

EHR Incentive Programs:
2011 Meaningful Use Census

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ABSTRACT

The Electronic Health Record (EHR) Incentive Programs were created to spur the adoption and meaningful use of EHR in ambulatory practices and hospitals. To successfully attest, eligible professionals (EPs) and eligible hospitals (EHs) need to meet measures for Stage 1 in five primary areas of focus: Quality, Safety, Efficiency, and Reduce Health Disparities; Engage Patients and their Families; Improve Care Coordination; Improve Population and Public Health; and, Ensure Adequate Privacy and Security Protections for Personal Health Information. Through the 2011 program year, over 57,000 EPs and over 800 hospitals successfully attested Stage 1 meaningful use. The following paper presents a summary of those that have attested, including performance, use of exclusions, and deferral of menu measures. Results are further analyzed by the specialty type of the EP or EH as well as state where the EP or EH is located.

1. INTRODUCTION

In 2009, Congress passed the American Recovery and Reinvestment Act of 2009- Health Information Technology for Economic and Clinical Health (ARRA-HITECH) law to spur the adoption and meaningful use of electronic health records (EHRs). The programs' eligibility criteria were defined in the law and limited participation to specific Medicare and Medicaid providers and hospitals, with different criteria for each public program. Eligible professionals (EPs) and eligible hospitals (EHs) need to meet measures for Stage 1 in five primary areas of focus: Quality, Safety, Efficiency, and Reduce Health Disparities; Engage Patients and their Families; Improve Care Coordination; Improve Population and Public Health; and, Ensure Adequate Privacy and Security Protections for Personal Health Information.

The following report presents an analysis of those EPs and EHs that have successfully attested to demonstrating meaningful use for Stage 1 of the Medicare program for 2011. This analysis focuses on earliest program adopters. During the first year of the program, many States were still setting up their Medicaid EHR Incentive Programs; therefore, we did not include them in this analysis. The analysis is also unable to inform us on barriers to attestation.

2. **METHODOLOGY**

In this analysis, three types of data were analyzed:

1. **Performance:** These data refer to the percentages EPs and EHS reported to CMS for those measures that required that a certain proportion of an activity be conducted using an EHR functionality (the exception is for the measures to Improve Population and Public Health, where performance is measured by the number of providers successfully testing their health information exchange capabilities). All performance values reported in these tables represent the national average, as well as showing the 50% interval of attesting EPs or EHS. The tables also show the Stage 1 minimum performance threshold in order to demonstrate meaningful use for comparison.
2. **Exclusion:** Some core and/or menu measures allow for exclusions; for those measures, EPs and EHS meeting the exclusion criteria can choose not to report the measure and still successfully attest. For those measures with exclusion criteria, the percentage of EPs or EHS choosing to exclude the measure is presented in the tables. For the measures to Improve Public Health, the analysis assumes the EP or EH that excluded at least one of the measures, and not attested to any of the measures, has excluded all measures for the same reasons. Therefore, we

calculate the exclusion rates based on this fact, which might mean using the exclusion for a sixth or, in the case of EHs, a seventh measure.

3. Deferral: CMS required EPs and EHs to select only five out of 10 menu measures for successful attestation.

Deferral percentages represent the percentage of EPs or EHs that did not report on the menu measure. Deferral percentages (also presented in tables) are only relevant for menu measures.

We also conducted analyses for two subgroups - specialties and states. For the specialty analysis, we attempted to group EPs and EHs by similar attributes and interaction with patients. We created four groups of EPs: (1) Primary Care, (2) Specialists with Patient Contact, (3) Specialists with No Patient Contact, and (4) Other/Non-Physician Providers. For EHs, we analyzed four categories of EHs: (1) Acute, (2) Critical Access, (3) Rehabilitation, and (4) Other, which includes all other EHs that self-identified with a variety of hospital types. T-tests were conducted to compare the specialty group average with the national average to see if there was a difference in means that was statistical significant at a 5% level.

A similar statistical analysis was conducted for States for only EPs; we did not conduct a state-level analysis for EHs as 22 states did not have a large enough sample size to be

included. For both analyses, we also looked for groups that had notably different means (i.e., 20% above or below the national average) and were statistical significant at a 5% level.

Table 1
Count of Eligible Professionals by Specialty

Specialty Group	Number of Eligible Professionals
Primary Care	11,747
Specialists with Patient Contact	38,719
Specialists with No Patient Contact	460
Other/Non-Physician Providers	6,882

Table 2
Count of Eligible Hospitals by Specialty Group

Specialty Group	Number of Eligible Hospitals
Acute	243
Critical Access	113
Rehabilitation	236
Other	241

3. ELIGIBLE PROFESSIONAL (EP) SUMMARY

In the first year of the EHR Incentive program, 57,808 EPs met and attested successfully to Stage 1 meaningful use as of the end of June 2012. More than 553,000 EPs were eligible for the Medicare program; thus, roughly 10% of all EPs attested successfully. However, 444 EPs unsuccessfully attested to meaningful use; 180 EPs in this category resubmitted their data to successfully attest for 2011. EPs are required to successfully attest to 15 core measures and choose five of 10

menu measures. On average, EPs greatly exceeded all thresholds, but in every threshold measure some providers barely met the threshold. Although there was little difference among specialties in performance, noticeable differences were seen in exclusions and deferrals. A wide range of differences also occurred among EPs located in different States on performance, exclusions, and deferrals.

3.1 Meaningful Use Measures of Quality, Safety, Efficiency, and Reducing Health Disparities

Table 3
Focus Area 1: Quality, Safety, Efficiency, and Reducing Health Disparities for Eligible Professionals

Objective	Performance	Threshold	50% Interval	Exclusion	Deferral
CPOE	84%	30%	99.1%-74.3%	19%	N/A
Electronic Prescribing	79%	40%	92.6%-68.8%	23%	N/A
Maintain Problem List	96%	80%	100%-94.6%	N/A	N/A
Maintain Medication List	97%	80%	100%-96.2%	N/A	N/A
Maintain Medication Allergy List	96%	80%	99.8%-94.8%	N/A	N/A
Record Demographics	91%	50%	99.6%-85.7%	N/A	N/A
Record Vital Signs	90%	50%	98.6%-86.1%	8%	N/A
Record Smoking Status	90%	50%	98.7%-84.7%	0.5%	N/A
Drug Formulary Checks	N/A	N/A	N/A	14%	16%
Incorporate Lab Results	91%	40%	100%-89.1%	4%	38%
Patient Lists	N/A	N/A	N/A	N/A	25%
Send Reminders to Patients	62%	20%	90.5%-36.5%	0.5%	78%

Note: Two measures in this category, Implement One CDS Rule and Report on Clinical Quality Measures is not included because they are Yes/No variables with no Exclusions. CPOE = computerized physician order entry. The 50% Interval presents the 75th and 25th percentiles.

Performance: As Table 3 indicates, providers on average met and exceeded the established thresholds. Analysis of the distribution of performance on these measures shows that providers were well over the established thresholds. For those measures with higher thresholds in Stage 2, most providers currently attesting to meaningful use are already meeting the new thresholds:

- CPOE (Stage 2 = 60%) - 86% of EPs exceeding the new threshold
- e-Prescribing (Stage 2 = 50%) - 92% of EPs exceeding the new threshold
- Record Demographics (Stage 2 = 80%) - 82% of EPs exceeding the new threshold
- Record Vital Signs (Stage 2 = 80%) - 83% of EPs exceeding the new threshold
- Record Smoking Status (Stage 2 = 80%) - 81% of EPs exceeding the new threshold
- Incorporate Lab Results (Stage 2 = 55%) - 95% of EPs exceeding the new threshold

In future reports, we will examine how the new attesters in 2012, as well as those attesting for a full-year, have been able to meet these thresholds.

Among different specialty groups, there were many statistically significant differences (see Appendix - Table A6 for the detail table). However, the differences were of very low magnitude and reflect the large population of EPs in each category. Statistically significant differences among specialty groups with notable magnitudes are presented below

- CPOE - 90.2% for primary care providers (84.0% is the national average)
- E-Prescribing - 84.9% for the other category (79.3% is the national average)
- Record Vital Signs - 79.9% for the other category (90.2% is the national average)
- Incorporate Lab Results - 99.0% for Specialists with No Patient Contact (91.5% is the national average)
- Send Reminders to Patients - 69.0% for Specialists with No Patient Contact (61.7% is the national average)

On a state-by-state basis (see Appendix - Tables A1 and A2 for the detail tables), the results were similar: many states had statistically significant differences but few had a notable

difference in magnitude. We observed the following statistically significant outliers in Table 4.

Table 4
Focus Area 1: State with Highest Performance Rates

Objective	Highest Performance Rates (%)
CPOE	North Dakota (98%)
Electronic Prescribing	Hawaii (90%)
Record Demographics	North Dakota (98%)
Record Vital Signs	–
Record Smoking Status	North Dakota (96%)
Incorporate Lab Results	North Dakota (99.7%)
Send Reminders to Patients	Rhode Island (78%)

– No notable, statistically significant differences.

Exclusions: For two core measures (Record Vital Signs and Record Smoking Status) and three menu measures (Incorporate Lab Results, Drug Formulary Checks, and Send Reminders to Patients) with exclusions, exclusions were used infrequently; of these, exclusions for Drug Formulary Checks (14%) had the highest rate. For CPOE and e-Prescribing, the exclusions were used more frequently: 19% of EPs excluded CPOE and 23% of EPs excluded e-prescribing.

Specialty groups showed a vast difference in the use of exclusions (see Appendix – Table A7 for the detail table). For CPOE, the categories of Specialists with No Patient Contact (96%) and Other (61%) used the exclusion more than the national average; Primary Care (2%) and Specialists with Patient Contact

(15%) used the exclusion less than the national average. Similar trends were observed for the e-Prescribing exclusions, Record Vital Signs, Drug Formulary Checks, and Incorporate Lab Results. For the other two measures with exclusions, the rates were very low and did not differ in magnitude substantially.

States showed great deal of variation in exclusion usage (see Appendix - Tables A3 and A4 for the detail tables). Table 5 provides a list of the measures with exclusions and the States with the lowest exclusion rates.

Table 5
Focus Area 1: State with Lowest Exclusion Rates

Objective	Lowest Exclusion Rates (%)
CPOE	Puerto Rico (8%)
Electronic Prescribing	Alaska (9%)
Record Vital Signs	Wisconsin (2%)
Record Smoking Status	—
Drug Formulary Checks	New Hampshire (4%)
Incorporate Lab Results	Rhode Island (0.4%)
Send Reminders to Patients	—

— No notable, statistically significant differences.

Deferrals: Three of the four most selected menu measures were in this focus area: Drug Formulary Checks was the most popular menu measure (selected by 84% of EPs attesting in 2011). The fourth measure, Send Reminders to Patients, was the second-least favorite menu measure (selected by 22% of EPs attesting in 2011).

We observed noticeable differences between the specialty groups on the selection of these four menu measures (see Appendix - Table A8 for the detail table). For Drug Formulary Checks, the Other/Non-Physician Practitioner group (28%) was higher than the national average. For Incorporate Lab Results, the Other/Non-Physician Practitioner group (70%) was higher than the national average. For Send Reminders to Patients, Other/Non-Physician group (48%) was lower than the national average. There were no noteworthy differences in magnitude for the Patient Lists menu measure.

On a state-by-state basis, the results were similar: many states had statistically significant differences but few had a notable difference in magnitude (see Appendix - Table A5 for the detail table). Table 6 below shows the state with the lowest deferral rate for each objective.

Table 6
Focus Area 1: State with Lowest Deferral Rates

Objective	Lowest Deferral Rates (%)
Drug Formulary Checks	New Hampshire (2%)
Incorporate Lab Results	Washington, DC (9%)
Patient Lists	North Dakota (1%)
Send Reminders to Patients	Alaska (51%)

3.2 Meaningful Use Measures of Patient and Family Engagement

Table 7
Focus Area 2: Engage Patients and Their Families for Eligible Professionals

Objective	Performance	Threshold	50% Interval	Exclusion	Deferral
E - Copy of Health Information	96%	50%	100%-100%	69%	N/A
Office Visit Summaries	78%	50%	93.8%-63.8%	2%	N/A
Patient Education Resources	49%	10%	74.9%-22.1%	N/A	50%
Timely Electronic Access	73%	10%	100%-44.1%	2%	65%

Note: The 50% Interval presents the 75th and 25th percentiles.

Performance: On average, EPs achieved performance levels well above the established thresholds for all four measures regarding the thresholds for Stage 1 meaningful use. When compared to Stage 2, the Office Visit Summaries and Patient Education Resources thresholds remain unchanged from Stage 1 to Stage 2 while e-Copy of Health Information and Timely Electronic Access are replaced by the View, Download, and Transmit measure in Stage 2. Therefore, we did not include a comparison table to Stage 2.

For the specialties analysis, no noteworthy differences were observed in performance on the E-Copy of Health Information and Patient Education Resources (see Appendix - Table A6 for the specialty detail table) For the state analysis, we observed the

following highest performance rates, shown in Table 8 (see Appendix - Tables A1 & A2 for the state detail tables).

Table 8
Focus Area 2: State with Highest Performance Rates

Objective	Highest Performance Rates (%)
E - Copy of Health Information	-
Office Visit Summaries	New Hampshire (84%)
Patient Education Resources	Missouri (73%)
Timely Electronic Access	New Hampshire (97%)

- No notable, statistically significant differences.

Exclusions: Three of the four measures for this policy priority area had exclusions. E-Copy of the Health Information had the highest exclusion percentage of any measure regardless of policy priority area for EPs, at 69% (next closest was Immunization Registries at 41%). The exclusion is permitted when there are no patient requests an electronic copy of their health information during the reporting period.

Among the specialty groups, some small differences were observed on E- Copy of Health Information and Timely Electronic Access (see Appendix - Table A7 for the detail table). However, for Office Visit Summaries, the exclusion rate was 54% for Specialists with No Patient Contact compared with the national average of 2%.

On the state analysis, we observed the following lowest exclusion rates, shown in Table 9 (see Appendix - Tables A3 & A4 for the detail tables).

Table 9
Focus Area 2: State with Lowest Exclusion Rates

Objective	Lowest Exclusion Rates (%)
E - Copy of Health Information	Missouri (40%)
Office Visit Summaries	-
Timely Electronic Access	-

- No notable, statistically significant differences.

Deferrals: The two menu measures rank as the fourth and sixth least-chosen of the 10 menu measures. For specialty groups, no notable differences were observed on the Timely Electronic Access menu measure (see Appendix - Table A8 for the detail table). For Patient Education Resources, we observed two notable differences. The Other/Non-Physician Practitioner group (34%) was lower than the national average. However, Specialists with No Patient Contact (90%) was higher than the national average.

On the state analysis, we observed the following lowest deferral rates, shown in Table 10 (see Appendix - Table A5 for the detail table).

Table 10
Focus Area 2: State with Lowest Deferral Rates

Objective	Lowest Deferral Rates (%)
Patient Education Resources	Missouri (21%)
Timely Electronic Access	Wisconsin (22%)

3.3 Meaningful Use Measures of Improved Care Coordination

Table 11
Focus Area 3: Improve Care Coordination for Eligible Professionals

Objective	Performance	Threshold	50% Interval	Exclusion	Deferral
Medication Reconciliation	89%	50%	99.9%-83.5%	3%	56%
Summary of Care at Transitions	89%	50%	100%-80.0%	3%	84%

Note: One measure in this category, Exchange Key Clinical Information, is not included as they are Yes/No variables with no Exclusions. The 50% Interval presents the 75th and 25th percentiles.

Performance: On both measures to Improve Care Coordination, EPs attesting for Stage 1 exceeded the thresholds on average. For the different specialty groups (see Appendix – Table A6 for the detail table), the Medication Reconciliation performance for Specialists with No Patient Contact (77%) was lower than the national average. The same subgroup of EPs (97%) performed higher on the Summary of Care at Transitions than the national average.

On the state analysis, we observed the following highest performance rates, shown in Table 12 (see Appendix - Table A2 for the detail table).

Table 12
Focus Area 3: State with Highest Performance Rates

Objective	Highest Performance Rates (%)
Medication Reconciliation	Vermont (97%)
Summary of Care at Transitions	New Mexico (94%)

Exclusions: For both of these measures, exclusions were rarely used (3% for both). Similar to performance, the Specialists with No Patient Contact (33% for Medication Reconciliation and 30% for Transitions of Care Summary) were higher than the national average (see Appendix - Table A7 for the detail table).

On the state analysis, there were no notable, statistically significant differences.

Deferrals: Summary of Care at Transitions was the least-chosen menu measure for EPs, and Medication Reconciliation was the fifth least-chosen menu measure.

For Medication Reconciliation, the Other/Non-Physician Practitioners (76%) were more likely to defer than the national average. For Transition of Care Summary, Specialists with No Patient Contact (68%) were less likely to defer than the national average (see Appendix - Table A8 for the detail table).

On the state analysis, we observed the following highest and lowest deferral rates, shown in Table 13 (see Appendix - Table A5 for the detail table).

**Table 13
Focus Area 3: State with Lowest Deferral Rates**

Objective	Lowest Deferral Rates (%)
Medication Reconciliation	Washington, DC (15%)
Summary of Care at Transitions	Vermont (58%)

3.4 Meaningful Use Measures of Improved Population and Public Health

**Table 14
Focus Area 4: Improve Population and Public Health for Eligible Professionals**

Objective	Performance*	Threshold	50% Interval	Exclusions	Deferrals
Immunizations	38%	N/A	N/A	59%	4%
Syndromic Surveillance	6%	N/A	N/A	61%	33%

*Performance is percentage of attesting providers who conducted test.

Performance: Unlike the other measures, performance in this category was measured as the percentage of EPs successfully attesting to Immunization and Syndromic Surveillance measures.

Exclusions and Deferrals: These two measures are dependent on both EP and public health agency readiness to engage in electronic exchange. Since public health agencies were not incentivized in the program nor were the interfaces needed for

electronic exchange included in the certification of EHR technology, it is unsurprising that these two measures had the second and third highest usage of exclusions. In our analysis and review of the specialty breakouts and exclusions (see Appendix - Table A7 for the detail table), we found that Primary Care Physicians were the least likely to utilize exclusions (43%) for Immunization Registries, perhaps because these providers typically administer immunizations. Other/Non-Physician Providers were more apt to utilize the exclusions (86%). The rates for Syndromic Surveillance use are similar: Primary Care EPs were least likely to utilize the exclusion (45%) whereas Other/Non-Physician Providers (85%) and Specialists with No Patient Contact (79%) were above the national average.

On the state analysis, we observed the following lowest exclusion rates, shown in Table 15 (see Appendix - Table A4 for the detail table).

Table 15
Focus Area 4: State with Lowest Exclusion Rates

Objective	Lowest Exclusion Rates (%)
Immunizations	Washington, DC (14%)
Syndromic Surveillance	Washington, DC (14%)

For the specialty breakout on deferrals (see Appendix - Table A8 for the detail table), there were no notably differences on the

Immunization measure. On the Syndromic Surveillance measure, Primary Care EPs were the most likely to defer this measure (50%) whereas Other/Non-Physician Providers (5%) and Specialists with No Patient Contact (5%) were below the national average.

On the state analysis, we observed the following highest and lowest deferral rates, shown in Table 16 (see Appendix - Table A5 for the detail table).

Table 16
Focus Area 4: State with Lowest Deferral Rates

Objective	Lowest Deferral Rates (%)
Immunizations	Montana (0%)
Syndromic Surveillance	New Hampshire (0.1%)

4. ELIGIBLE HOSPITAL (EH) SUMMARY

Of the 5,011 EHs eligible for the Medicare program, 833 EHs, or about 17% of all providers, met and successfully attested to meaningful use for the first year of the EHR Incentives program. No EHs were unsuccessful in attesting to meaningful use.

Stage 1 meaningful use criteria for EHs included attesting to 14 core measures in addition to the EHs' choice of five out of 10 menu measures, for a total of 24 possible Stage 1 reportable measures. Please note: four of the 24 Stage 1 measures have been excluded from this analysis: Clinical Quality Measures, Clinical Decision Support, Electronic Exchange of

Clinical Information, and Protect Health Information. These four measures were all yes/no core measures, without exclusions.

4.1 Meaningful Use Measures of Quality, Safety, Efficiency, and Reduce Health Disparities

Table 17
Focus Area 1: Quality, Safety, Efficiency, and Reducing Health Disparities for Eligible Hospitals

Objective	Performance	Threshold	50% Interval	Exclusion	Deferral
CPOE	85%	30%	98.9%–77.2%	N/A	N/A
Maintain Problem List	95%	80%	99.8%–91.6%	N/A	N/A
Maintain Medication List	97%	80%	99.9%–96.3%	N/A	N/A
Maintain Medication Allergy List	97%	80%	99.8%–96.2%	N/A	N/A
Record Demographics	96%	50%	99.7%–96.5%	N/A	N/A
Record Vital Signs	93%	50%	98.7%–91.7%	N/A	N/A
Record Smoking Status	93%	50%	99.3%–90.3%	0.5%	N/A
Advance Directives	95%	50%	100%–95.8%	0.1%	13%
Incorporate Lab Results	95%	40%	100%–95.0%	N/A	18%
Drug Formulary Checks	N/A	N/A	N/A	N/A	12%
Patient Lists	N/A	N/A	N/A	N/A	34%

Note: Two measures, Clinical Quality Measures and Clinical Decision Support, are not shown as they are core measures that were yes/no core measures, without exclusions. The 50% Interval presents the 75th and 25th percentiles.

Performance: On average, EHS met and well exceeded Stage 1 thresholds. When we analyzed the distribution of performance on these measures, we found that EHS were well in excess of the established thresholds. For those measures with higher

thresholds in Stage 2, most EHs currently attesting to meaningful use were already meeting the new thresholds:

- CPOE (Stage 2 = 60% for medications) - 88% of EHs exceeding the new threshold
- Record Demographics (Stage 2 = 80%) - 96% of EHs exceeding the new threshold
- Record Vital Signs (Stage 2 = 80%) - 92% of EHs exceeding the new threshold
- Record Smoking Status (Stage 2 = 80%) - 91% of EHs exceeding the new threshold
- Incorporate Lab Results (Stage 2 = 55%) - 99% of EHs exceeding the new threshold

For the specialty analysis, there were no notable, statistically significant differences between the EH groups (see Appendix - Table A9 for the detail table).

Exclusions: Only two measures in this area had exclusion criteria: Record Smoking Status and Advance Directives. Both of these exclusions were rarely used, < 1% for both. No statistically significant differences occurred between the EH specialty groups (see Appendix - Table A10 for the detail table).

Deferrals: Four of the above measures are menu measures and, thus, have deferral rates. They were the four most-chosen

menu measures: the least popular of this set (Patient Lists) was chosen by 65.8% of attesting EHs. Given that all of these menu measures are core for Stage 2, no difficulties for these EHs are anticipated in meeting the new criteria.

Differences in deferral rates were evident among the EH specialty groups for all four measures (see Appendix - Table A11 for the detail table). For Drug Formulary Checks, Rehab EHs (6%) deferred this measure less than the national average, and Critical Access Hospitals (CAH) EHs (20%) deferred more than national average). For Advanced Directives, CAH EHs (4%) deferred at less than the national average (4%), and Rehabilitation EHs (18%) were higher than the national average. For the Incorporate Lab Results measure, Rehabilitation EHs (13%) were lower than the national average. For Patient Lists, Rehabilitation EHs (20%) and Acute EHs (28%) were lower the national average whereas Other (43%) and CAHs (60%) were greater than the national average.

4.2 Meaningful Use Measures of Patients and Family Engagement

Table 18
Focus Area 2: Engage Patients and Their Families for Eligible Hospitals

Objective	Performance	Threshold	50% Interval	Exclusion	Deferral
E-copy of Health Information	95%	50%	100%-94.7%	67%	N/A
E-copy of Discharge Instructions	96%	50%	100%-97.9%	60%	N/A
Patient Education Resources	71%	10%	91.4%-56.5%	N/A	62%

Note: The 50% Interval presents the 75th and 25th percentiles.

Performance: EHs achieved performance levels well above established thresholds for objectives in this Focus Area. For the specialty EH groups (see Appendix - Table A9 for the detail table), the Patient Education Resources measure had the highest performance. For Rehabilitation EHs (79%) were higher than the national average.

Exclusions: For the two objectives with exclusion criteria, e-Copy of Health Information and e-Copy of Discharge Instructions, EHs met and used exclusions at much higher rates than those observed in Focus Area 1: Quality, Safety, Efficiency, and Reducing Health Disparities.

For the EH specialty groups, the two measures with exclusions had notable, statistically significant differences (see Appendix - Table A10 for the detail table). For e-Copy of Health Information, Rehabilitation EHs (55%) were lower than the

national average while CAH EHS (82%) were higher than the national average. For e-Copy of Discharge Instructions, CAH EHS (75%) utilized the exclusion more often than the national average.

Deferrals: There was only one menu objective in Focus Area 2, Patient Education Resources. Over half of attesting EHS deferred for this measure. The specialty EH groups showed a varied use of the exclusion (see Appendix - Table A11 for the detail table). CAH (50%) and Other EHS (50%) were lower than the national average while Acute (69%) and Rehabilitation (72%) EHS were higher than the national average.

4.3 Meaningful Use Measures of Improved Care Coordination

Table 19
Focus Area 3: Improve Care Coordination for Eligible Hospitals

Objective	Performance	Threshold	90% Interval	Exclusions	Deferral
Medication Reconciliation	84%	50%	94.4%-79.4%	N/A	75%
Transition of Care Summary	81%	50%	94.1%-68.4%	N/A	93%

Note: The 50% Interval presents the 75th and 25th percentiles.

Performance: Performance levels among successful attestors were well above established thresholds for objectives in this Focus Area. These measures do not have higher thresholds for Stage 2. There were no statistically significant differences among the specialty EH groups (see Appendix - Table A9 for the detail table).

Exclusions: Neither measure in Focus Area 3 included exclusion criteria.

Deferrals: Both menu measures in Focus Area 3 had high rates of deferral; they were the least and fourth least-chosen menu measures. For the specialty EH groups, the only statistically significant differences occurred in Transition of Care Summary. Rehabilitation EHs (97%) deferred on this measure the more than the national average (see Appendix - Table A11 for the detail table).

4.4 Meaningful Use Measures of Improved Population and Public Health

Table 20
Focus Area 4: EH Improve Population and Public Health for Eligible Hospitals

Objective	Performance	Threshold	90% Interval	Exclusion	Deferral
Immunizations	48%	N/A	N/A	24%	28%
Reportable Lab Results	16%	N/A	N/A	24%	60%
Syndromic Surveillance	17%	N/A	N/A	24%	58%

Performance: Unlike the other measures, performance here was measured as the percentage of EHs successfully attesting to Immunization, Reportable Lab Results, and Syndromic Surveillance measures.

Exclusion and Deferrals: While exclusions were used relatively infrequently, these measures represent the fourth

most chosen menu measure (Immunizations) and second and third least-chosen menu measures (Reportable Lab Results and Syndromic Surveillance). Immunization registries were used more broadly than the other two public health registries, which might explain the discrepancy between the two groups of measures.

For the specialty EH groups, Immunization Registries Acute EHs (16%) used the exclusion less than national average while CAH EHs (41%) used the exclusion more than the national average. For Reportable Lab Results, Rehabilitation EHs (14%) used the exclusion less than the national average whereas Other EHs (34%) used the exclusion more than the national average (see Appendix - Table A10 for the detail table). There were no statistically significant differences on the Syndromic Surveillance measure for exclusions.

With deferrals, for the specialty EH groups, Immunization Other EHs (19%) and CAH EHs (20%) deferred less than national average while Rehabilitation EHs (41%) deferred more than the national average. For Reportable Lab Results, CAH EHs (43%) deferred less than the national average. For Reportable Lab Results, CAH EHs (46%) deferred less than the national average. (see Appendix - Table A11 for the detail table).

5. CONCLUSION AND NEXT STEPS

Performance by both EPs and EHs was well above minimum performance thresholds for all Stage 1 measures, and for those

measures that are continuing on to Stage 2, the higher thresholds are within the expected performance range of those EPs and EHs that have already attested. However, it is unknown whether EPs and EHs who have yet to attest will perform at the same level as those attesting in 2011. As we update these analyses with the new 2012 attesters and the first full year of attestation for those presented in this report, we will compare performance between both groups to see if the early attesters perform differently.

Exclusion rates were used to varying degrees, depending on the measure. For CPOE and e-Prescribing amongst EPs, these rates were used highly, which shows that a number of providers do not prescribe often enough. For public health measures, exclusions were used at a high level for EPs, and to a lesser extent for EHs. These measures rely greatly on external parties to receive the data. Future analysis may be needed to determine the status of progress with those efforts.

Deferral rates also exhibited a great deal of differences. It will be important to understand what caused the EP or EH to not select a certain measures, particularly for those measures that will become core for Stage 2. If the measure deferral was due to greater applicability or preference for other measures, then any move to core status may not impact an EP or EH from attesting to Stage 2. However, if the deferral is due to a lack

of applicability to an EP or EH scope of practice, then transitioning this measure to Stage 2 may be hinder adoption. CMS and other organizations have conducted analyses of the barriers to meaningful use and it is critical that these analyses and problem solving are continued for future stages of adoption.

There was also a great deal of geographic variation by EPs and EHs on virtually all performance, exclusion, and deferral rates. In particular, deferral rates seemed to trend towards certain sets of measures being chosen more frequently by certain states. Regression analyses may be necessary to understand the factors that determine these trends, such as vendor penetration and its impact on menu measure selection, patient engagement in PHRs, or the State's sophistication in utilizing public health IT interventions such as registries.

APPENDIX A - STATE AND SPECIALTY GROUP BREAKDOWN TABLES

Table A1. EP Performance by State - Core Measures

State	CPOE	Maintain Problem List	ePrescribing	Maintain Medication List	Maintain Med Allergy List	Record Demographics	Record Vital Signs	Record Smoking Status	E-copy of Health Information	Clinical Summaries
Alabama	80.93	95.81	77.48	96.63	95.23	88.88	89.93	89.29	96.53	76.61
Alaska	76.94	97.15	78.11	97.62	96.32	91.25	90.58	86.80	97.07	65.14
Arizona	78.05	96.55	75.01	96.58	95.67	87.53	91.02	90.17	96.42	76.62
Arkansas	87.00	96.73	79.05	96.99	96.58	94.18	86.75	89.72	91.80	78.88
California	83.31	96.43	81.48	96.18	95.76	89.19	90.34	86.68	96.71	78.45
Colorado	80.04	96.77	73.16	96.66	95.06	86.57	89.25	88.15	96.70	75.38
Connecticut	79.02	97.43	83.26	96.74	95.02	86.58	89.07	88.84	96.52	75.33
Delaware	81.66	96.84	82.04	95.60	94.99	87.51	89.47	87.09	96.31	79.00
Washington, DC	64.53	98.50	72.12	98.78	97.69	89.55	92.80	83.90	100.00	83.90
Florida	81.26	96.61	76.16	96.46	95.48	88.75	91.18	89.01	95.50	78.14
Georgia	79.91	96.36	74.54	97.13	95.52	88.72	89.87	85.73	95.14	76.01
Guam	95.69	86.00	78.59	88.48	95.67	89.13	73.85	95.22	100.00	61.83
Hawaii	87.28	93.69	90.45	98.32	98.06	89.85	88.82	90.35	99.42	75.63
Idaho	82.48	96.79	79.64	95.03	94.89	90.05	88.81	86.22	97.43	79.60
Illinois	84.39	96.03	82.01	97.35	96.97	92.74	91.94	89.80	97.30	79.01
Indiana	81.55	96.77	79.22	97.37	96.13	90.09	90.56	89.15	97.04	77.99
Iowa	82.43	95.51	81.84	97.97	97.24	92.95	91.43	91.56	96.03	80.68
Kansas	80.95	96.61	77.21	95.87	95.12	90.04	86.24	88.91	94.25	75.09
Kentucky	83.36	95.56	83.17	97.42	96.56	90.76	89.20	88.06	95.74	76.02
Louisiana	81.75	97.03	76.52	96.32	95.88	86.93	90.33	89.47	95.96	79.42
Maine	80.46	96.97	77.56	98.31	96.47	86.88	88.72	89.94	97.91	73.14
Marshall Islands	67.98	100.00	88.37	99.29	99.05	95.76	74.58	98.35		100.00
Maryland	78.88	97.09	78.99	96.63	95.43	88.60	90.30	86.74	97.33	77.69
Massachusetts	87.36	95.95	84.74	97.39	97.06	91.42	92.40	91.25	97.29	77.16

State	CPOE	Maintain Problem List	ePrescribing	Maintain Medication List	Maintain Med Allergy List	Record Demographics	Record Vital Signs	Record Smoking Status	E-copy of Health Information	Clinical Summaries
Michigan	84.34	97.26	81.61	96.66	95.60	88.57	90.64	88.02	95.61	79.35
Minnesota	94.17	95.36	83.57	98.44	98.01	94.15	91.87	95.38	97.86	78.97
Mississippi	85.24	95.26	76.52	96.42	95.12	88.08	88.38	85.96	93.35	80.28
Missouri	85.88	97.48	83.49	97.55	97.10	94.20	89.38	92.70	92.79	83.91
Montana	81.39	95.13	74.30	94.23	94.12	90.43	81.24	82.60	96.06	80.79
Nebraska	82.10	97.58	82.88	97.97	96.67	91.89	87.49	86.61	98.07	79.94
Nevada	78.30	96.82	75.73	95.07	94.86	84.19	91.44	86.97	95.91	73.38
New Hampshire	87.01	97.57	76.02	98.45	98.36	95.82	91.76	93.13	93.93	84.00
New Jersey	81.18	96.88	82.82	95.41	94.79	86.92	86.73	87.11	96.19	75.16
New Mexico	76.27	94.81	76.25	94.61	94.16	89.41	90.31	88.84	93.42	73.29
New York	86.88	96.55	82.51	96.69	95.86	89.14	88.08	90.71	97.27	80.11
North Carolina	80.76	97.23	80.80	97.16	95.60	86.30	89.11	85.31	97.46	77.21
North Dakota	98.52	98.34	89.10	98.18	98.38	97.52	90.27	95.91	95.82	82.72
Ohio	88.37	94.69	69.73	97.94	97.31	94.22	90.57	92.05	97.37	78.16
Oklahoma	82.30	96.86	78.48	97.74	96.96	90.21	87.04	89.82	94.55	79.51
Oregon	75.82	96.22	77.25	97.69	97.71	90.36	90.83	91.56	97.40	80.99
Palau	98.78	88.79		100.00	100.00	100.00	89.14	98.07		97.36
Pennsylvania	85.46	96.35	80.21	97.66	96.84	94.58	91.89	92.43	96.80	81.69
Puerto Rico	82.43	96.45	68.91	94.37	95.01	92.66	83.76	91.39	90.08	75.18
Rhode Island	80.81	96.53	80.88	97.89	95.99	87.91	87.67	88.14	98.81	73.85
South Carolina	81.97	97.11	77.01	96.59	93.93	88.48	86.18	86.41	96.57	77.54
South Dakota	78.47	96.81	76.06	96.43	96.39	89.79	83.67	89.62	98.30	74.04
Tennessee	83.44	97.30	76.24	96.91	95.20	89.37	88.95	86.97	94.36	75.62
Texas	81.08	96.37	76.84	96.75	96.29	88.95	90.50	88.10	94.57	78.14
Utah	84.49	95.34	70.13	94.74	94.64	85.84	85.34	85.95	95.79	71.80
Vermont	84.19	96.49	83.37	97.16	95.69	91.99	85.96	93.38	98.15	76.04
US Virgin Islands	98.48	96.38	63.36	93.28	92.94	98.54	74.46	91.79	100.00	81.81
Virginia	80.72	96.56	73.97	97.21	96.24	90.02	90.71	88.29	97.20	75.99

State	CPOE	Maintain Problem List	ePrescribing	Maintain Medication List	Maintain Med Allergy List	Record Demographics	Record Vital Signs	Record Smoking Status	E-copy of Health Information	Clinical Summaries
Washington	89.12	95.94	78.36	97.80	97.69	88.99	89.33	90.40	98.39	80.19
West Virginia	87.24	96.90	79.92	97.76	96.27	92.83	92.76	86.00	93.05	79.09
Wisconsin	90.54	96.41	82.24	98.12	98.34	96.82	90.44	95.47	97.81	78.23
Wyoming	81.09	96.06	80.69	96.25	94.32	89.95	82.16	85.56	95.13	79.70
Grand Total	83.97	96.38	79.26	97.07	96.35	90.54	90.20	89.64	96.25	78.44

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A2. EP Performance by State – Menu Measures

State	Incorporate Lab Results	Patient Reminders	Patient Electronic Access	Patient-Specific Education Resources	Medication Reconciliation	Transition of Care Summary
Alabama	88.09	71.07	68.67	46.59	93.09	92.70
Alaska	86.19	64.22	52.55	61.38	90.20	98.68
Arizona	87.00	62.51	72.34	47.57	88.24	87.24
Arkansas	81.30	60.40	78.74	64.22	92.41	86.91
California	92.45	62.44	71.10	45.94	86.75	90.05
Colorado	84.54	60.99	63.15	47.53	90.87	87.36
Connecticut	85.87	71.15	69.12	44.92	88.02	87.64
Delaware	92.47	59.52	72.59	39.48	84.37	91.60
Washington, DC	83.67	39.16	62.15	45.51	100.00	100.00
Florida	87.25	62.59	55.21	46.56	90.64	89.59
Georgia	84.05	60.53	62.87	47.16	90.32	86.47
Guam	98.54	38.67	13.79	34.16		
Hawaii	96.62	64.26	89.08	72.60	86.51	93.40
Idaho	90.49	51.26	51.88	43.89	87.06	79.37
Illinois	93.04	64.39	70.94	52.29	89.02	87.09
Indiana	92.27	63.41	69.78	43.77	90.06	87.68
Iowa	96.27	66.01	80.11	45.48	90.95	90.24
Kansas	82.50	55.44	61.11	46.70	87.66	90.56
Kentucky	90.08	61.69	62.16	39.13	89.47	89.06
Louisiana	85.97	67.13	68.08	42.65	86.72	91.47
Maine	86.54	60.04	39.58	50.08	91.88	89.87
Marshall Islands				52.23	99.35	
Maryland	86.11	69.22	68.49	46.09	88.87	88.51
Massachusetts	96.00	70.01	84.54	61.48	88.75	90.29
Michigan	86.30	63.46	55.23	45.26	89.75	92.22
Minnesota	97.32	59.64	86.59	50.77	87.07	91.97
Mississippi	91.73	57.17	75.71	54.08	94.27	85.93
Missouri	90.10	70.85	57.77	73.34	94.79	90.06
Montana	80.29	52.30	60.01	33.24	89.60	88.09

State	Incorporate Lab Results	Patient Reminders	Patient Electronic Access	Patient-Specific Education Resources	Medication Reconciliation	Transition of Care Summary
Nebraska	85.97	58.84	80.96	42.15	86.38	86.87
Nevada	86.51	63.58	72.89	45.88	88.30	89.31
New Hampshire	90.69	63.65	96.53	49.63	92.57	88.58
New Jersey	90.53	59.17	64.24	44.61	87.43	90.37
New Mexico	85.29	68.65	72.04	46.12	88.28	94.37
New York	93.76	63.58	76.56	42.65	90.08	85.06
North Carolina	88.89	63.68	59.64	45.34	88.49	90.80
North Dakota	99.73	60.56	79.79	48.46	94.72	85.46
Ohio	93.48	51.58	57.33	42.74	87.49	86.42
Oklahoma	88.17	54.41	78.96	59.84	90.89	93.07
Oregon	95.84	56.56	84.95	47.43	94.32	89.95
Palau	100.00	49.57	72.14	76.42	92.30	
Pennsylvania	91.59	54.61	82.18	48.90	91.63	89.80
Puerto Rico	81.92	78.10	60.42	53.07	92.49	90.19
Rhode Island	91.10	78.09	50.73	46.63	90.86	80.90
South Carolina	82.46	54.63	76.03	41.92	90.12	92.17
South Dakota	82.56	55.26	71.55	30.36	91.10	88.99
Tennessee	88.43	70.24	53.28	43.44	89.83	86.78
Texas	89.07	65.05	69.97	51.62	88.73	88.31
Utah	82.87	72.91	62.38	54.69	88.56	86.96
Vermont	87.37	56.01	52.04	47.35	96.76	76.17
US Virgin Islands		82.16	38.76	31.55	100.00	100.00
Virginia	92.06	68.04	71.03	46.00	89.07	90.25
Washington	95.87	55.89	65.09	44.84	86.74	90.00
West Virginia	93.52	74.36	95.04	37.07	93.19	90.45
Wisconsin	95.56	56.74	84.84	59.87	88.42	85.87
Wyoming	70.98	49.85	81.15	54.00	91.51	86.46
Grand Total	91.48	61.66	72.70	49.12	89.45	89.04

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A3: Percentage of EPs Using Exclusions by State – Core Measures with Exclusion Criteria

State	CPOE	ePrescribing	Record Vital Signs	Record Smoking Status	E-copy of Health Information	Clinical Summaries
Alabama	11.49%	13.07%	13.65%	1.01%	66.95%	1.72%
Alaska	8.57%	8.57%	8.57%	2.86%	48.57%	2.86%
Arizona	17.88%	22.21%	10.62%	0.33%	59.15%	2.49%
Arkansas	18.73%	23.54%	11.39%	0.00%	44.05%	0.51%
California	25.49%	30.56%	7.74%	1.27%	59.61%	1.95%
Colorado	14.10%	20.04%	6.61%	0.44%	70.93%	0.99%
Connecticut	18.06%	17.73%	14.61%	0.99%	64.04%	1.15%
Delaware	15.12%	16.15%	8.59%	0.00%	85.91%	1.03%
Washington, DC	23.44%	27.34%	5.47%	0.78%	85.16%	1.56%
Florida	18.40%	21.17%	10.43%	0.90%	59.50%	2.23%
Georgia	10.02%	11.41%	10.51%	0.57%	64.30%	1.06%
Guam	0.00%	10.00%	0.00%	0.00%	20.00%	0.00%
Hawaii	16.16%	20.09%	3.93%	0.44%	42.79%	0.44%
Idaho	22.66%	25.78%	9.38%	0.00%	47.66%	3.91%
Illinois	22.98%	23.40%	8.04%	0.17%	60.43%	5.31%
Indiana	14.70%	18.74%	6.85%	0.00%	69.02%	0.34%
Iowa	41.31%	46.73%	10.20%	0.00%	73.05%	0.50%
Kansas	23.69%	26.71%	8.43%	0.20%	68.67%	0.40%
Kentucky	15.30%	21.79%	8.23%	0.43%	77.78%	1.15%
Louisiana	11.48%	13.27%	10.20%	0.51%	70.15%	2.81%
Maine	19.06%	20.86%	13.67%	1.80%	62.59%	3.24%
Marshall Islands	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
Maryland	17.63%	18.77%	9.90%	1.02%	62.00%	2.16%
Massachusetts	15.87%	21.54%	7.38%	0.20%	84.50%	2.22%

State	CPOE	ePrescribing	Record Vital Signs	Record Smoking Status	E-copy of Health Information	Clinical Summaries
Michigan	22.68%	24.35%	7.19%	0.30%	71.56%	2.55%
Minnesota	16.19%	25.28%	3.22%	0.10%	84.47%	0.72%
Mississippi	14.63%	13.13%	11.64%	0.60%	71.94%	3.58%
Missouri	18.16%	21.84%	9.12%	0.59%	40.00%	1.25%
Montana	28.35%	27.56%	14.17%	0.00%	71.65%	3.15%
Nebraska	12.05%	12.33%	4.11%	0.00%	72.05%	0.55%
Nevada	24.93%	31.96%	27.86%	1.17%	55.13%	7.92%
New Hampshire	21.26%	29.21%	5.84%	0.00%	93.81%	0.47%
New Jersey	21.98%	23.36%	13.88%	0.87%	64.50%	1.28%
New Mexico	26.55%	27.43%	12.39%	0.00%	70.80%	1.77%
New York	17.99%	20.59%	11.07%	0.61%	74.11%	2.43%
North Carolina	14.22%	18.46%	13.65%	0.70%	65.93%	2.72%
North Dakota	21.01%	44.54%	5.04%	0.00%	89.08%	0.84%
Ohio	12.50%	27.87%	5.67%	0.23%	83.94%	1.55%
Oklahoma	15.08%	17.25%	6.20%	0.00%	57.62%	1.34%
Oregon	24.65%	29.91%	9.04%	0.23%	68.55%	4.87%
Palau	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%
Pennsylvania	19.26%	22.47%	6.85%	0.34%	78.24%	1.24%
Puerto Rico	7.69%	12.82%	10.26%	0.00%	48.72%	0.00%
Rhode Island	11.39%	11.39%	4.98%	0.00%	58.36%	0.71%
South Carolina	18.97%	20.76%	14.96%	1.34%	63.62%	4.46%
South Dakota	31.25%	38.94%	14.42%	1.44%	69.23%	2.40%
Tennessee	13.84%	14.62%	7.74%	0.48%	65.25%	1.36%
Texas	16.78%	19.11%	7.91%	0.71%	63.63%	1.75%
Utah	10.57%	12.20%	12.60%	0.00%	59.76%	2.03%
Vermont	30.19%	32.08%	18.87%	0.00%	56.60%	0.00%
US Virgin Islands	25.00%	25.00%	50.00%	0.00%	50.00%	0.00%

State	CPOE	ePrescribing	Record Vital Signs	Record Smoking Status	E-copy of Health Information	Clinical Summaries
Virginia	13.81%	15.77%	6.83%	0.58%	71.58%	1.60%
Washington	15.90%	17.09%	3.25%	0.37%	65.61%	2.59%
West Virginia	11.09%	15.94%	3.23%	0.00%	79.21%	0.23%
Wisconsin	25.21%	30.72%	1.99%	0.45%	74.53%	0.83%
Wyoming	40.98%	44.26%	13.11%	0.00%	77.05%	6.56%
Grand Total	18.63%	22.64%	8.45%	0.52%	68.80%	2.03%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A4: EP Counts of Exclusions by State - Menu Measures with Exclusion Criteria

State	Drug Formulary Checks	Incorporate Lab Results	Patient Reminder	Patient Electronic Access	Medication Reconciliation	Transition of Care Summary	Immunization Registries	Syndromic Surveillance
Alabama	11.35%	4.45%	0.72%	2.16%	2.01%	3.45%	78.16%	79.45%
Alaska	8.57%	0.00%	2.86%	0.00%	8.57%	2.86%	80.00%	82.86%
Arizona	13.87%	4.77%	0.33%	1.52%	3.58%	2.17%	64.90%	65.33%
Arkansas	13.42%	2.53%	0.00%	1.27%	0.51%	0.51%	51.14%	50.89%
California	19.55%	3.29%	1.17%	1.85%	2.63%	4.24%	87.34%	87.39%
Colorado	11.89%	4.52%	0.55%	1.65%	2.20%	2.31%	85.35%	86.01%
Connecticut	12.15%	6.90%	0.33%	0.33%	1.48%	1.48%	96.39%	96.22%
Delaware	18.21%	1.72%	1.72%	0.69%	4.81%	3.78%	95.53%	94.85%
Washington, DC	21.88%	1.56%	0.78%	1.56%	64.06%	0.78%	14.06%	14.06%
Florida	13.30%	3.47%	0.72%	2.20%	2.11%	2.56%	61.97%	63.48%
Georgia	8.72%	3.67%	0.41%	1.96%	2.04%	1.79%	61.94%	63.08%
Guam	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
Hawaii	9.17%	2.62%	0.00%	1.75%	0.44%	5.24%	41.92%	41.48%
Idaho	21.09%	7.81%	0.00%	1.56%	2.34%	2.34%	50.00%	50.00%
Illinois	16.67%	6.06%	0.31%	0.81%	1.34%	1.62%	31.50%	50.29%
Indiana	10.55%	3.14%	0.22%	1.57%	1.12%	2.92%	37.60%	37.49%
Iowa	9.82%	8.06%	0.13%	0.63%	9.07%	0.38%	90.43%	90.30%
Kansas	19.68%	7.63%	1.00%	1.61%	2.61%	1.41%	92.37%	92.17%
Kentucky	11.40%	5.19%	0.58%	1.30%	3.17%	0.87%	67.24%	66.52%
Louisiana	12.24%	3.06%	0.77%	1.79%	3.32%	3.06%	69.64%	69.90%
Maine	12.59%	7.19%	0.36%	3.60%	3.24%	2.52%	62.59%	62.59%
Marshall Islands	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
Maryland	14.11%	2.84%	0.80%	2.84%	10.47%	3.75%	55.86%	55.63%
Massachusetts	18.87%	2.49%	0.24%	0.78%	1.58%	0.67%	57.60%	57.50%
Michigan	13.12%	2.97%	0.65%	3.98%	5.94%	6.53%	56.18%	58.91%
Minnesota	12.67%	2.96%	0.36%	0.87%	1.23%	1.17%	24.36%	27.32%
Mississippi	10.75%	3.58%	0.90%	2.39%	5.67%	4.78%	81.79%	81.79%
Missouri	13.38%	6.91%	0.15%	1.32%	5.66%	2.87%	39.19%	38.24%
Montana	14.17%	7.87%	0.00%	2.36%	2.36%	1.57%	96.85%	96.85%

State	Drug Formulary Checks	Incorporate Lab Results	Patient Reminder	Patient Electronic Access	Medication Reconciliation	Transition of Care Summary	Immunization Registries	Syndromic Surveillance
Nebraska	7.12%	1.92%	0.00%	1.64%	5.48%	2.47%	78.90%	78.63%
Nevada	21.11%	4.11%	1.17%	0.88%	6.74%	5.57%	89.44%	89.44%
New Hampshire	4.09%	0.70%	0.00%	0.23%	0.12%	0.23%	99.77%	99.77%
New Jersey	18.55%	3.13%	0.92%	1.64%	7.58%	7.07%	59.73%	59.99%
New Mexico	12.39%	4.42%	1.77%	0.88%	1.77%	5.31%	68.14%	68.14%
New York	16.01%	3.57%	0.64%	1.84%	2.54%	1.98%	54.03%	57.32%
North Carolina	12.52%	8.15%	0.38%	1.58%	8.03%	3.22%	94.18%	94.06%
North Dakota	31.09%	16.81%	0.00%	0.00%	0.00%	5.88%	94.96%	94.96%
Ohio	11.36%	4.05%	0.94%	1.33%	2.17%	2.23%	35.22%	35.25%
Oklahoma	19.43%	3.35%	0.17%	1.34%	2.35%	2.01%	63.82%	63.48%
Oregon	5.72%	5.64%	0.00%	0.23%	1.31%	1.39%	31.53%	38.64%
Palau	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	50.00%
Pennsylvania	11.46%	2.75%	0.31%	1.49%	3.51%	2.13%	64.03%	64.39%
Puerto Rico	12.82%	5.13%	0.00%	0.00%	5.13%	7.69%	79.49%	79.49%
Rhode Island	8.54%	0.36%	0.00%	1.07%	0.00%	0.00%	88.61%	88.61%
South Carolina	12.95%	4.24%	0.22%	2.90%	2.68%	1.79%	77.46%	77.01%
South Dakota	23.08%	6.73%	1.44%	1.44%	3.85%	1.92%	64.90%	64.90%
Tennessee	10.07%	3.29%	0.68%	2.13%	3.78%	4.26%	62.15%	64.47%
Texas	11.52%	4.82%	0.58%	2.51%	3.56%	3.88%	66.75%	67.06%
Utah	6.91%	2.85%	0.81%	1.63%	4.88%	1.22%	50.00%	50.00%
Vermont	11.32%	3.77%	0.00%	3.77%	1.89%	1.89%	75.47%	75.47%
US Virgin Islands	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	75.00%	75.00%
Virginia	10.25%	1.96%	0.51%	1.24%	2.83%	3.78%	46.37%	46.51%
Washington	26.55%	2.29%	0.07%	0.89%	1.41%	0.44%	40.01%	39.87%
West Virginia	7.85%	1.39%	0.46%	2.08%	3.93%	3.23%	58.89%	70.21%
Wisconsin	15.97%	5.71%	0.19%	1.54%	0.51%	2.82%	21.42%	21.30%
Wyoming	42.62%	18.03%	0.00%	1.64%	3.28%	3.28%	88.52%	90.16%
Grand Total	14.05%	4.04%	0.53%	1.60%	3.22%	2.69%	58.88%	60.85%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A5. Percentage of EPs Deferring Menu Measures by State

State	Drug Formulary Checks	Incorporate Lab Results	Patient Lists	Patient Reminders	Patient Electronic Access	Patient-Specific Education Resources	Medication Reconciliation	Transition of Care Summary	Immunization Registries	Syndromic Surveillance
Alabama	18.68%	44.83%	28.74%	82.04%	83.76%	40.80%	44.54%	72.13%	1.44%	17.96%
Alaska	20.00%	22.86%	22.86%	51.43%	82.86%	71.43%	57.14%	85.71%	2.86%	14.29%
Arizona	14.95%	52.33%	22.54%	69.23%	67.71%	49.08%	47.67%	83.21%	3.90%	29.25%
Arkansas	11.14%	71.90%	7.59%	82.78%	91.39%	23.29%	30.89%	87.09%	4.30%	44.30%
California	19.84%	44.80%	40.42%	73.36%	60.63%	47.16%	54.10%	75.85%	2.80%	8.23%
Colorado	14.87%	32.27%	17.40%	75.66%	85.35%	50.55%	50.11%	86.12%	0.99%	12.33%
Connecticut	15.76%	38.92%	14.94%	79.64%	78.82%	57.31%	50.74%	82.59%	1.64%	1.81%
Delaware	6.19%	70.10%	16.49%	85.57%	90.03%	22.68%	35.40%	86.25%	2.06%	2.06%
Washington, DC	7.03%	8.59%	6.25%	92.97%	89.06%	89.06%	14.84%	97.66%	79.69%	3.13%
Florida	21.98%	48.10%	20.84%	61.76%	68.28%	43.03%	59.17%	83.44%	4.07%	31.09%
Georgia	17.03%	48.90%	22.09%	74.82%	75.55%	44.42%	51.67%	76.61%	3.42%	29.99%
Guam	0.00%	0.00%	20.00%	90.00%	90.00%	80.00%	100.00%	100.00%	0.00%	0.00%
Hawaii	8.73%	36.24%	71.62%	93.89%	58.08%	34.50%	32.75%	77.29%	0.87%	57.21%
Idaho	13.28%	34.38%	14.84%	71.88%	75.78%	54.69%	78.13%	66.41%	7.81%	40.63%
Illinois	10.44%	43.40%	26.95%	83.75%	61.24%	46.08%	61.46%	90.03%	1.68%	46.64%
Indiana	18.97%	54.21%	16.50%	80.02%	65.32%	39.84%	53.31%	78.79%	17.62%	41.19%
Iowa	11.46%	40.18%	3.15%	76.70%	84.89%	73.93%	65.87%	83.25%	3.53%	5.04%
Kansas	20.88%	49.40%	11.45%	74.10%	81.53%	31.12%	58.03%	83.73%	2.61%	4.22%
Kentucky	9.24%	30.59%	33.91%	82.83%	65.37%	45.17%	56.57%	85.28%	15.44%	15.01%
Louisiana	18.37%	44.39%	27.81%	73.98%	77.55%	49.49%	46.17%	71.68%	2.81%	26.02%
Maine	14.75%	35.25%	9.71%	73.38%	62.95%	73.02%	64.75%	84.53%	1.08%	36.33%
Marshall Islands	0.00%	100.00%	0.00%	100.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%
Maryland	15.81%	54.27%	20.25%	71.56%	69.62%	50.28%	45.96%	83.96%	17.29%	21.84%
Massachusetts	10.52%	22.85%	23.39%	90.50%	58.88%	50.12%	66.30%	95.01%	0.64%	32.76%
Michigan	16.51%	50.77%	23.99%	70.01%	69.89%	47.39%	57.24%	74.47%	1.54%	36.94%
Minnesota	7.30%	20.84%	47.60%	92.54%	45.45%	73.08%	31.05%	87.74%	1.17%	70.63%
Mississippi	5.67%	41.79%	29.25%	79.70%	74.33%	48.36%	55.22%	72.84%	1.19%	17.01%
Missouri	17.28%	67.28%	19.71%	83.16%	80.51%	20.59%	29.93%	88.01%	3.60%	55.15%

State	Drug Formulary Checks	Incorporate Lab Results	Patient Lists	Patient Reminders	Patient Electronic Access	Patient-Specific Education Resources	Medication Reconciliation	Transition of Care Summary	Immunization Registries	Syndromic Surveillance
Montana	37.01%	41.73%	17.32%	63.78%	88.19%	48.03%	44.88%	83.46%	0.00%	3.15%
Nebraska	10.68%	32.88%	9.32%	80.27%	86.85%	57.81%	44.38%	87.40%	4.38%	15.62%
Nevada	19.94%	51.61%	28.74%	67.74%	60.41%	41.06%	60.70%	79.47%	2.35%	7.92%
New Hampshire	1.52%	10.63%	48.01%	96.96%	42.41%	77.45%	27.69%	97.31%	0.12%	0.12%
New Jersey	14.60%	53.07%	14.70%	71.57%	78.74%	41.85%	55.12%	80.48%	3.13%	33.15%
New Mexico	34.51%	59.29%	21.24%	74.34%	68.14%	35.40%	56.64%	73.45%	2.65%	20.35%
New York	13.50%	34.34%	14.37%	75.48%	66.08%	45.89%	71.10%	88.73%	4.85%	36.40%
North Carolina	11.69%	35.02%	11.50%	81.10%	85.08%	53.73%	49.05%	82.62%	3.22%	2.02%
North Dakota	11.76%	13.45%	0.84%	94.12%	93.28%	79.83%	22.69%	89.92%	3.36%	1.68%
Ohio	37.00%	26.55%	17.51%	55.58%	54.42%	62.35%	62.58%	88.70%	1.46%	61.22%
Oklahoma	16.42%	62.65%	7.87%	85.09%	80.74%	36.35%	37.69%	83.08%	7.54%	28.64%
Oregon	5.87%	26.82%	39.03%	85.78%	55.02%	67.08%	72.80%	86.17%	1.39%	30.06%
Palau	100.00%	0.00%	50.00%	50.00%	0.00%	50.00%	50.00%	100.00%	0.00%	50.00%
Pennsylvania	20.22%	22.10%	27.46%	84.02%	52.46%	47.77%	61.58%	90.20%	1.29%	33.14%
Puerto Rico	7.69%	69.23%	10.26%	56.41%	84.62%	30.77%	64.10%	82.05%	17.95%	2.56%
Rhode Island	29.89%	33.10%	11.74%	54.45%	83.63%	64.41%	46.26%	78.65%	0.71%	10.68%
South Carolina	16.52%	58.93%	21.65%	73.66%	77.90%	33.26%	54.24%	70.09%	2.46%	19.20%
South Dakota	14.42%	53.85%	21.63%	80.29%	80.29%	43.75%	38.46%	77.40%	4.81%	30.29%
Tennessee	12.78%	32.43%	16.75%	79.48%	83.35%	60.12%	53.53%	79.77%	2.52%	29.82%
Texas	14.17%	38.31%	28.62%	80.13%	63.00%	47.81%	52.03%	81.25%	5.71%	26.39%
Utah	17.07%	39.43%	12.20%	72.76%	68.29%	61.38%	48.37%	87.80%	6.50%	42.68%
Vermont	49.06%	43.40%	35.85%	52.83%	73.58%	39.62%	54.72%	58.49%	5.66%	18.87%
US Virgin Islands	75.00%	100.00%	25.00%	0.00%	50.00%	0.00%	75.00%	75.00%	25.00%	0.00%
Virginia	11.63%	34.08%	19.91%	82.56%	64.53%	55.01%	56.03%	86.34%	3.63%	44.33%
Washington	12.20%	22.04%	35.65%	87.28%	53.55%	51.92%	64.50%	76.85%	1.48%	56.58%
West Virginia	5.77%	22.40%	14.32%	89.38%	68.13%	68.82%	65.59%	85.68%	0.92%	28.18%
Wisconsin	15.72%	16.10%	38.94%	88.77%	22.19%	51.19%	79.92%	89.87%	2.69%	75.75%
Wyoming	11.48%	63.93%	45.90%	59.02%	77.05%	39.34%	62.30%	75.41%	4.92%	4.92%
Grand Total	15.84%	37.71%	24.72%	77.98%	64.78%	49.87%	56.02%	84.37%	3.52%	32.92%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A6. EP Performance by Specialty - All Measures

Measure	Other - Non-Physician Practitioner	Primary Care	Specialist - No Patient Contact	Specialist - Patient Contact	Grand Total
CPOE	85.39	90.19	85.30	81.67	83.97
Maintain Problem List	97.03	96.07	95.18	96.38	96.38
ePrescribing	84.88	78.84	80.90	78.97	79.26
Maintain Medication List	93.81	97.78	96.38	97.45	97.07
Maintain Medication Allergy List	93.74	97.05	96.89	96.59	96.35
Record Demographics	89.24	90.05	95.15	90.87	90.54
Record Vital Signs	79.90	91.46	92.30	91.20	90.20
Record Smoking Status	87.28	89.40	93.24	90.08	89.64
Electronic Copy of Health Information	96.30	95.75	96.29	96.40	96.25
Clinical Summaries	76.22	77.59	83.53	79.06	78.44
Incorporate Lab Results	88.44	90.47	99.04	91.92	91.48
Patient Reminders	61.64	56.88	69.04	62.68	61.66
Patient Electronic Access	70.00	72.37	88.66	73.04	72.70
Patient-Specific Education Resources	46.29	47.67	48.87	50.23	49.12
Medication Reconciliation	89.52	89.28	76.52	89.52	89.45
Transition of Care Summary	91.39	85.61	96.93	89.60	89.04

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A7. Percentage of EP Use of Exclusions by Specialty

Measure	Other - Non-Physician Practitioner	Primary Care	Specialist - No Patient Contact	Specialist - Patient Contact	Grand Total
CPOE	61.1%	2.0%	95.7%	15.2%	18.6%
ePrescribing	64.7%	2.5%	97.2%	20.4%	22.6%
Record Vital Signs	27.8%	0.6%	47.6%	6.9%	8.4%
Record Smoking Status	1.4%	0.3%	0.7%	0.4%	0.5%
Electronic Copy of Health Information	64.5%	67.9%	60.7%	69.9%	68.8%
Clinical Summaries	4.2%	1.0%	53.9%	1.3%	2.0%
Drug Formulary Checks	35.5%	5.6%	62.6%	12.2%	14.0%
Incorporate Lab Results	17.8%	0.7%	45.9%	2.1%	4.0%
Patient Reminders	1.2%	0.3%	0.2%	0.5%	0.5%
Patient Electronic Access	6.8%	0.6%	6.1%	0.9%	1.6%
Medication Reconciliation	5.8%	2.4%	33.5%	2.7%	3.2%
Transition of Care Summary	5.1%	1.4%	30.2%	2.3%	2.7%
Immunization Registries	86.4%	43.0%	60.9%	58.8%	58.9%
Syndromic Surveillance	85.1%	45.4%	78.9%	61.0%	60.9%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A8. Percentage of EP Use of Deferrals by Specialty

Measure	Other - Non-Physician Practitioner	Primary Care	Specialist - No Patient Contact	Specialist - Patient Contact	Grand Total
Drug Formulary Checks	28.13%	13.11%	18.04%	14.46%	15.84%
Incorporate Lab Results	69.78%	24.24%	31.52%	36.17%	37.71%
Patient Lists	18.76%	24.05%	23.91%	25.99%	24.72%
Patient Reminders	47.75%	85.98%	87.17%	80.82%	77.98%
Patient Electronic Access	62.55%	69.35%	62.83%	63.81%	64.78%
Patient-Specific Education Resources	33.80%	52.90%	89.78%	51.34%	49.87%
Medication Reconciliation	76.21%	53.17%	57.17%	53.29%	56.02%
Transition of Care Summary	79.96%	85.63%	68.04%	84.97%	84.37%
Immunization Registries	5.45%	2.83%	3.48%	3.38%	3.52%
Syndromic Surveillance	4.59%	50.14%	5.43%	33.06%	32.92%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A9. EH Performance by Specialty - All Measures

Measure	Acute	Critical Access Hospital	Other	Rehabilitation	Grand Total
CPOE	83.30%	85.63%	83.47%	87.06%	84.73%
Maintain Problem List	95.06%	94.04%	94.04%	95.81%	94.84%
Maintain Medication List	97.70%	96.19%	97.22%	97.43%	97.28%
Maintain Medication Allergy List	97.36%	97.30%	97.36%	97.87%	97.49%
Record Demographics	96.62%	95.02%	95.58%	96.77%	96.15%
Record Vital Signs	93.29%	91.90%	92.19%	94.55%	93.14%
Record Smoking Status	92.65%	94.58%	93.15%	94.07%	93.45%
Electronic Copy of Health Information	97.12%	96.96%	96.01%	91.80%	94.75%
Electronic Copy of Discharge Instructions	96.27%	95.92%	94.40%	96.28%	95.69%
Advance Directives	96.74%	93.35%	94.35%	96.39%	95.44%
Incorporate Lab Results	97.63%	92.79%	93.33%	96.27%	95.41%
Patient-Specific Education Resources	71.42%	67.75%	66.89%	78.78%	70.59%
Medication Reconciliation	84.17%	84.72%	81.92%	86.70%	84.28%
Transition of Care Summary	83.50%	77.82%	82.84%	72.77%	80.63%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A10. Percentage of EHs Using Exclusions by Specialty

Measure	Acute	Critical Access Hospital	Other	Rehabilitation	Grand Total
Record Smoking Status	0.41%	2.65%	0.00%	0.00%	0.48%
Electronic Copy of Health Information	67.08%	82.30%	72.61%	54.66%	67.23%
Electronic Copy of Discharge Instructions	60.49%	75.22%	58.92%	53.81%	60.14%
Advance Directives	0.00%	0.88%	0.00%	0.00%	0.12%
Immunization Registries	16.05%	40.71%	34.02%	14.41%	24.13%
Reportable Lab Results to Public Health Agencies	16.05%	39.82%	34.02%	14.41%	24.01%
Syndromic Surveillance	16.05%	40.71%	34.02%	14.41%	24.13%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.

Table A11. Percentage of EHs Using Deferrals by Specialty

Measure	Acute	Critical Access Hospital	Other	Rehabilitation	Grand Total
Drug Formulary Checks	10.70%	20.35%	15.77%	5.93%	12.12%
Advance Directives	13.99%	3.54%	10.37%	17.80%	12.61%
Incorporate Lab Results	17.70%	22.12%	22.41%	13.14%	18.37%
Patient Lists	27.98%	60.18%	42.74%	19.49%	34.21%
Patient-Specific Education Resources	68.72%	50.44%	50.21%	72.03%	61.82%
Medication Reconciliation	76.13%	70.80%	74.27%	75.85%	74.79%
Transition of Care Summary	93.00%	86.73%	90.87%	97.03%	92.68%
Immunization Registries	27.98%	20.35%	19.09%	41.10%	28.09%
Reportable Lab Results to Public Health Agencies	66.67%	43.36%	53.94%	67.37%	60.02%
Syndromic Surveillance	66.26%	46.02%	53.53%	61.44%	58.46%

Note: Values in **Bold** are statistically significant from the national average at the 5% level.