

## Meaningful Use Measures – Standards and Certification Criteria Mapping Eligible PROFESSIONALS

Objectives	Stage 1 Measures	IFR Standards and Certification Criteria	Content Exchange Standard	Vocabulary Standard
Use CPOE	For EPs, CPOE is used for at least 80% of all orders	Enable a user to electronically record, store, retrieve, and manage, at a minimum, the following order types: 1. Medications; 2. Laboratory; 3. Radiology/imaging; and 4. Provider referrals		
Implement drug-drug, drug-allergy, drug-formulary checks	The EP/eligible hospital has enabled this functionality	1. Automatically and electronically generate and indicate (e.g., pop-up message or sound) in real-time, alerts at the point of care for drug-drug and drug-allergy contraindications based on medication list, medication allergy list, age, and CPOE. 2. Enable a user to electronically check if drugs are in a formulary or preferred drug list in accordance with the standard specified in Table 2A row 2. 3. Provide certain users with administrator rights to deactivate, modify, and add rules for drug-drug and drug-allergy checking. 4. Automatically and electronically track, record, and generate reports on the number of alerts responded to by a user.	<b>Drug Formulary Check</b> - Applicable Part D standard required by law (i.e., NCPDP Formulary & Benefits Standard 1.0).	
Maintain an up-to-date problem list of current and active diagnoses based on ICD-9-CM or SNOMED CT	At least 80% of all unique patients seen by the EP or admitted to the eligible hospital have at least one entry or an indication of none recorded as structured data	Enable a user to electronically record, modify, and retrieve a patient's problem list for longitudinal care (i.e., over multiple office visits) in accordance with the applicable standards% specified in Table 2A row 1.		<b>Problem List</b> - Applicable HIPAA code set required by law (i.e., ICD-9-CM); or SNOMED CT®.
Generate and transmit permissible prescriptions electronically (eRx)	At least 75% of all permissible prescriptions written by the EP are transmitted electronically using certified EHR technology.	Enable a user to electronically transmit medication orders (prescriptions) for patients in accordance with the standards specified in Table 2A row 3.	<b>Electronic Prescribing</b> - Applicable Part D standard required by law (e.g., NCPDP SCRIPT 8.1) or NCPDP SCRIPT 8.1 and NCPDP	<b>Electronic Prescribing</b> - Any code set by an RxNorm drug data source provider that is identified by the United States National Library of Medicine as being a complete data set

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			SCRIPT 10.6.	integrated within RxNorm.
Maintain active medication list	At least 80% of all unique patients seen by the EP or admitted to the eligible hospital have at least one entry (or an indication of “none” if the patient is not currently prescribed any medication) recorded as structured data	Enable a user to electronically record, modify, and retrieve a patient’s active medication list as well as medication history for longitudinal care ( <i>i.e.</i> , over multiple office visits) in accordance with the applicable standard specified in Table 2A row 1.		<b>Medication List</b> - Any code set by an RxNorm drug data source provider that is identified by the United States National Library of Medicine as being a complete data set integrated within RxNorm $\emptyset$ .
Maintain active medication allergy list	At least 80% of all unique patients seen, by the EP or admitted to the eligible hospital have at least one entry or (an indication of “none” if the patient has no medication allergies) recorded as structured data	Enable a user to electronically record, modify, and retrieve a patient’s active medication allergy list as well as medication allergy history for longitudinal care ( <i>i.e.</i> , over multiple office visits).		
Record demographics <ul style="list-style-type: none"> <li>• preferred language</li> <li>• insurance type</li> <li>• gender</li> <li>• race</li> <li>• Ethnicity</li> <li>• date of birth</li> </ul>	At least 80% of all unique patients seen by the EP or admitted to the eligible hospital have demographics recorded as structured data	Enable a user to electronically record, modify, and retrieve patient demographic data including preferred language, insurance type, gender, race, ethnicity, and date of birth.		
Record and chart changes in vital signs:	For at least 80% of all unique patients age 2 and over seen	1. Enable a user to electronically record, modify, and retrieve a patient’s vital signs including, at a minimum, the height, weight, blood pressure, temperature, and		

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<ul style="list-style-type: none"> <li>• height</li> <li>• weight</li> <li>• blood pressure</li> <li>• Calculate and display: BMI</li> <li>• Plot and display growth charts for children 2–20 years, including BMI</li> </ul>	<p>by the EP or admitted to eligible hospital, record blood pressure and BMI; additionally plot growth chart for children age 2–20</p>	<p>pulse. 2. Automatically calculate and display body mass index (BMI) based on a patient’s height and weight. 3. Plot and electronically display, upon request, growth charts (height, weight, and BMI) for patients 2–20 years old.</p>		
<p>Record smoking status for patients 13 years old or older</p>	<p>At least 80% of all unique patients 13 years old or older seen by the EP or admitted to the eligible hospital have “smoking status” recorded.</p>	<p>Enable a user to electronically record, modify, and retrieve the smoking status of a patient to: current smoker, former smoker, or never smoked.</p>		
<p>Incorporate clinical lab test results in to EHR as structured data</p>	<p>At least 50% of all clinical lab tests ordered whose results are in a positive/negative or numerical format are incorporated in certified EHR technology as structured data</p>	<ol style="list-style-type: none"> <li>1. Electronically receive clinical laboratory test results in a structured format and display such results in human readable format.</li> <li>2. Electronically display in human readable format any clinical laboratory tests that have been received with LOINC® codes.</li> <li>3. Electronically display all the information for a test report specified at 42 CFR 493.1291(c)(1) through (7).6</li> <li>4. Enable a user to electronically update a patient’s record based upon received laboratory test results.</li> </ol>		
<p>Generate lists of patients by specific conditions to use for quality</p>	<p>Generate at least one report listing patients of the EP or eligible hospital with a specific condition</p>	<p>Enable a user to electronically select, sort, retrieve, and output a list of patients and patients’ clinical information, based on user-defined demographic data, medication list, and specific conditions.</p>		

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improvement, reduction of disparities, and outreach.				
Report ambulatory quality measures to CMS or the States	For 2011, provide aggregate numerator and denominator through attestation as discussed in section II(A)(3) of this proposed rule. For 2012, electronically submit the measures as discussed in section II(A)(3) of this proposed rule.	<ol style="list-style-type: none"> <li>1. Calculate and electronically display quality measure results as specified by CMS or states.</li> <li>2. Enable a user to electronically submit calculated quality measures in accordance with the standard specified in Table 2A row 5.</li> </ol>	<b>Quality Reporting - CMS PQRI 2008 Registry XML Specification</b>	
Send reminders to patients per patient preference for preventive/ follow up care.	Reminder sent to at least 50% of all unique patients seen by the EP that are age 50 or over	Electronically generate, upon request, a patient reminder list for preventive or follow-up care according to patient preferences based on demographic data, specific conditions, and/or medication list.		
Implement 5 clinical decision support rules	Implement 5 clinical decision support rules relevant to the clinical quality metrics the EP/Eligible Hospital is responsible for as described further in section II(A)(3).	<ol style="list-style-type: none"> <li>1. Implement automated, electronic clinical decision support rules (in addition to drug-drug and drug-allergy contraindication checking) according to specialty or clinical priorities that use demographic data, specific patient diagnoses, conditions, diagnostic test results and/or patient medication list.</li> <li>2. Automatically and electronically generate and indicate (e.g., pop-up message or sound) in real-time, alerts and care suggestions based upon clinical decision support rules and evidence grade.</li> <li>3. Automatically and electronically track, record, and generate reports on the number of alerts responded to by a user.</li> </ol>		
Check	Insurance eligibility	Enable a user to electronically record and display	<b>Administrative</b>	

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insurance eligibility electronically from public and private payers.	checked electronically for at least 80% of all unique patients seen by the EP or admitted to the eligible hospital.	patients' insurance eligibility, and submit insurance eligibility queries to public or private payers and receive an eligibility response in accordance with the applicable standards specified in Table 2A row 4.	<b>Transactions</b> - Applicable HIPAA transaction standards required by law.	
Submit claims electronically to public and private payers.	At least 80% of all claims filed electronically by the EP or the eligible hospital.	Enable a user to electronically submit claims to public or private payers in accordance with the applicable standards specified in Table 2A row 4.	<b>Administrative Transactions</b> - Applicable HIPAA transaction standards required by law.	
Provide patients with an electronic copy of their health information (including diagnostic test results, problem list, medication lists, allergies), upon request.	At least 80% of all patients who request an electronic copy of their health information are provided it within 48 hours.	Enable a user to create an electronic copy of a patient's clinical information, including, at a minimum, diagnostic test results, problem list, medication list, medication allergy list, immunizations, and procedures in: (1) Human readable format; and (2) accordance with the standards% specified in Table 2A row 1 to provide to a patient on electronic media, or through some other electronic means.	<b>Patient Summary Record</b> - HL7 CDA R2 CCD Level 2 or ASTM CCR.	<p><b>Problem List</b> - Applicable HIPAA code set required by law (i.e., ICD-9-CM); or SNOMED CT®.</p> <p><b>Medication List</b> - Any code set by an RxNorm drug data source provider that is identified by the United States National Library of Medicine as being a complete data set integrated within RxNorm.</p> <p><b>Medication Allergy List</b> - No standard adopted at this time. <b>Procedures</b> - Applicable HIPAA code sets required by law (i.e., ICD-9-CM or CPT-4®).</p> <p><b>Lab Orders and Results</b> - LOINC® when LOINC® codes have been received from a laboratory.</p>
Provide patients with	N/A			

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an electronic copy of their discharge instructions and procedures at time of discharge, upon request.				
Provide patients with timely electronic access to their health information (including lab results, problem list, medication lists, allergies) within 96 hours of the information being available to the EP.	At least 10% of all unique patients seen by the EP are provided timely electronic access to their health information	Enable a user to provide patients with online access to their clinical information, including, at a minimum, lab test results, problem list, medication list, medication allergy list, immunizations, and procedures.		
Provide clinical summaries for patients for each office visit.	Clinical summaries are provided for at least 80% of all office visits.	<ol style="list-style-type: none"> <li>1. Enable a user to provide clinical summaries to patients (in paper or electronic form) for each office visit that include, at a minimum, diagnostic test results, medication list, medication allergy list, procedures, problem list, and immunizations.</li> <li>2. If the clinical summary is provided electronically (<i>i.e.</i>, not printed), it must be provided in: (1) Human readable format; and (2) accordance with the standards% specified in Table 2A row 1 to provide to a patient on electronic media, or through some other electronic means.</li> </ol>	<b>Patient Summary Record</b> - HL7 CDA R2 CCD Level 2 or ASTM CCR.	<b>Problem List</b> - Applicable HIPAA code set required by law ( <i>i.e.</i> , ICD–9–CM); or SNOMED CT®. <b>Medication List</b> - Any code set by an RxNorm drug data source provider that is identified by the United States National Library of Medicine as being a

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				complete data set integrated within RxNorm. <b>Medication Allergy List</b> - No standard adopted at this time <b>Procedures</b> - Applicable HIPAA code sets required by law (i.e., ICD-9-CM or CPT-4®). <b>Lab Orders and Results</b> - LOINC® when LOINC® codes have been received from a laboratory.
Capability to exchange key clinical information (for example, problem list, medication list, allergies, diagnostic test results), among providers of care and patient authorized entities electronically.	Performed at least one test of certified EHR technology's capacity to electronically exchange key clinical information.	<ol style="list-style-type: none"> <li>1. Electronically receive a patient summary record, from other providers and organizations including, at a minimum, diagnostic test results, problem list, medication list, medication allergy list, immunizations, and procedures and upon receipt of a patient summary record formatted in an alternative standard specified in Table 2A row 1, displaying it in human readable format.</li> <li>2. Enable a user to electronically transmit a patient summary record to other providers and organizations including, at a minimum, diagnostic test results, problem list, medication list, medication allergy list, immunizations, and procedures in accordance with the standards% specified in Table 2A row 1.</li> </ol>	<b>Patient Summary Record</b> - HL7 CDA R2 CCD Level 2 or ASTM CCR.	<b>Problem List</b> - Applicable HIPAA code set required by law (i.e., ICD-9-CM); or SNOMED CT®. <b>Medication List</b> - Any code set by an RxNorm drug data source provider that is identified by the United States National Library of Medicine as being a complete data set integrated within RxNorm. <b>Medication Allergy List</b> - No standard adopted at this time. <b>Procedures</b> - Applicable HIPAA code sets required by law (i.e., ICD-9-CM or CPT-4®). <b>Lab Orders and Results</b> - LOINC® when LOINC® codes have been received from a laboratory.

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Provide summary care record for each transition of care and referral.	Provide summary of care record for at least 80% of transitions of care and referrals.	<p>1. Electronically receive a patient summary record, from other providers and organizations including, at a minimum, diagnostic test results, problem list, medication list, medication allergy list, immunizations, and procedures and upon receipt of a patient summary record formatted in an alternative standard specified in Table 2A row 1, displaying it in human readable format.</p> <p>2. Enable a user to electronically transmit a patient summary record to other providers and organizations including, at a minimum, diagnostic test results, problem list, medication list, medication allergy list, immunizations, and procedures in accordance with the standards% specified in Table 2A row 1.</p>	<b>Patient Summary Record</b> - HL7 CDA R2 CCD Level 2 or ASTM CCR.	<p><b>Problem List</b> - Applicable HIPAA code set required by law (i.e., ICD–9–CM); or SNOMED CT®. <b>Medication List</b> - Any code set by an RxNorm drug data source provider that is identified by the United States National Library of Medicine as being a complete data set integrated within RxNorm. <b>Medication Allergy List</b> - No standard adopted at this time. <b>Procedures</b> - Applicable HIPAA code sets required by law (i.e., ICD–9–CM or CPT–4®). Lab Orders and Results - LOINC® when LOINC® codes have been received from a laboratory.</p>
Perform medication reconciliation at relevant encounters and each transition of care	Perform medication reconciliation for at least 80% of relevant encounters and transitions of care	Electronically complete medication reconciliation of two or more medication lists (compare and merge) into a single medication list that can be electronically displayed in real-time.		
Capability to submit electronic data to immunization	Performed at least one test of certified EHR technology's capacity to submit electronic data to	Electronically record, retrieve, and transmit immunization information to immunization registries in accordance with the standards% specified in Table 2A row 8 or in accordance with the applicable state-designated standard format.	<b>Submission to Immunization Registries</b> - HL7 2.3.1 or HL7 2.5.1	<b>Submission to Immunization Registries</b> - CVX

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registries and actual submission where required and accepted	immunization registries			
Capability to provide electronic submission of reportable lab results (as required by state or local law) to public health agencies and actual submission where it can be received	N/A			
Capability to provide electronic syndromic surveillance data to public health agencies and actual transmission according to applicable law and practice	Performed at least one test of certified EHR technology's capacity to provide electronic syndromic surveillance data to public health agencies (unless none of the public health agencies to which an EP or eligible hospital submits such information have the capacity to receive the information electronically).	Electronically record, retrieve, and transmit syndrome-based (e.g., influenza like illness) public health surveillance information to public health agencies in accordance with the standards specified in Table 2A row 7.	<b>Submission to Public Health Agencies for Surveillance or Reporting (excluding adverse event reporting)</b> - HL7 2.3.1 or HL7 2.5.1	<b>Submission to Public Health Agencies for Surveillance or Reporting (excluding adverse event reporting)</b> - According to Applicable Public Health Agency Requirements.

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Objectives	Stage 1 Measures	IFR Standards and Certification Criteria	Privacy and Security Standards
<p>Protect electronic health information created or maintained by the certified EHR technology through the implementation of appropriate technical capabilities.</p>	<p>Conduct or review a security risk analysis per 45 CFR 164.308(a)(1) and implement security updates as necessary</p>	<ol style="list-style-type: none"> <li>1. Assign a unique name and/or number for identifying and tracking user identity and establish controls that permit only authorized users to access electronic health information.</li> <li>2. Permit authorized users (who are authorized for emergency situations) to access electronic health information during an emergency.</li> <li>3. Terminate an electronic session after a predetermined time of inactivity.</li> <li>4. Encrypt and decrypt electronic health information according to user-defined preferences (e.g., backups, removable media, at log-on/off) in accordance with the standard specified in Table 2B row 1.</li> <li>5. Encrypt and decrypt electronic health information when exchanged in accordance with the standard specified in Table 2B row 2.</li> <li>6. Record actions (e.g., deletion) related to electronic health information in accordance with the standard specified in Table 2B row 3 (i.e., audit log), provide alerts based on user-defined events, and electronically display and print all or a specified set of recorded information upon request or at a set period of time.</li> <li>7. Verify that electronic health information has not been altered in transit and detect the alteration and deletion of electronic health information and audit logs in accordance with the standard specified in Table 2B row 4.</li> <li>8. Verify that a person or entity seeking access to electronic health information is the one claimed and is authorized to access such information.</li> <li>9. Verify that a person or entity seeking access to electronic health information across a network is the one claimed and is authorized to access such information in accordance with the standard specified in Table 2B row 5.</li> <li>10. Record disclosures made for treatment, payment, and health care operations in accordance with the standard specified in Table 2B row 6.</li> </ol>	<p><b>General Encryption and Decryption of Electronic Health Information</b> - A symmetric 128 bit fixed-block cipher algorithm capable of using a 128, 192, or 256 bit encryption key must be used (e.g., FIPS 197 Advanced Encryption Standard, (AES), Nov 2001).</p> <p><b>Encryption and Decryption of Electronic Health Information for Exchange</b> - An encrypted and integrity protected link must be implemented (e.g., TLS, IPv6, IPv4 with IPsec).</p> <p><b>Record Actions Related to Electronic Health Information (i.e., audit log)</b> - The date, time, patient identification (name or number), and user identification (name or number) must be recorded when electronic health information is created, modified, deleted, or printed. An indication of which action(s) occurred must also be recorded (e.g., modification).</p> <p><b>Verification that Electronic Health Information has not been Altered in Transit</b> - A secure hashing algorithm must be used to verify that electronic health information has not been altered in transit. The secure hash algorithm used must be SHA-1 or higher (e.g., Federal Information Processing Standards (FIPS) Publication (PUB) Secure Hash Standard (SHS) FIPS PUB 180-3).</p> <p><b>Cross-Enterprise Authentication</b> - Use of a cross-enterprise secure transaction that contains sufficient identity information such that the receiver can make access control decisions and produce detailed and accurate security audit trails (e.g., IHE Cross Enterprise User Assertion (XUA) with SAML identity assertions).</p> <p><b>Record Treatment, Payment, and Health Care Operations Disclosures</b> - The date, time, patient identification (name or number), user identification (name or number), and a description of the disclosure must be recorded.</p>