respond by selecting “Yes” or “No” to the following question for CM 2:

“Have you enabled the functionality for drug-drug and drug-allergy interaction checks for the entire EHR reporting period?”

The CMs are summarized in Table 3. Note that CM 2, CM 10, CM 11, CM 12, CM 14, CM 15 are indicator variables (i.e., value of 0 for “No” and 1 for “Yes”). All EPs in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* have met these objectives as the PUF contains those who successfully attested through December 22, 2011. Table 4 summarizes similar descriptive statistics for MMs. Even though the state of residence for the EP is not provided in the PUF, Table 6 summarizes the number of EPs and total incentive payments by State.

<sup>8</sup> That is, the univariate distributions of the responses within the provider type and specialty were unchanged.

## 6. Support for the PUF and Further Information

Questions about the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF* can be submitted to the Research Data Assistance Center (ResDAC)<sup>9</sup> at the University of Minnesota by calling 1-888-9RESDAC or by sending an email to [resdac@umn.edu](mailto:resdac@umn.edu).

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<sup>9</sup> <http://www.resdac.org/>

Table 3. Distribution of CMs in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF*

Measure	Response: No	Response: Yes	Excluded	30 - 39.9%	40 - 49.9%	50 - 59.9%	60 - 69.9%	70 - 79.9%	80 - 89.9%	90 - 100%	Total
CM1	NA	NA	4,134	826	947	1,326	1,588	2,359	3,690	14,083	28,953
CM3	NA	NA	NA	0	0	0	0	0	4,143	24,810	28,953
CM4	NA	NA	5,557	0	1,894	1,918	2,983	4,499	5,718	6,384	28,953
CM5	NA	NA	NA	0	0	0	0	0	2,273	26,680	28,953
CM6	NA	NA	NA	0	0	0	0	0	3,124	25,829	28,953
CM7	NA	NA	NA	0	0	960	1,454	2,247	4,420	19,872	28,953
CM8	NA	NA	2,183	0	0	936	1,177	2,099	4,560	17,998	28,953
CM9	NA	NA	154	0	0	1,102	1,671	2,574	4,772	18,680	28,953
CM12	NA	NA	19,264	0	0	174	322	258	477	8,458	28,953
CM13	NA	NA	399	0	0	5,696	4,225	4,212	4,972	9,449	28,953
CM2	0	28,953	NA	NA	NA	NA	NA	NA	NA	NA	28,953
CM10	0	28,953	NA	NA	NA	NA	NA	NA	NA	NA	28,953
CM11	0	28,953	NA	NA	NA	NA	NA	NA	NA	NA	28,953
CM14	0	28,953	NA	NA	NA	NA	NA	NA	NA	NA	28,953
CM15	0	28,953	NA	NA	NA	NA	NA	NA	NA	NA	28,953

Table 4. Distribution of MMs in the *CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF*

Measure	Response: No	Response: Yes	Not Selected	Excluded	10- 19.9%	20- 29.9%	30- 39.9%	40- 49.9%	50- 59.9%	60- 69.9%	70- 79.9%	80- 89.9%	90- 100%	Total
MM4	NA	NA	10,017	889	0	0	0	465	606	767	1,114	1,849	13,246	28,953
MM6	NA	NA	22,586	114	0	924	908	810	714	490	430	478	1,499	28,953
MM7	NA	NA	17,738	346	830	674	577	646	675	630	414	474	5,949	28,953
MM8	NA	NA	14,173	NA	2,956	2,086	1,520	1,263	1,318	1,292	1,196	1,180	1,969	28,953
MM9	NA	NA	16,417	786	0	0	0	0	566	704	1,082	2,009	7,389	28,953
MM10	NA	NA	24,697	632	0	0	0	0	214	364	373	526	2,147	28,953
MM1	0	11,829	5,944	11,180	NA	NA	NA	NA	NA	NA	NA	NA	NA	28,953
MM2	0	2,056	20,088	6,809	NA	NA	NA	NA	NA	NA	NA	NA	NA	28,953
MM3	0	20,637	4,917	3,399	NA	NA	NA	NA	NA	NA	NA	NA	NA	28,953
MM5	0	20,765	8,188	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28,953

Table 5. Distribution of EPs and Incentive Payments by State of Residence  
in the CMS 2011 Medicare EHR Incentive Program Eligible Professionals PUF

State of Residence	Number of EPs	Total Medicare EHR Incentive Program Payments	State of Residence	Number of EPs	Total Medicare EHR Incentive Program Payments
Alaska	11	180,000	Montana	48	504,000
Alabama	338	3,402,000	North Carolina	764	6,498,000
Arkansas	278	2,232,000	North Dakota	7	18,000
Arizona	479	5,472,000	Nebraska	181	1,188,000
California	1,647	16,596,000	New Hampshire	661	7,470,000
Colorado	413	3,312,000	New Jersey	1,013	10,368,000
Connecticut	292	3,186,000	New Mexico	37	360,000
District of Columbia	13	90,000	Nevada	172	1,710,000
Delaware	192	2,412,000	New York	1,598	18,450,000
Florida	1,635	17,928,000	Ohio	2,045	20,826,000
Georgia	633	6,354,000	Oklahoma	354	3,240,000
Guam/US Virgin Islands	4	54,000	Oregon	700	6,264,000
Hawaii	150	1,602,000	Pennsylvania	1,835	20,178,000
Iowa	262	1,278,000	Puerto Rico	12	90,000
Idaho	59	306,000	Rhode Island	153	1,692,000
Illinois	1,570	15,750,000	South Carolina	236	2,340,000
Indiana	432	4,518,000	South Dakota	97	1,314,000
Kansas	261	2,610,000	Tennessee	604	4,824,000
Kentucky	353	3,240,000	Texas	2,051	20,358,000
Louisiana	153	1,818,000	Utah	158	1,134,000
Massachusetts	1,389	10,350,000	Virginia	953	7,668,000
Maryland	353	3,438,000	Vermont	37	486,000
Maine	99	774,000	Washington	572	5,292,000
Michigan	663	5,688,000	Wisconsin	823	8,244,000
Minnesota	1,140	7,524,000	West Virginia	144	1,314,000
Missouri	696	3,672,000	Wyoming	35	270,000
Mississippi	148	1,980,000			