2015 Data Validation Strategy

This data validation strategy details how the American College of Emergency Physicians (ACEP), a medical specialty society representing more than 33,000 emergency physicians, and its Clinical Emergency Data Registry (CEDR) will determine whether eligible professionals (EPs) have submitted accurate and complete data on the minimum number of their eligible patients for a given measure. The guiding principle of CEDR is to empower emergency physicians and clinicians to create a cyclical quality improvement process. This process involves transmitting data to CEDR, receiving frequent benchmarking reports, analyzing a clinician’s results, and enabling quality improvement plans.

**Organization Name:** American College of Emergency Physicians (ACEP)  
Clinical Emergency Data Registry (CEDR)

**Program Year:** 2015

**Vendor Type:** Qualified Clinical Data Registry (QCDR)

**Method(s) by which CEDR obtains data:**

CEDR obtains data from emergency physicians and clinicians via the following methods depending on which method is best suited to that emergency physician or clinician’s practice including:

- Web-based data entry form;
- Web-based data upload tool;
- Electronic transmission of clinical data from electronic health records (EHRs);
- Electronic transmission of administrative and/or claims data from practice management systems.

The CEDR Registry most frequently obtains data from participating providers using a combination of electronic health records (EHRs) and group practice management systems. Group practice management systems are used to verify diagnoses when applicable and to ensure that qualifying encounters are correctly entered into the registry (using E/M codes). Quality actions used to report numerators are drawn from EHR data tables, practice management systems and/or web-based data entry forms or upload tools.

**How CEDR will verify the eligibility of each EP:**

Eligible providers will declare intent to submit data to PQRS through ACEP’s CEDR via the PQRS Reporting Physician/ Clinician Registration Consent and Waiver form. On this form, eligible providers will attest to confirm Medicare Part B participation and billing. CEDR also verifies that each provider is eligible for PQRS using the EHR and group practice management systems. Patient insurance type (including Medicare Part B FFS) and provider NPI are required fields for every patient encounter in the CEDR Registry. In addition, CEDR PQRS performance algorithms authenticate every patient encounter for insurance type. If the proportion of patients over age 65 is substantially lower than average for a provider relative to others in the registry, additional validation may be requested to ensure that the provider bills Medicare. Any provider who is not billing Medicare Part B FFS services will not have any PQRS output generated for submission to CMS.

**How CEDR will verify that data is being submitted for all payers and not just Medicare Part B FFS patients:**

Patient insurance type (including Medicare Part B FFS) and provider NPI are required fields for every patient encounter in the CEDR Registry. At the time of registration EPs will be notified that they need to
report on at least 50% of all eligible patients, from all payers, and on at least one Medicare beneficiary for each measure. If the proportion of patients from private payers or self-pay patients is substantially lower than average for a provider relative to others in the registry, additional validation may be requested to ensure that the provider is accurately submitting data from all payers.

The method CEDR will use to verify the accuracy of each Tax Identification Number (TIN) and National Provider Identifier’s (NPI):

CEDR requires each group to provide their TIN and participating NPIs at the time of enrollment in the registry. Eligible providers will be required to attest to the accuracy of NPI and TINs under which they bill Medicare, and also that the NPI associated with their measures is their individual NPI. CEDR maintains provider profile tables, which must match submitted encounters for reports to be generated. CEDR populates provider profiles using NPI and periodically validates each individual NPI within these provider profile tables against the NPPES database. CEDR also verifies the TINs with each group during the annual data release consent form collection process, where we ask each group to sign documentation confirming that their TIN is correct and is the TIN used for billing Medicare for Part B FFS patients for the entirety of the 2015 Program Year. When TIN changes occur mid-year, we adjust submission files accordingly to match the effective dates.

Collection of all needed data elements to calculate and transmit quality measure data to CMS at the TIN/NPI level for at least 9 individual measures covering at least 3 of the National Quality Strategy domains, with at least 2 outcome measures, for submission of data on behalf of EPs. If 2 outcomes measures are not available, report on at least 1 outcome measures and at least 1 of the following types of measures: resource use, patient experience of care, efficiency/appropriate use, or patient safety:

At the time of registration, EPs will be notified of the requirements for successful reporting including 9 measures across 3 domains with at least 2 outcome measures, or in lieu of 2 outcome measures at least one outcome measure and at least 1 of the following types of measures: resource use, patient experience of care, efficiency/appropriate use, or patient safety.

The CEDR core set of non-PQRS measures consists of 18 measures across all 6 NQS domains, including 7 outcome measures. In addition, CEDR will offer an additional 9 PQRS measures across 4 NQS domains as outlined below.

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<thead>
<tr>
<th>CEDR #</th>
<th>CEDR Non-PQRS Measures Supported</th>
<th>Type</th>
<th>NQS Domain</th>
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<td>CEDR 12</td>
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<td>CEDR 13</td>
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</table>

**PQRS # | PQRS Measures Supported | Type | NQS Domain**

- **PQRS #54**: Emergency Medicine: 12-Lead Electrocardiogram (ECG) Performed for Non-Traumatic Chest Pain 
  - Process 
  - Clinical Effectiveness
- **PQRS #76**: Prevention of Catheter-Related Bloodstream Infections (CRBSI): Central Venous Catheter Insertion Protocol 
  - Process 
  - Patient Safety
- **PQRS #91**: Acute Otitis Externa (AOE): Topical Therapy 
  - Process 
  - Clinical Effectiveness
- **PQRS #93**: Acute Otitis Externa (AOE): Systemic Antimicrobial Therapy – Avoidance of Inappropriate Use 
  - Process 
  - Efficiency & Cost Reduction
- **PQRS #187**: Stroke and Stroke Rehabilitation: Thrombolytic Therapy (tPA); also known as hospital STK-4 
  - Process 
  - Clinical Effectiveness
- **PQRS #254**: Ultrasound Determination of Pregnancy Location for Pregnant Patients with Abdominal Pain 
  - Process 
  - Clinical Effectiveness
- **PQRS #255**: Rh Immunoglobulin (Rhogam) for Rh-Negative Pregnant Women at Risk of Fetal Blood Exposure 
  - Process 
  - Clinical Effectiveness
- **PQRS #317**: Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented 
  - Process 
  - Community-Population Health
- **PQRS #326**: Atrial Fibrillation and Atrial Flutter: Chronic Anticoagulation Therapy (aka STK-3) 
  - Process 
  - Clinical Effectiveness

**How CEDR will validate the use of non-PQRS measures:**

For any CEDR participant’s data submission to be considered valid and included in the CEDR data warehouse, the submission must pass all composite category inclusion thresholds for completeness and pass validation rules. Inclusion threshold criteria and validation rules have been chosen for their clinical and structural pertinence.

**How CEDR will verify that the data provided is complete and contains the entire cohort of data:**

For the majority of participants, CEDR collects data on a daily basis using a software client installation on participant group servers to access data in their EHR or practice management systems. At the time of
data submission, data are assessed for overall completeness. Feedback is provided to the submitting participant via a Data Quality Report (DQR). ACEP protocols dictate that each data element must be 95 percent to 100 percent complete for a given data submission to be included in the CEDR. In other words, no element for a particular measure may have more than 5 percent missing data or the submission will be excluded from CEDR averages.

The CEDR Registry encourages providers to submit all patient cases that meet inclusion criteria. Physicians and other eligible providers are required to ensure that their groups will have met this data submission requirement for the CEDR Registry for the entire period of January 1-December 31, 2015. All providers submitting for PQRS through the CEDR Registry in 2015 are required to attest that their data are accurate and complete on the PQRS Reporting Physician/Clinician Registration Consent and Waiver. The PQRS Consent and Waiver also obliges providers to attest that clinical data they submit to CEDR for Medicare Part B FFS patients are matched by corresponding claims submitted to CMS under that provider’s TIN/NPI combination. Further, those EDs using the System Integration (SI) software solution to transmit data allow CEDR direct access to their EHR and practice management systems for data mapping. Direct system access assures that all patient records are extracted and that Medicare Part B FFS patients are correctly identified.

Those who use a web-based data entry form or a web-based data submission tool will be encouraged to submit data monthly. For any CEDR participant’s data submission to be considered valid and included in the CEDR Registry data warehouse, the submission must pass all composite category inclusion thresholds for completeness and pass validation rules. Inclusion threshold criteria and validation rules have been chosen for their clinical and structural pertinence.

**The method that CEDR will use to accurately calculate (both reporting rates and performance rates) for measures based on the appropriate measure type and specification:**

Oversight for CEDR is provided by ACEP’s Clinical Data Registry Committee, which consists of 62 emergency physicians. ACEP also has staff dedicated to measure algorithm development who work directly alongside our analytic center partners to ensure that all algorithms and codes used in performance measure report generation are accurate both technically and clinically. The core products of CEDR are monthly and quarterly performance measure adherence reports for groups and providers. Our regular performance reports provide measure calculation at the ED location and individual provider level and include national averages for benchmarking. This ensures that the quality care for each individual provider is adequately benchmarked against other providers and against performance rates at multiple levels of aggregation.

Measure specifications are provided on the CEDR website. CEDR data collection methods have validation logic built in for exclusion of ineligible records, such as inappropriate age for the measure. Data for reporting numerator and denominator rates are available in the database. Calculation of reporting and performance rates will follow a process similar to that for any measures with web-based data entry. Online forms accompanied by online data upload tools will validate submission to ensure eligibility of patient sample.

CEDR enforces data formats on the schema level. Edit checks are implemented on the entire CEDR data warehouse. These edit checks enforce the specifications for the data elements found in the CEDR data dictionary. The data warehouse will not accept data where any element is asynchronous from the CEDR data dictionary and/or measure specifications. CEDR has also built pre-submission review capabilities to ensure completeness of measures at the individual provider level, prior to XML generation. This pre-submission review allows for the creation of reporting thresholds. CEDR maintains a large analytic center devoted to building the technical infrastructure, which will produce and send accurate XML files. Analytic staff is experienced and knowledgeable in interpreting and utilizing the CMS-approved XML specifications to send an accurate XML file.
Risk adjustment and stratification of quality performance scores:

CEDR uses a number of strategies to ensure comparability of quality performance scores. CEDR feedback reports will provide comparisons so that EDs and clinicians can examine whether patient characteristics such as age, gender, or acuity may explain variations from registry averages. CEDR also will compare EDs to other EDs with similar characteristics such as ED annual census or volume, teaching status, trauma center level, payer mix, acuity mix, hospital case-mix factor, or geographic location. Patients in similar EDs may be more similar than patient populations nationwide, and comparisons to narrower peer groups offer better comparisons.

CEDR intends to use registry data to build risk models when evidence-based and appropriate. The CEDR oversight committee will consult the existing literature on emergency care outcome measures and evaluate patient and facility level variables to develop a strategy that allows for accurate benchmarking and minimizes the burden of reporting.

The method CEDR will use to verify that only the measures approved CEDR are utilized for submission to CMS:

Only measures approved for CEDR by CMS for PQRS reporting will be offered for selection by eligible providers on the QCDR registration page. Measures in test mode or measures that are for internal quality improvement purposes only will not be offered as options for submission on the provider interface. If included in feedback reports, these measures will be clearly indicated as test or QI measures only.

The process for completion of a randomized audit of a sub-set of CEDR data prior to the submission to CMS:

EDs will receive data quality reports at the time of data submission, and these will also be pushed out to the participating EDs on a quarterly basis along with their performance reports. These reports allow EDs to verify that data submitted were comparable to data viewed at the ED and that data on all elements are submitted to the registry as expected. CEDR is unique in that the majority of EDs enrolled in CEDR use the System Integration (SI) software solution to transmit data allow CEDR direct access to their EHR and practice management systems for data mapping. As patient records are extracted directly from the source EHRs and practice management systems. In these instances the source data will match data in the registry and validation is not expected to be fruitful.

For data entered via web-based form or submitted via web-based upload tool, CEDR will perform semi-annual inspections of a random sample of 3% of the TIN/NPI combinations with a minimum sample of 10 TIN/NPI combinations and a maximum sample of 50 TIN/NPI combinations. For each TIN/NPI sampled 10 patients who meet each measure along with 10 patients who were not submitted because they did not meet the measure will be reviewed for all applicable measures. Similar inspections will be undertaken for a similar sample of emergency clinicians for PQRS data, with validation of numerator and denominator. Validating documentation may include chart review or screen shots from an EHR or practice management system or showing screens on a web-based meeting.

Process for completing a detailed audit if CEDR’s validation reveals inaccuracy and how this information will be conveyed to CMS:

Prior to 2015 file submission to CMS, CEDR analytic center will review all individual provider PQRS reports. The performance rates in these PQRS measures reports, covering Medicare Part B FFS patients, will be compared against the most recent CEDR quarterly provider performance report, covering all patient encounters. In addition, CEDR will run global edit checks on all records, to identify outliers in performance rates and ineligible instance totals. These global edit checks will inform further investigation into potential data quality issues and, if necessary, the removal of suspect data on the individual provider
measure reporting level from the XML file prior to submission to CMS. These edit checks are designed, based on standard deviations and control charting across hundreds of providers and tens of thousands of patient encounters, to identify outliers attributable to missing data (often resulting from missing fields in specific EHR or practice management systems) and, by removal of these incomplete totals, to ensure the highest quality and most accurate data submission to CMS.

As previously mentioned, CEDR Registry participants receive quarterly performance reports. Regular receipt of performance reports, coupled with data quality report production at the time of submission, allows CEDR Registry staff and participants to identify potential data quality problems as they arise, and prior to PQRS submission. Issues of data mapping, data completeness, and data accuracy are corrected throughout the year, as quarterly performance reports across all patient encounters are reviewed by group administrators and participating physicians.

Any gross inaccuracies discovered and confirmed in data already submitted will be communicated with CMS by email within 30 days of confirmation.

CEDR maintains the ability to randomly request and receive documentation from providers in order to verify accuracy of data:

CEDR participation agreements require that all data submitted for the registry will be accurate and complete and acknowledges that such data may be subject to an independent audit. Participants also agree to address any data-related deficiencies identified by ACEP, and agree to cooperate with and assist ACEP and its designees in connection with the performance of any independent audit.

CEDR ability to provide CMS access to Medicare beneficiary data:

CEDR collects data on all patients and not just Medicare beneficiaries. CEDR will use age distribution of patients as a proxy measure for ensuring presence of Medicare beneficiaries, and ask providers to attest to the inclusion of Medicare beneficiaries in the data. For any provider selected for audit, CEDR will ask for confirming Medicare information for a sample of age appropriate patients, such as a random sample of patients 65 and older in a particular month, with between 5 and 50 patients. Any data from CEDR can be made available to CMS upon request for physicians electing to use CEDR for PQRS submissions.

EHR Incentive Program:
CEDR does not intend to support the EHR Incentive Program at this point.

Data Validation Execution Report:
As required by QCDRs, CEDR will perform the validation outlined in the validation strategy and send evidence of successful results to CMS for data collected in the reporting periods occurring in 2015. There Data Validation Execution Report will be sent to the QualityNet Help Desk by 5:00 PM ET on June 30, 2016.