Reporting and Consolidation Tool for Physician Quality Reporting Initiative

by

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Certificate of Approval

This is to certify that the Master's Capstone Project of

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"Reporting and Consolidation tool for Physician Quality Reporting Initiative"

Has been approved

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Capstone Advisor

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ABSTRACT

Physician Quality Reporting Initiative (PQRI) provides financial incentive to physicians and other healthcare providers who successfully report quality data for services provided under Medicare physician fee schedule. For my capstone project, I worked on automating the PQRI report generation for Providence Health and Services. For this project we collected quality measurements for physicians treating patients with diabetes. Patient data was collected for hemoglobin A1C level, low density lipoprotein and blood pressure from the electronic medical record. For each of the measurements the performance of the physicians was calculated and an output xml file was generated and validated for all the participating providers in Providence Health and Services.

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1. INTRODUCTION

The current Medicare physician fee is based on the traditional fee for service model. Providers are paid for each patient visit, procedure or test they do, regardless of the quality of the service. As a result the Center for Medicare and Medicaid Services (CMS) struggles with spiraling health care costs due to duplicate and inefficient services. CMS wants to change its current model of payment and move towards "Pay for Performance" [1]. In the pay for performance model providers are encouraged to cut costs by reducing duplicate services and to be paid for meeting quality goals, for example, controlling blood pressure in a diabetic patient [2]. As a first step, CMS has started Physician Quality Reporting Initiative (PQRI), which rewards providers for reporting quality measurements. These quality measurements are based on evidence-based measures that have shown to improve quality of patient care [3, 4]. Performance data is collected for patient visits in 2008 and will be reported to CMS in February 2009. For the year 2008, providers are paid for reporting data. These data will be used to calculate a national average of performance for each measurement. For the year 2009, the providers will be given incentives based on their performance for of these measurements. In addition, feedback will be given to the providers that will help them focus on taking clinical actions for a more patient-centered and efficient health care.

In this paper we discuss the need to start this initiative, data reporting standards, reporting timeframe and reporting options. This paper also describes my capstone project that automates the PQRI report generation, the objectives and benefits of the project, process methodology followed and technical details of the project. In the end, I evaluate future plans and how the objectives of the project were met.

2. BACKGROUND

The CMS is a federal agency within United States that administers the Medicare program and works with the state government to administer Medicaid. It is the largest health care payer of the nation. The CMS has various initiatives, certifications and survey programs to encourage improved quality of care in all health care settings where Medicare/ Medicaid beneficiaries receive their health care services, such as physicians' offices and ambulatory care facilities, hospitals, nursing homes, home health care agencies and dialysis facilities [5]. Pay for performance is one such initiative that rewards physicians, hospitals, medical groups, and other healthcare providers for meeting certain performance measures for quality and efficiency. The rapidly aging population and rising healthcare costs has been a concern for CMS. Several studies have shown that pay for performance has decreased medical errors and increased efficiency [6, 7].

2.1. Physician Quality Reporting Initiative (PQRI)

On December 20, 2006 the President, George W. Bush signed the Tax Relief and Health Care Act of 2006 (TRHCA), which authorized the CMS to establish and implement a physician quality reporting system. In response to the mandate, CMS created PQRI. After the act was passed, the first trial reporting program was a six-month trial from July to December 2007. After the trail period, the Congress passed an extension act which allowed CMS to extend the program into 2008. Meanwhile CMS was collecting and analyzing the reports collected during the trial run. These data were used to calculate the national average for each of the measurements [8]. CMS outlined the list of providers who were eligible to participate in

this voluntary program. Table 1 shows the eligible providers who can participate in the program.

Physicians	Therapist	Practitioners
• MD/DO • Podiatrist • Optometrist • Oral Surgeon • Dentist • Chiropractor	• Physical Therapist • Occupational Therapist • Qualified Speech-Language Pathologist	• Physician Assistant • Nurse Practitioner • Clinical Nurse • Specialist • Certified Registered Nurse • Anesthetist • Certified Nurse Midwife • Clinical Social Worker • Clinical Psychologist • Registered Dietician • Nutrition Professional • Audiologist

Table 1 : Eligible Providers for PQRI as outlined by CMS (Reproduced from [9])

2.2. Providence Health and Services

Providence Health & Service (PHS) is a not-for-profit network of hospitals, health plans, physicians, clinics in Alaska, Washington, Oregon, Montana and California. PHS wanted to be a part of the national initiative to establish standards for quality in healthcare. Participating in PQRI will also help PHS attain their goal to provide a more efficient, patient centered health care service. It will also help them track and monitor the heath of the patients. In 2007, Providence submitted performance data to CMS based on billing and claims. This was a manual process in which the data were filled for each provider. For 2008 data, Providence wanted to automate the report generation. For 2009, Providence plans to enhance the tool to include new measurements for other health conditions.

3. OBJECTIVES

The objectives PQRI are stated as follows:

a) **Better Patient Care:** According to a JAMA article, feedback on standards of excellence achieved by top performers can significantly enhance the effectiveness of interventions to improve the quality of care. By participating in PQRI, providers receive feedback on their performance which will help improve patient care[10].

b) **Financial benefits:** PQRI provides financial benefits to physicians who successfully report quality data. A PQRI participant who reports successfully will earn a financial incentive of 1.5 percent of the Medicare Physician Fee Schedule's total allowed charges for covered services provided during 2008[11]. Physicians and other eligible professionals, who satisfactorily report data

on quality measures for covered professional services furnished between January 1, 2009 and December 31, 2009 or from July 1st to December 31st 2009, will receive an incentive payment equal to 2.0 percent of the total estimated allowed charges for all covered professional services furnished during the reporting[11.] The American Recovery and Reinvestment act provides incentive for user of EMR to receive additional payment under the Medicare program. This report measures use of EMR by physicians. This measurement can be used to get big financial payments from the American recovery and reinvestment act.

c) **Public reporting of performance results:** Currently for public reporting, there are no standards established for evaluating physician performance. It is based only on survey results. PQRI was developed to establish national standards for quality of services provided. The areas on which providers are evaluated were developed by The American Medical Association, the Physician Consortium for Performance Improvement®. The values of each measurement is on the basis on evidence based studies and guidelines. This is one step to standardize public reporting throughout the nation in the future.

d) **Confidential feedback to support quality improvement:** CMS will provide confidential feedback to providers and identify areas of improvement. As of now, only the physicians will receive this feedback and they can use it to improve their patient care.

4. NEED FOR AUTOMATED SYSTEM

Capturing data manually for PQRI is time-consuming and error-prone. The process of manually collecting the data would require the administrative staff to go through the medical records of each eligible patient and enter the measure data in a worksheet. This process is a

huge burden on the administrative staff. According to a study by Medical Group Management Association (MGMA) on PQRI participants about 63 percent of physicians had moderate to extreme difficulty capturing and submitting data. CMS would reject reports with incomplete or missing data. CMS also had validation rules for the different fields in the report to standardize the format of the report. If these validation rules were not followed the report was rejected[11].

By developing an automated reporting system, Providence would save time, ease the burden on the administrative staff as well as guarantee that the reports for all the physicians follow the validation rules. This would also increase the bonus amount received by each physician. Given these advantages Providence decided to automate the process of generating the report.

According to CMS in 2007, out of more than 631,000 providers who were eligible to participate, only a little more than 99,000 providers attempted participation. The automated reporting tool developed by Providence can be purchased by other healthcare organizations that are using Centricity EMR. This tool can therefore increase participation in the PQRI program[12].

5. SYSTEM WORKFLOW

Figure 1 shows the workflow of how data will be submitted to CMS through the automated system and how the feedback will be received. During a patient encounter, the provider enters patient data such as blood pressure, Hemoglobin A1C, LDL value in their EMR client which stores the data in the Centricity EMR Database. The PQRI Application pulls the raw patient data from the EMR, calculates the performance metrics for the

participating providers based on the raw patient data and generates an output xml file based on CMS specifications. A validation check is performed to ensure adherence to the specification. The output file is then uploaded to CMS's secure website. CMS compares the performance of the providers for each measurement with the guidelines value and national average. The provider then receives the feedback from CMS.

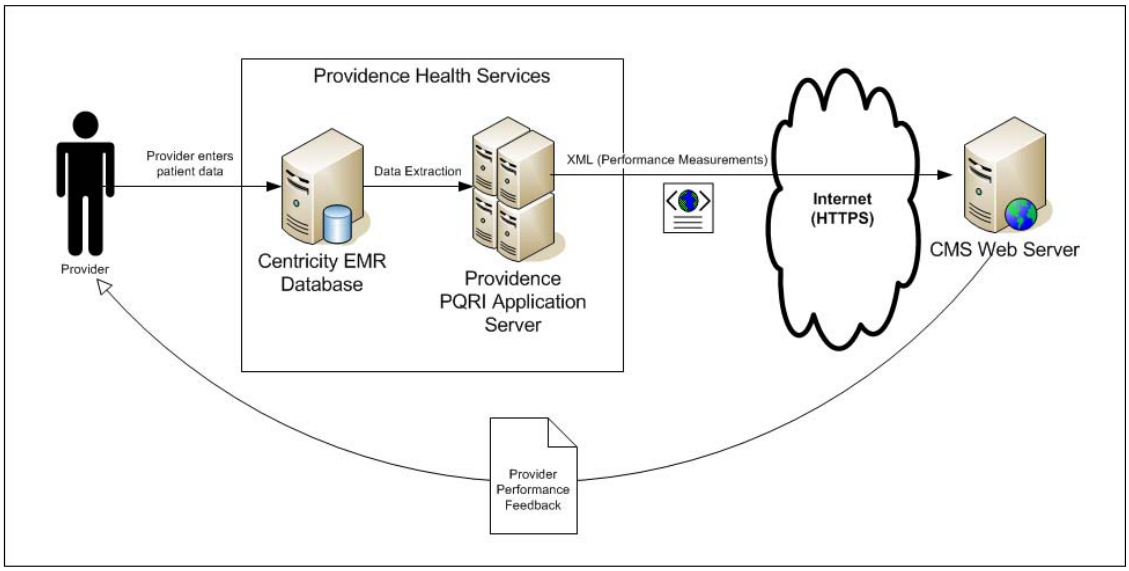


Figure 1: System Workflow

6. METHOD

In order to build the system we followed the steps as shown in figure 2. We started with getting a clear understanding of the requirements, evaluating which measures Providence would report and easiest way to generate the reports on a regular basis.

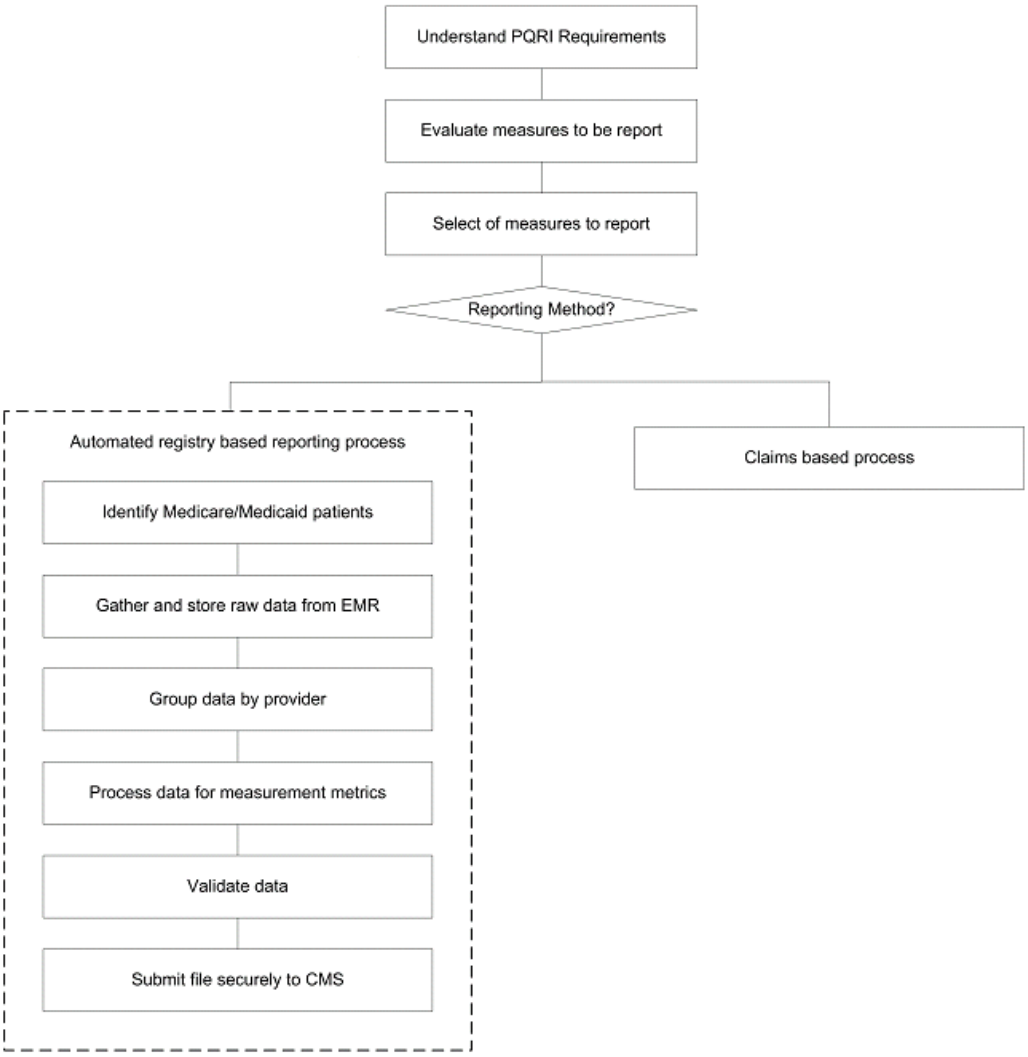


Figure 2 : Figure show the steps to be followed for implementing the System

6.1. Understanding PQRI Requirements

In order to get a better understanding of the requirements for PQRI, we went through the specification, reporting methods and submissions timelines in the CMS website and attended conference calls with CMS representatives. Below is a brief description of their requirements. The Reporting Period for 2008 PQRI is from January 1st to December 31st 2008. CMS promises re-imbursement for physician who report at least 3 measurements for 80% of the cases which were reportable. These reports must be submitted to CMS before 29 Feb 2009. In order to increase participation in 2008, CMS allows for two methods of reporting. :

a) **Claims-Based Systems:** The systems use data from insurance claims made for lab test and procedures are called claims based System. This requires providers to select specially created CPT II codes and submit them along with your routine bills.

b) **Registry-Based Systems:** Disease registries are tools used by providers to collect clinical data on patients with specific disease. It is mainly used to track medical tests, lab results of patients with chronic condition. CMS accepts measurement data from registries approved by CMS. CMS also allows for two Reporting Period options:

a) Full Year Reporting: Reporting period is from January 1 to December 31. For registry based reporting the provider can choose one measure group and report on 30 consecutive applicable patients.

b) Half Year Reporting: Reporting period is from July 1 to December 31. For registry based reporting the provider can choose one measurement group and report on 15 consecutive applicable patients.

CMS has published a document which standardizes the specifications and calculation of the attributes of a quality measure. Figure 3 shows the quality attributes.

```
<pqri-measure>
 <pqri-measure-number>1</pqri-measure-number>
 <pqri-measure-title>Hemoglobin A1c Poor Control in Type 1 or 2 Diabetes Mellitus</pqri-measure-
title>
 <eligible-instances>21</eligible-instances>
 <meets-performance-instances>1</meets-performance-instances>
 <performance-exclusion-instances>0</performance-exclusion-instances>
 <performance-not-met-instances>20</performance-not-met-instances>
 <reporting-rate>100</reporting-rate>
 <performance-rate>4.76</performance-rate>
</pqri-measure>
```

Figure 3: Sample xml with quality attributes

The attributes are defined as follows:

- PQRI-Measure-Number: This is the id associated with a quality measure by CMS. "1" is the PQRI measure number in the sample xml.
- PQRI-Measure-Title: This is the title of the quality measure. "Hemoglobin A1c Poor Control in Type 1 or 2 Diabetes Mellitus" is the title.
- Eligible-Instances: This is the total number of patients/visits for a provider in a given time period. This is the denominator for the performance rate attribute as described later. In the sample xml, "21" is the eligible instances. This means that there are 21 eligible patients for calculating the provider's performance.
- Performance rate: This is the percentage of the Meets-Performance Instances/ Eligible- Instances. This indicates the percentage of patients who have the target levels of the measure. In the sample xml, the performance rate is 4.76 , which is calculated as Meets-Performance-Instances / Eligible-Instances * 100

- Performance Modifiers: In order to evaluate how the physicians performed in each of the measure, the Physician Consortium for Performance Improvement® divided measure into performance modifiers. The performance modifiers relay the following.

  - Meets-Performance-Instances: The number of instances where the guidelines value was met by the provider. This is the numerator for the performance rate attribute as described later. In the sample xml, the value of patient meets the performance instances is "1". This means that one patient for the provider has A1C level in the target range.

  - Performance not met instances. The measure criteria were not met and the reason was not documented in the EMR. In the sample xml, the value of performance not met instances is 20. This means that 20 patients have A1C level outside the target range.

  - Exclusion Performance Measure: Exclusion modifiers indicate that an action specified in the measure was not provided due to medical, patient or systems. The reasons are documented in the EMR as 1P, 2P and 3P. 1P- Performance measure exclusion modifier due to medical reasons. For example could not measure the blood pressure because of unavailability of blood pressure monitor. 2P - Performance measure exclusion modifier due to patient reasons. For example couldn't achieve diastolic blood pressure target because patient declined. 3P- Performance measure exclusion modifier due to System reasons such as resources to perform services were unavailable. In the sample xml, there are 0 instances of exclusion.

6.2. Evaluation of Measures to be reported

For 2008, Providence had to choose from a total of 119 measures. 117 are clinical measures and 2 are structural measures (use of EMR and use of electronic prescription). The clinical measurements are divided into 4 measurement groups Diabetes Mellitus, End Stage Renal Disease, Chronic Kidney Disease (CKD), and Preventive Care. Each of the measures groups contains at least four PQRI measures.

6.3. Selection of Measures to be reported

Caremanager is a disease registry used by physicians in Providence to identify and monitor patients with chronic diseases such diabetes, coronary heart disease, osteoporosis and cancer. Providence decided to report on the measurement under the Diabetes Mellitus group using this registry. The yearly reporting timeframe was selected. The 3 measurements selected for diabetes are:

- Measure Number 1 - Hemoglobin A1c Poor Control in Type 1 or 2 Diabetes Mellitus.
- Measure Number 2- Low Density Lipoprotein Control in Type 1 or 2 Diabetes Mellitus.
- Measure Number 3- High Blood Pressure Control in Type 1 or 2 Diabetes Mellitus.

Providence also selected these 2 structural measurements.

- Measure Number 1 24 - HIT - Adoption/Use of Health Information Technology (Electronic Health Records).
- Measure Number 1 25- HIT - Adoption/Use of e-Prescribing.

We are assuming there are no exclusions and we will be reporting the measurements for all patients, so the reporting rate is 100 % for the participating provider.

6.4. Automating the Reporting Process

This section describes the different steps that were followed to automate the reporting process.

a) **Identify Medicare/Medicaid patients:** Identify patients with “Medicare Traditional” as their primary and secondary insurance.

b) **Gather and store raw patient data from EMR:** The patient data is collected from the Centricity EMR and stored in the Caremanager database. Providence plans to report on all eligible patients for the participating provider.

c) **Group patient data by provider:** The patient data is grouped by their primary care physician.

d) **Process data for measurement:** The performance metric for each of the measurement is then calculated. This includes calculating the number of patients with a measurement value that is within the target range for the measurement (Meets performance criteria) and number of patients with measurement value outside the target range (doesn’t meet performance criteria). The performance rate is calculated as the number of instance that meet the criteria divided by the total number of patients.

This table below describes how each measurement value is gathered and calculated.

Measurement	Metric that meets performance criteria	Metric that does not meet performance criteria
Hemoglobin A1C control	A1C < 9.0%	A1C >= 9.0%
LDL	LDL < 100	LDL <= 100
Blood Pressure	Systolic Pressure < 140 and Diastolic Pressure > 80	Systolic pressure > = 140 or Diastolic Pressure <= 80
EMR Adoption	Yes	No
Electronic Prescription	Yes	No

Table 2: Rules for processing measurement data

All providers in the Providence Health System have adopted an EMR, so the performance rate is 100% for EMR adoption. All providers in the Providence Health System have adopted e-prescription, so the performance rate is 100%.

e) **Generate XML output file:** The collected data is converted into an XML file as shown in Appendix.

f) **Validate XML:** The xml file is validated with an Extensible Schema Definition (XSD) file provided by CMS. The file defines rules about the length, format and data type of each of the fields in the xml file.

g) Submit file securely to CMS: CMS creates an account with user id and password for the participants. The xml is submitted through a secure web session.

7. TECHINCAL DESIGN OF THE SYSTEM

The data will be stored in a Sequel Server (SQL) 2000 database which is being used in the Caremanager project.

7.1. Tables

Table shows the main database tables used for PQRI data generation. Appendix shows all the fields of these tables. Here is a more detailed description of each of the tables.

Table	Description
DR_Patient_L	Contains all active EMR patients
Pqrimeasures	Stores information about the measures to be reported
DR_PROVIDER_L	Stores information about the provider
Location	Stores information about the practicing locations of the providers
DR_PQRI_PERF_ARCHIVE_L	Stores the performance measurement data for each provider
DR_PATIENT_PROVIDERS_L	Maps the patient to a primary provider

Table 3: Core Tables for PQRI database

- DR_Patient_L: The table contains all active EHR patients with details such as contact information, demographic and insurance information for each patient. This table assigns a patient id (PID) to each patient. The PID is used in other tables to relate the patient to other fields such as provider, lab results, etc. The data for the table is imported from EMR.

- PQRIMeasure: The measurements titles to be reported are entered in this table manually.

- Locations**:** Providence has several clinics in Oregon and Washington which are PQRI participants. We plan to group providers by their location and report PQRI for each of the locations. CMS will use the taxpayer identification number (TIN) as the billing unit, so any bonus incentive payments earned will be paid to the holder of the TIN. This table stores the TIN for each location and address. Data for this table is entered manually through the administrative screen of Caremanager.

- Dr_Provider_L: The EMR has a unique id called PVID assigned to each provider. The table stores the PVID and contact information, address for each provider. It also maps the provider to a location. The table stores the National Provider Identifier (NPI) as CMS mandates that the NPI should be included in the report. The data is imported from the EMR.

- DR_PQRI_PERF_ARCHIVE_L: The stores the value of each measurement for the participating providers.

- DR_PATIENT_PROVIDERS_L: The table maps each patient to a primary care provider.

The figure 3 shows the different tables and the relationship between them.

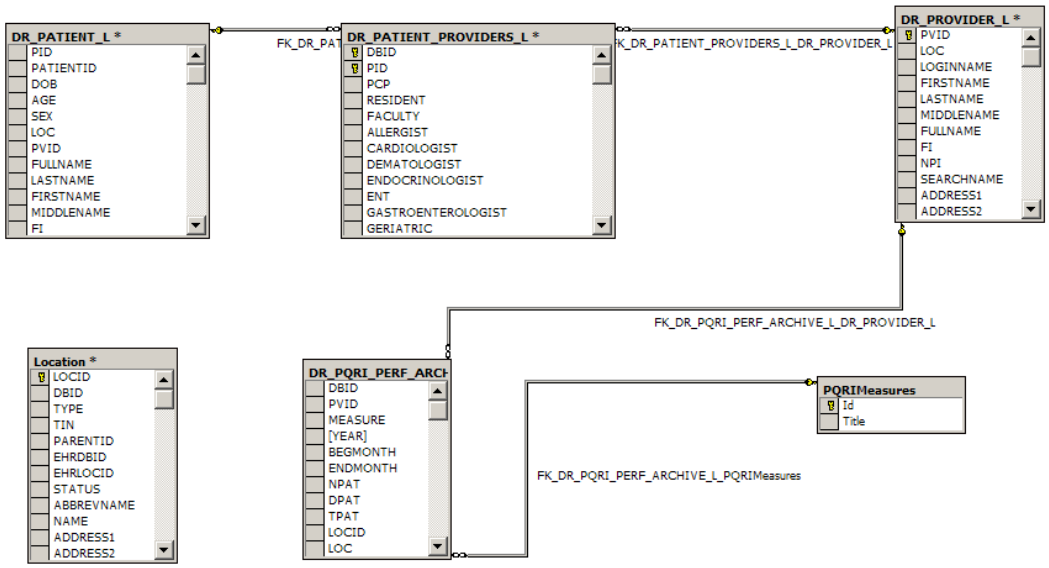


Figure 4: Table Relationship

8. USER INTERFACE DESIGN

The user will enter “from date” and “to date” in the screen as shown in figure 4. On clicking the submit button and output xml file will be generated. The UI is developed using the form project in Visual Studio 2008 and the programming language used is C#.

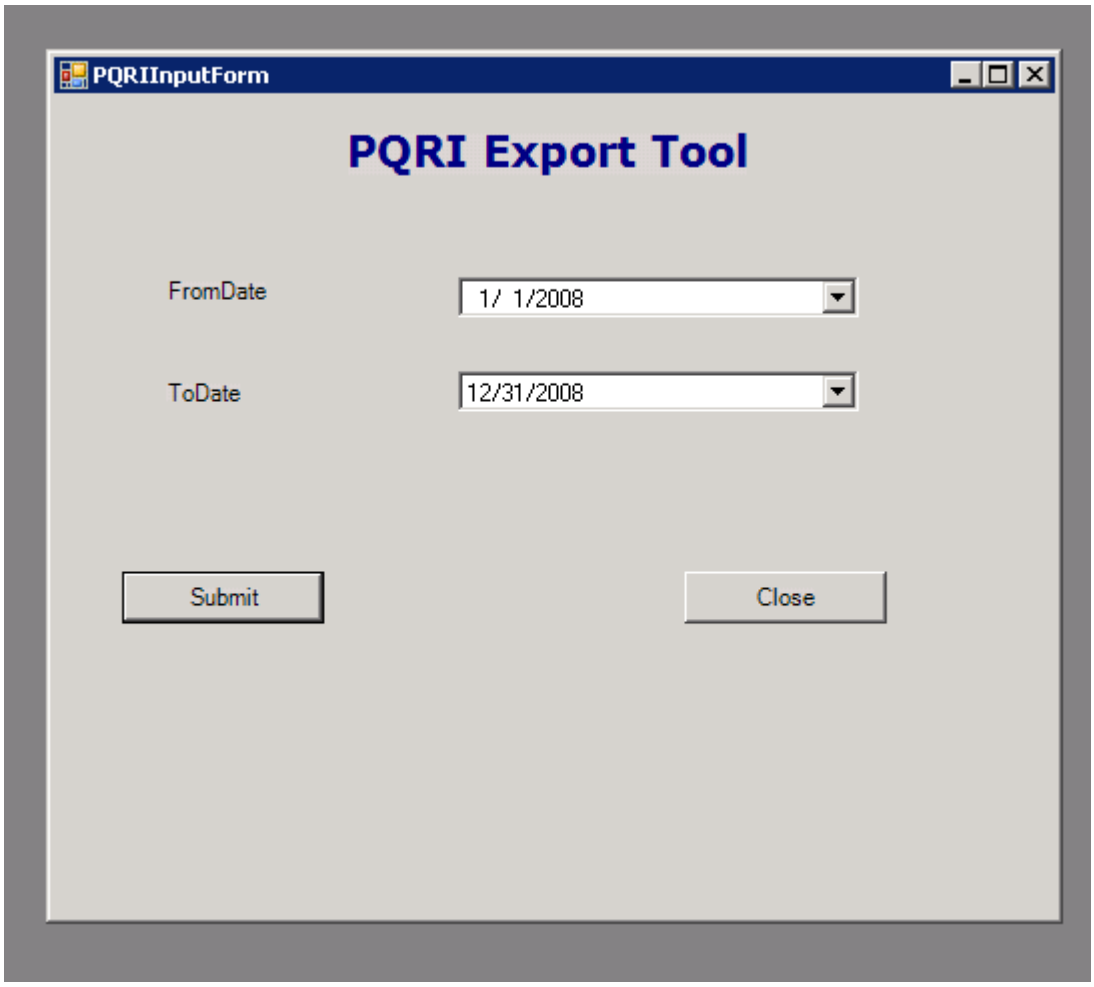
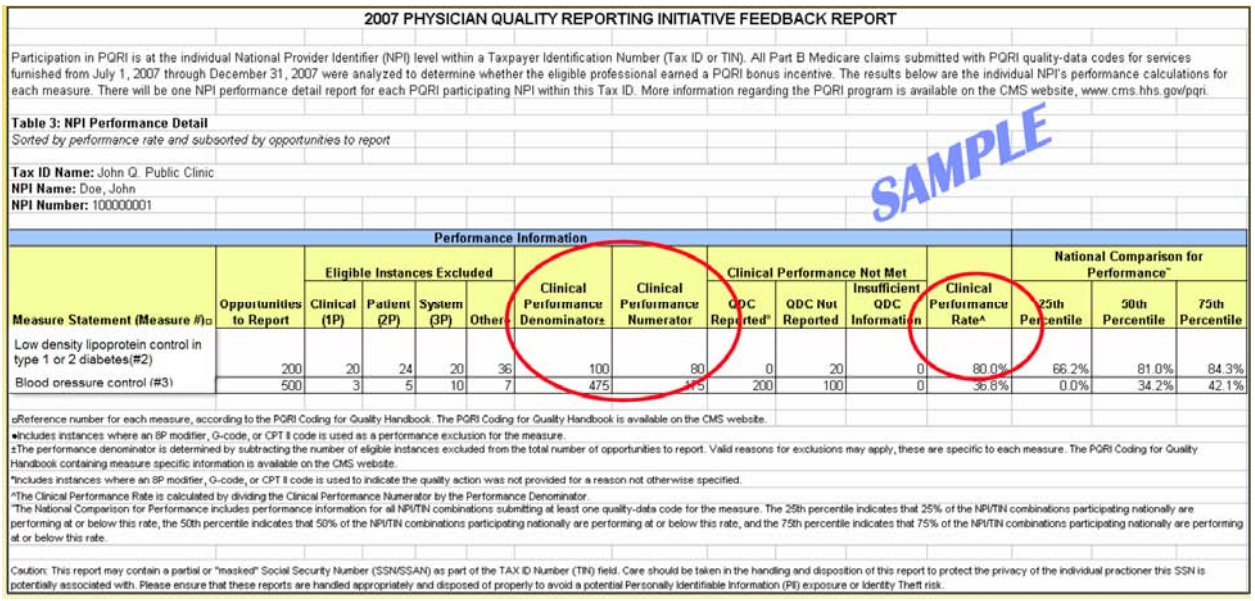


Figure 5: User Interface

9. PERFORMANCE FEEDBACK REPORT

The feedback reports are posted on the CMS website sometime mid-year. Physicians or clinics can register with their TIN and access their performance report. Figure 6 shows a sample performance report. The reports will include information on reporting rates, performance, and incentives earned.



2007 PHYSICIAN QUALITY REPORTING INITIATIVE FEEDBACK REPORT

Participation in PQRI is at the individual National Provider Identifier (NPI) level within a Taxpayer Identification Number (Tax ID or TIN). All Part B Medicare claims submitted with PQRI quality-data codes for services furnished from July 1, 2007 through December 31, 2007 were analyzed to determine whether the eligible professional earned a PQRI bonus incentive. The results below are the individual NPI's performance calculations for each measure. There will be one NPI performance detail report for each PQRI participating NPI within this Tax ID. More information regarding the PQRI program is available on the CMS website, www.cms.hhs.gov/pqri.

Table 3: NPI Performance Detail

Sorted by performance rate and subsorted by opportunities to report

SAMPLE

Tax ID Name: John Q. Public Clinic
NPI Name: Doe, John
NPI Number: 100000001

Performance Information														
		Eligible Instances Excluded						Clinical Performance Not Met				National Comparison for Performance"		
Measure Statement (Measure #)¤	Opportunities to Report	Clinical (1P)	Patient (2P)	System (3P)	Other•	Clinical Performance Denominator±	Clinical Performance Numerator	QDC Reported*	QDC Not Reported	Insufficient QDC Information	Clinical Performance Rate^	25th Percentile	50th Percentile	75th Percentile
Low density lipoprotein control in type 1 or 2 diabetes(#2)	200	20	24	20	36	100	80	0	20	0	80.0%	66.2%	81.0%	84.3%
Blood oressure control (#3)	500	3	5	10	7	475	175	200	100	0	36.8%	0.0%	34.2%	42.1%

¤Reference number for each measure, according to the PQRI Coding for Quality Handbook. The PQRI Coding for Quality Handbook is available on the CMS website.
•Includes instances where an 8P modifier, G-code, or CPT II code is used as a performance exclusion for the measure.
±The performance denominator is determined by subtracting the number of eligible instances excluded from the total number of opportunities to report. Valid reasons for exclusions may apply, these are specific to each measure. The PQRI Coding for Quality Handbook containing measure specific information is available on the CMS website.
*Includes instances where an 8P modifier, G-code, or CPT II code is used to indicate the quality action was not provided for a reason not otherwise specified.
^The Clinical Performance Rate is calculated by dividing the Clinical Performance Numerator by the Performance Denominator.
"The National Comparison for Performance includes performance information for all NPI/TIN combinations submitting at least one quality-data code for the measure. The 25th percentile indicates that 25% of the NPI/TIN combinations participating nationally are performing at or below this rate, the 50th percentile indicates that 50% of the NPI/TIN combinations participating nationally are performing at or below this rate, and the 75th percentile indicates that 75% of the NPI/TIN combinations participating nationally are performing at or below this rate.

Caution: This report may contain a partial or "masked" Social Security Number (SSN/SSAN) as part of the TAX ID Number (TIN) field. Care should be taken in the handling and disposition of this report to protect the privacy of the individual practioner this SSN is potentially associated with. Please ensure that these reports are handled appropriately and disposed of properly to avoid a potential Personally Identifiable Information (PII) exposure or Identity Theft risk.

Figure 6: Performance Feedback Report

10. FEEDBACK ON THE SYSTEM

Providence Health & Services has appointed one person to run the reports for all the participating providers. The user did a trial run to validate the output and evaluate the system. The trail run demonstrated that the user can now generate the PQRI reports for all participating providers in 5 minutes. The output was uploaded as a test file to the CMS website and passed all

the input validations. The system is easy to use and output measurements were validated to be accurate.

11. CONCLUSION

The PQRI export tool has automated the process of generating the XML file for Providence. It has made the process of generating the performance report very easy and error free. The reports generated will allow Providence to participate in the nation initiative of streaming the process of evaluating the performance of providers. Providence can achieve a new level of benchmarks in patient care and provide more efficient health care services to its patients. Currently participation is PQRI is voluntary but soon many health care organizations may adopt it. It is the first step taken by the government to change the payment model toward performance based model. In future new measurements will be introduced to monitor patient care for other health conditions. Refer to appendix for details. These measurements can be easily integrated in the PQRI export tool.

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Appendix

Appendix 1 Project Proposal

WORKING TITLE: Consolidation and Reporting tool for Physician Quality Reporting Initiative.

OVERVIEW: The Congress and Center for Medicare and Medicaid Services (CMS) became increasingly interested in developing a pay-for-performance program for physicians treating Medicare beneficiaries. The CMS established the PQRI program in which practice data for different performance measurement is collected and reported for physicians. Currently, healthcare organizations report physician data on a voluntary basis. CMS plans to use this voluntary program for analyzing and evaluating different metrics which will be used to roll out mandatory pay-for-performance program in the future.

TIMELINE:

1. Identify the performance measurement for which the report will be generated. (01/04/2009 – 01/07/2009)
2. Define the structure of the output xml file according to definition of CMS. (01/08/2009 – 01/15/2009)
3. Identify Medicare patients for non-Medicare patients. (01/15/2009 – 01/19/2009)

4. Write a program to extract performance measurement data from the Electronic Medical Record. (01/19/2009 – 02/05/2009)

5. Write a program to create an XML file based with the collected data. (02/06/2009 – 02/25/2009)

6. Create a setup program to install the windows form. (02/26/2009 – 02/28/2009)

7. Remaining week of term left for overflow

DELIVERABLE:

1. A functioning windows form that generates a XML files to report the data in the format specified by CMS.

2. A setup program to install the windows form.

3. Documentation explaining the usage of the program.

EXCLUSION:

The program will be designed such that it is easy to add more performance measurement data in future. However the program will implement only the 3-4 parameters identified in the design phase.

ASSUMPTIONS:

We assume that we have access to the performance data in the electronic medical record.

OBJECTIVE:

Develop and build a reporting tool for Physician Quality Reporting Initiative.

FINANCIAL BENEFIT:

Financial benefit of a bonus up to 1.5 percent of Medicare Physician Fee is given to participants who successfully report data.

PROPOSED METHODOLOGIES:

CMS will be accepting measurement data from patient registries that exists as of January 1st, 2008. This project will use the data from Caremanager, which is a disease registry from Providence Health and Services which stores patient data for diabetic patients. Caremanager will identify and separate Medicare patients. Caremanager will also push the Hemoglobin A1c control, LDL control and blood pressure control data for these patients. The XML generator will pick the most recent data for the 3 measurements for all patients and group this information by physician. The National Provider Identity (NPI) number will be used to uniquely identify the participating physicians. The program will transform the information into a CMS-approved XML format. A single xml file will be generated for the reporting period from 1st January, 2008 to 31st December, 2008. The xml file will be encrypted to ensure security and transferred to the server specified by CMS.

APPENDIX 2 TECHNICAL DETAILS

Programming language: C# 3.0

Programming tool: Visual Studio 2008

Database: SQL Server 2000

Development Site

Host Sever: rogue.providence.org

SQL Server: Phsornt186

Production Site

Host Server: willamette.providence.org

SQL Server: Phsornt181

APPENDIX 3 FUTURE MEASUREMENTS

The PQRI 2009 measurements include the following disease:

- Stroke and Stroke rehabilitation
- Preoperative care
- Urinary continence
- Coronary artery bypass graft
- Chronic obstructive pulmonary disease
- Asthma
- End Stage Renal Disease
- Hepatitis C
- Colon cancer
- Osteoporosis
- Breast Cancer
- Colorectal Cancer
- Melanoma
- HIV/AIDS

APPENDIX 3 SAMPLE XML OUTPUT

```
<?xml version="1.0" encoding="UTF-8"?>
<submission type="PQRI-REGISTRY" option="OPTION-3" version="1.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="Registry_option3.xsd">
 <file-audit-data>
  <create-date>11-11-2008</create-date>
  <create-time>10:29</create-time>
  <create-by>Providence Health &amp;amp; Services</create-by>
  <version>1.0</version>
  <file-number>1</file-number>
  <number-of-files>1</number-of-files>
 </file-audit-data>
 <registry>
  <registry-name>CareManager</registry-name>
  <registry-id>PRPPDR</registry-id>
  <submission-period-from-date>01-01-2008</submission-period-from-date>
  <submission-period-to-date>12-31-2008</submission-period-to-date>
 </registry>
 <provider>
  <npi>1234567890</npi>
  <tin>
  </tin>
```

<waiver-signed>Y</waiver-signed>
<pqri-measure>
<pqri-measure-number>1</pqri-measure-number>
<pqri-measure-title>Hemoglobin A1c Poor Control in Type 1 or 2 Diabetes Mellitus</pqri-measure-title>
<eligible-instances>21</eligible-instances>
<meets-performance-instances>1</meets-performance-instances>
<performance-exclusion-instances>0</performance-exclusion-instances>
<performance-not-met-instances>20</performance-not-met-instances>
<reporting-rate>100</reporting-rate>
<performance-rate>4.76</performance-rate>
</pqri-measure>
<pqri-measure>
<pqri-measure-number>2</pqri-measure-number>
<pqri-measure-title>Low Densiity Lipoprotein Control in Type 1 or 2 Diabetes Mellitus</pqri-measure-title>
<eligible-instances>21</eligible-instances>
<meets-performance-instances>17</meets-performance-instances>
<performance-exclusion-instances>0</performance-exclusion-instances>
<performance-not-met-instances>4</performance-not-met-instances>
<reporting-rate>100</reporting-rate>
<performance-rate>80.95</performance-rate>
</pqri-measure>
<pqri-measure>
<pqri-measure-number>3</pqri-measure-number>
<pqri-measure-title>High Blood Pressure Control in Type 1 or 2 Diabetes Mellitus</pqri-measure-title>
<eligible-instances>21</eligible-instances>
<meets-performance-instances>17</meets-performance-instances>
<performance-exclusion-instances>0</performance-exclusion-instances>

```
      <performance-not-met-instances>4</performance-not-met-instances>
      <reporting-rate>100</reporting-rate>
      <performance-rate>80.95</performance-rate>
    </pqri-measure>
    <pqri-measure>
      <pqri-measure-number>124</pqri-measure-number>
      <pqri-measure-title>HIT - Adoption/Use of Health Information Technology (Electronic Health Records)</pqri-measure-title>
      <eligible-instances>162</eligible-instances>
      <meets-performance-instances>162</meets-performance-instances>
      <performance-exclusion-instances>0</performance-exclusion-instances>
      <performance-not-met-instances>0</performance-not-met-instances>
      <reporting-rate>100</reporting-rate>
      <performance-rate>100</performance-rate>
    </pqri-measure>
    <pqri-measure>
      <pqri-measure-number>125</pqri-measure-number>
      <pqri-measure-title>HIT - Adoption/Use of e-Prescribing</pqri-measure-title>
      <eligible-instances>162</eligible-instances>
      <meets-performance-instances>162</meets-performance-instances>
      <performance-exclusion-instances>0</performance-exclusion-instances>
      <performance-not-met-instances>0</performance-not-met-instances>
      <reporting-rate>100</reporting-rate>
      <performance-rate>100</performance-rate>
    </pqri-measure>
  </provider>
```

APPENDIX 4 XML SPECIFICATION

OPTION 3 - XML Specification

3/28/2008

XML Element	Attributes	Description	Data Element	Valid Values	Data Type	Field Size	Data Required
A header is required at the beginning of each XML file as follows: <?xml version="1.0" encoding="UTF-8" ?>							
<submission>	Opening tag is required. **Example with data:** **<submission type="PQRI-REGISTRY" option="OPTION-3" version="1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="Registry_option3.xsd">**						
	Type	Describes the setting for which data is being submitted	N/A	PQRI-REGISTRY	Character	20	Yes
	Option	Describes the registry option to be used	N/A	OPTION-3	Character	20	Yes
	Version	The version of the file layout	N/A	1.0	Character	20	Yes
<file-audit-data> Sub-element of the submission element	Opening tag for file audit data	**Note:** This tag and the entire <file-audit-data> section are required in the XML document. This tag contains no data.					
<create-date> Sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<create-date>**05-10-2007**</create-date>**						
	None	The month, day, and year the XML file was created.	N/A	MM-DD-YYYY (Must be a valid date)	Date	10	Yes
<create-time> Sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. Example with data: **<create-time>**23:01**</create-time>**						
	None	The hour and minutes representing the time the file was created.	N/A	HH:MM (Military format with or without colon)	Time	5	Yes
<create-by> Sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<create-by>**VendorA**</create-by>**						
	None	The entity who created the file.	N/A		Character	50	Yes
<version> Sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<version>**1.0**</version>**						
	None	The version of the file being submitted.	N/A		Character	20	Yes
<file-number> Sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<file-number>**3**</file-number>**						
	None	The number of the file.	N/A		Number	3	Yes
<number-of-files> Sub-element of the file audit data element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<number-of-files>**10**</number-of-files>**						
	None	Total number of files.	N/A		Number	3	Yes
</file-audit-data>	Closing tag for file audit data	**Note:** This tag and the entire <file-audit-data> section are required in the XML document.					

23								
24	**<registry>** Sub-element of the submission element	Opening tag for file registry data	**Note:** This tag is required in the XML document, however, it contains no data.					
25	**<registry-name>** Sub-element of the registry element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<registry-name>Model Registry</registry-name>**						
26		None	The registry name.	Registry Name	Registry Name	Character	100	Yes
27	**<registry-id>** Sub-element of the registry element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<registry-id>**125789**</registry-id>**						
28		None	Used to identify the registry.	Registry ID		Character	6	Yes
29	**<submission-period-from-date>** Sub-element of the registry element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<submission-period-from-date>**01-01-2008**</submission-period-from-date>**						
30		None	The month, day, and year of the first service date of the submission period ("From" date).	N/A	MM-DD-YYYY (Must be a valid date)	Date	10	Yes
31	**<submission-period-to-date>** Sub-element of the registry element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<submission-period-to-date>**03-31-2008**</submission-period-to-date>**						
32		None	The month, day, and year of the last service date of the submission period ("To" date).	N/A	MM-DD-YYYY (Must be a valid date)	Date	10	Yes
33	**</registry>**	Closing tag for registry	**Note:** This tag is required in the XML document, however, it contains no data.					
34								
35	**<provider>** Sub-element of the submission element	Opening tag for provider	**Note:** This tag is required in the XML document, however, it contains no data. This element repeats if there are multiple providers					
36	**<npi>** Sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<npi>**1257894658**</npi>**						
37		None	National Provider Identifier as assigned by CMS.	National Provider Identifier (NPI)	10 digit NPI Number	Character	10	Yes
38	**<tin>** Sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<tin>**125789465**</tin>**						
39		None	The tax identification number for specific NPI.	Tax Identification Number (TIN)	TIN Number	Number	9	Yes

40	**<waiver-signed>** Sub-element of the provider element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<waiver-signed>**Y**</waiver-signed>**						
41		None	Participation waiver signed? A participation waiver indicates the eligible professional has given the registry permission to submit data on their behalf.	Waiver Signed	Y,y	Character	1	Yes
42								
43	**<pqri-measure>** Sub-element of the provider data element	Opening tag for PQRI measure	**Note:** This tag is required in the XML document, however, it contains no data. This element repeats if there are multiple measures					
44	**<pqri-measure-number>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<pqri-measure-number>**119**</pqri-measure-number>**						
45		None	The PQRI measure number.	PQRI Measure Number	Refer to PQRI Measure Specifications	Number	3	Yes
46	**<pqri-measure-title>** Sub-element of the PQRI measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<pqri-measure-title>Dilated Eye Exam in Diabetic Patient</pqri-measure-title>**						
47		None	The PQRI measure title.	Measure Title	Measure Title	Character	250	Yes
48	**<eligible-instances>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<eligible-instances>100</eligible-instances>**						
49		None	Number of eligible instances (**reporting denominator**) for the PQRI measure.	Eligible instances for the PQRI	Refer to PQRI Measure Specifications	Number	10	Yes
50	**<meets-performance-instances>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<meets-performance-instances>80</meets-performance-instances>**						
51		None	Number of instances of quality service performed (**performance numerator**).	Number Instances of Quality Service	Refer to PQRI Measure Specifications	Number	10	Yes
52	**<performance-exclusion-instances>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data:** **<performance-exclusion-instances>20</performance-exclusion-instances>**						
53		None	Number of performance exclusions for the PQRI Measure	Performance Exclusions	Refer to PQRI Measure Specifications	Number	10	Yes

54	**<performance-not-met-instances>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data: <performance-not-met-instances>10</performance-not-met-instances>**						
55		None	Number of instances which do not meet the performance criteria, even though reporting occurred.	Performance Not Met Instances	Refer to PQRI Measure Specifications	Number	10	Yes
56	**<reporting-rate>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data: <reporting-rate>80.42</reporting-rate>**						
57		None	Percentage of reporting (**Performance Numerator + Performance Exclusions + Performance Not Met/Reporting Denominator**).	Reporting Rate	0.00-100.00	Number	6	Yes
58	**<performance-rate>** Sub-element of the PQRI-measure element	Each element must have a closing tag that is the same as the opening tag but with a forward slash. **Example with data: <performance-rate>60.25</performance-rate>**						
59		None	Percentage of performance (**Performance Numerator/Reporting Denominator-Performance Exclusions**).	Performance Rate	0.00-100.00	Number	6	Yes
60	**</pqri-measure>**	Closing tag for pqri-measure	**Note:** This tag is required in the XML document, however, it contains no data.					
61	**</provider>**	Closing tag for provider	**Note:** This tag is required in the XML document, however, it contains no data.					
62	**</submission>**	Closing tag for submission	**Note:** This tag is required in the XML document, however, it contains no data.					

APPENDIX 5 PQRI FAQS

Question: Is Registration Required?

Answer: No, registration is not required

Question: Do we need to submit all the measures posted for the 2007 Physician Quality Reporting Initiative (PQRI) or for only those applicable to our practice?

Answer: Submit only measurement directly related to the practice.

Question: Will payments be made on the quality of the performance?

As of now payment will be made only for reporting data. CMS has not made any announcements of payment on the basis of quality of data.

Question: Is participation in PQRI mandatory?

Answer: No, participation in PQRI is voluntary.

Question: Can I report on only 2 measures?

Answer: If only 2 measures are applicable to your practice, you can report on only 2 measures. But CMS can perform an audit to confirm that the other measures were not applicable to your practice.

Question: When will I receive the incentive?

Answer: For 2008 reporting, incentive will be received in mid 2009.

Question: How will the payment be received?

Answer: CMS will make payment to the holder of the tax identification number included in the report

APPENDIX 6 DEFINITIONS

Extendible markup language (XML): Format for transferring text from one system to another. Refer to http://en.wikipedia.org/wiki/XML for more details.

XML Schema Description (XSD): Contains details such as data type and constraints of the elements in an xml file. Refer to http://en.wikipedia.org/wiki/XML_schema for more details

A1C: The A1C hemoglobin indicates the blood sugar level. For more information refer to http://www.mayoclinic.com/health/a1c-test/MY00142

Low Density Lipoprotein (LDL): It is a type of lipoprotein which transports cholesterol from the liver to the other tissues. Refer to http://en.wikipedia.org/wiki/LDL for more details.

Electronic Medical Record (EMR): It is a medical record in a digital format which is used to keep track of medical information. Refer to http://en.wikipedia.org/wiki/Electronic_medical_record