MHCC-13-024

Practitioner Performance Measurement (PPM) Planning Process

Phase 1

Assessment Report

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Executive Summary

Our intent in this report, and in the entire project, is to provide background and recommendations for Maryland Health Care Commission's (MHCC's) development of the Practitioner Performance Measurement (PPM) program. The goal of the PPM is to build a robust data base and use it to produce meaningful public reports on practitioners' performance. The PPM is a major project, estimated to take at least a year after MHCC selects a contractor to build the system. The first phase of our work builds on our assessment of possible measures the PPM program can use for reporting. Based on the data elements needed for those measures, the Discern Team assessed and continues to assess, the three sources of claims data that the PPM can bring together: the existing All-Payer Claims Database (APCD), Medicare data when MHCC becomes a Qualified Entity (QE), and Medicaid data.

Overall, we find that-

We are currently evaluating the potential use of 66 measures in the program, covering both cost and quality, and enabling the system to report on primary care practitioners and a number of specialty practitioners. The plan for roll out of these measures, or a subset of these measures, along with related issues such as feasibility will be discussed in future reports. The Discern Team finds the APCD includes most of the data elements we need for a very comprehensive list of measures. Where it may fall short is in the following areas:

- National Provider Identifier (NPI) completeness and accuracy
- Patient identifiers needed for matching claims by patient
- Pharmacy data for all patients in addition to data on other carved-out services such as behavioral health
- Outcomes data from CPT II codes, G codes or laboratory results data
- Revenue codes to identify outpatient facility services for quality and cost measures
- Currency of the data
- Direct access to Medicaid data

With respect to the aggregation of Medicare and Medicaid data with the APCD, among all of the available Medicare files, we believe the PPM can get all the data it needs. It is a matter of buying the right files. The feasibility of obtaining Medicaid data is still not clear, but the Discern Team is continuing to pursue information on the Medicaid Management Information System (MMIS) from the Maryland Department of Health and Mental Hygiene (DHMH). This will be a matter of the PPM program getting access to Medicaid files, which presumably is an inter-agency issue.

To maximize the ability to produce useful reports, we recommend that the PPM program initiate the actions outlined below. We understand that these are far-reaching recommendations, many of which involve changes in Maryland regulations. To that end the Discern Team is aware that some of these changes (as indicated with an asterisk) are already anticipated as they have also been proposed by MHCC staff and are included in a MHCC work plan for expanding the content and use of the APCD.

- Require payers to submit identifying information with claims: patient name, address, birthdate, and other information needed to match patients. If obtaining patient identifiers is not feasible due to restrictions by Maryland statute, use the Master Patient Index (MPI)* if it tests well in the pilot. Though, it is preferable to have patient identifiers in order to give practitioners a complete list of patients for any measure if they request it.
- Evaluate and find ways to ensure the completeness and accuracy of NPI on all claims for use in practitioner attribution.
- Acquire Pharmacy Benefit Manager (PBM) data* to capture prescription drugs filled by Maryland residents who have their benefits carved out. Obtain data on other carved-out services such as behavioral health* as well. Utilize a Master Patient Index (MPI) to combine it with other claims data.
- Acquire laboratory data files from locked vendor to payer feeds or from Chesapeake Regional Information System for our Patients (CRISP) matching them using either live identifiers or the MPI that CRISP is testing.
- Require revenue codes* to identify outpatient facility services for quality and cost measures. These codes are already being captured by payers.
- Evaluate to what extent payers are capturing CPT II and G codes and determine whether they provide utility for capturing outcomes data in the PPM program.
- Adopt a more frequent data reporting process*, so that APCD data can be combined with Medicare data on a more regular basis.
- Evaluate the accuracy of the codes that feed the individual variables within selected performance measures*.
- Provide direct access to Medicaid files*. This is still being investigated.

Further details behind the Discern Team's assessment and recommendations are described in the full Phase 1 report as follows. In addition, summarized feedback from the PPM Work Group held on July 30, 2013 to review Discern's assessment is included in the Recommendations section.

Of Note: While this version of the Phase 1 report is considered final with respect to the PPM planning project, it is expected that the information and recommendations will continue to evolve. This is because all aspects of the project are interrelated and will influence each other. As we focus on different aspects, we may refine our Phase 1 recommendations. Any relevant updates will be reflected in the RFP, the final product for this project.

Phase 1: Feasibility Assessment

Introduction

The overall objective of this project is to provide background and recommendations for Maryland Health Care Commission's (MHCC's) development of a Practitioner Performance Measurement (PPM) system. The PPM program, which is estimated to take at least a year after MHCC selects a contractor to build the system, will include choice and programming of quality measures, dissemination of performance data to practitioners, and public reporting of measures in a useful format. In addition to determining the methods, this current project also includes development of specifications for the practitioner performance measurement system as well as the development of cost estimates that correlate with the specifications.

The goal of phase 1, which builds on our assessment of possible measures the PPM program can use, is to assess the data sources available for the PPM system and the work needed to aggregate multiple sources for measurement. More specifically, this phase 1 report assesses the readiness of the Maryland All-Payer Claims Database (APCD) for practitioner performance measurement as well as the feasibility of integrating Medicare data (when MHCC becomes a CMS Qualified Entity (QE)) and Medicaid data into the APCD for the same purpose.

In phase 2 of this project, the Discern Team will build the structure of performance reporting for the new PPM system. The goal of phase 3 is to estimate the cost for a contractor to build the measurement system, so that MHCC can appropriately plan. Phase 4 includes planning for technology solutions or the actual operation and products of the PPM. Finally, phase 5 entails the development of an RFP that specifies what a vendor must do to build a practitioner performance measurement system for MHCC.

Assessment of Potential Performance Measures

The first phase of our work builds on our assessment of possible measures the PPM program can use. We are currently evaluating the potential use of 66 measures in the program, covering both cost and quality, and enabling the system to report on primary care practitioners and a number of specialty practitioners. The 66 measures include measures that can potentially be implemented based upon proposed changes that will be made to enhance 2013 data and measures for which future data enhancements will be necessary.

The tables in Appendix A provide a summary of the potential measures available for use, including for each measure, the title, description, steward, and provider type. Table A includes quality measures in Group 1, which can potentially be implemented based upon proposed changes to 2013 APCD data (e.g., addition of revenue codes), measures in Group 2, which can potentially be implemented with pharmacy data, and in Group 3, which can potentially be implemented in the future with CPT II codes or other outcomes data such as laboratory results. Table B contains cost/efficiency/resource use measures in Group 1, which include standard and alternative measures which can be potentially implemented based upon proposed changes to 2013 APCD data,

and in Group 2, which include alternative measures which can potentially be implemented with pharmacy data.

Based on the data elements needed for those measures, the Discern Team assessed, and continues to assess, the three sources of claims data that the PPM can bring together: the existing APCD, Medicare data when MHCC becomes a QE, and Medicaid data. The results of that evaluation are included in this report.

The plan for roll out of these measures, or a subset of these measures, along with related issues will be discussed in future reports. Factors such as feasibility of establishing these measures given the data issues outlined in Phase 1 including data accuracy, along with implementation timelines and sequence of specialty services for inclusion, will be further evaluated.

Readiness of the Maryland APCD for PPM

As part of our Phase 1 assessment, the Discern Team examined APCD data documentation, including the APCD eligibility, and professional, and institutional user manuals. These user manuals provide information regarding the completeness of specific data elements within each data set. Our assessment focused on the completeness of key data elements, such as procedure and diagnosis codes, but we also specifically analyzed the completeness of data submitted for the following data elements –

- Practitioner Federal Tax ID;
- Servicing Practitioner ID;
- Servicing Practitioner National Provider Identifier (NPI); and
- Encrypted Patient Identifier.

Although, the APCD user manuals are sufficient to assess generally the completeness of the data, they do not provide the detail that is necessary to determine accuracy of the NPI value or methods for resolving gaps. For example, approximately 7 percent of records in the professional data set have missing NPI values, which are critical to assigning patients to providers and assigning providers to practices. It is unclear from the user manual, however, whether missing NPI values are randomly distributed across all payers or whether missing NPI values are attributed to a single payer.

This level of understanding is important as the specific circumstances will indicate the specific issue, so that an appropriate solution may be developed. To further inform this assessment, additional information has been obtained from the MHCC APCD contractor, Social & Scientific Systems, Inc. (SSS), the organization that provides data collection support for the APCD, to understand how data completeness may vary by payer. In addition to the user manual, SSS produces variable performance reports by payer and within payer, by platform. These reports are shared with payers so they can track their performance. This information provides additional information about how the missing NPI information is distributed across payers.

Information in the report shows variation on the data entered into the "Servicing Practitioner NPI" by insurance carrier. The average for valid NPIs in 2011 for the entire Carrier File was 92.7%. The validity for most carriers varied from 87.7% to 99.9%. However there were submissions for 3 carriers that were outliers. The validity for these three was 6%, 67.0% and 67.7 %. These 3 carriers submitted total claims representing a small percentage of the total claims during the year, 0.006%.

Further investigation into the accuracy of the claims by claim type will be conducted. This file contains claims submitted for a variety of services; durable medical equipment, physical therapy and physicians' office are all included. The claims of primary interest when calculating measures for the PPM will by physician's office claims. It is possible that when the database is examined only for those claims submitted from a physician's office, the accuracy will climb.

Aside from NPI completeness, it will also be necessary to more fully understand the accuracy of what is represented in the NPI field, and the consistency in what it represents. NPIs are issued to individual providers and to organizations that might bill for care. There are separate fields for "Servicing Practitioner NPI" and "Billing NPI". The "Servicing Practitioner NPI" will be important if attribution by physician is to occur. It will be important to verify that the information in the field is indeed the physician NPI. Both completeness and accuracy are factors which may impact the ease of attributing physicians based upon NPI. Physician board data, which is housed within DHMH can be used to crosswalk the NPIs and verify that the information is a valid physician NPI.

To evaluate the completeness of the APCD data, existing practitioner measurement efforts must also be considered. Currently, the two largest efforts to measure practitioner performance utilizing administrative data are the CMS Physician Quality Reporting System (PQRS) and the National Committee for Quality Assurance (NCQA) Healthcare Effectiveness Data and Information Set (HEDIS ®) Technical Specifications for Physician Measurement. Both efforts are designed in part to provide information to compare reliably the performance of practitioners. The CMS PQRS program focuses on evaluating the care provided to Medicare beneficiaries. In contrast, the HEDIS program is primarily used by managed care organizations to evaluate and compare the quality of care provided to beneficiaries covered by their plans.

Although these two systems exist in parallel and include many of the same measures, their approaches to physician measurement using administrative data vary slightly. Much of the variation reflects differences between Medicare and commercial insurers with respect to claims processing requirements. To assess the readiness of the APCD for practitioner performance measurement (PPM), the Discern Team identified the data elements required for PPM under both the CMS PQRS and the NCQA HEDIS Physician Measurement.

Below we provide the results of our assessment as well as recommendations for the PPM program.

Assessment of Completeness of Existing APCD Data

1) *Data for Performance Measures*

    a) *Eligible Encounters (Measure Denominators)*

Use of administrative data to perform PPM requires claims data be able to identify eligible encounters (measure denominator) as well as the desired clinical action or status (measure numerator). Under the PQRS, eligible encounters are typically identified by certain patient demographics such as age and sex as well as Current Procedural Terminology (CPT) codes and modifiers, Healthcare Common Procedure Codes (HCPCs), and/or International Classification of Diseases (ICD) diagnosis codes. These code types are readily available in the Maryland APCD (Table 1).

Table 1. Availability of Encounter (Denominator) Information in the APCD

APCD Variable	APCD file	APCD Description	Count	%
Total	Professional services	Total Services in the professional services file.	77,181,129	
Age	Professional services	Patient Age at Service	77,180,160	99.99%
AGE1211_NR	Professional services	Non-rounded Patient Age as of 12/31/2011	77,180,088	99.99%
Sex	Professional services	Sex of the patient.	77,180,213	99.99%
CPT	Professional services	CPT-4/HCPCS Procedure Code	77,146,759	99.96%
DX1	Professional services	ICD-9-CM Diagnosis Code 1	77,105,106	99.90%
DX2	Professional services	ICD-9-CM Diagnosis Code 2	38,201,416	49.50%
DX3	Professional services	ICD-9-CM Diagnosis Code 3	20,087,294	26.03%
DX4	Professional services	ICD-9-CM Diagnosis Code 4	10,523,862	13.64%

As Table 1 above illustrates for the variable CPT, which captures procedure coding (e.g., CPT or HCPCS) fewer than 40,000 records have missing values. With regard to variable DX1, which captures primary diagnosis fewer than 80,000 records have missing values. For these variables, roughly 0.1 percent of records are missing values that are necessary to identify eligible encounters.

Under HEDIS physician measures additional variables may be utilized to identify eligible encounters, specifically ICD-9-CM procedure codes, type of bill, revenue codes and place of service codes. Place of service codes are readily available in the APCD professional services file (Table 2).

Table 2. Availability of Place of Service Codes in the APCD

APCD Variable	APCD file	APCD Description	Count	%
Total	Professional services	Total Services in the professional services file.	77,181,129	
SVCPLACE	Professional services	Place of Service Code	76,651,922	99.31

ICD-9-CM procedure codes, type of bill, and revenue codes are typically included on institutional claims and are therefore not found in the professional services files. An examination of the institutional services file to determine completeness of ICD-9-CM procedure codes indicates that coding of institutional claims appears to be complete. (NB: Not all institutional claims include an ICD-9-CM procedure code as many institutional services are medical services rather than surgical services. Medical claims do require, however, a primary diagnosis code). Data for type of bill also appears complete. Table 3 below provides the number of observations for each relevant APCD variable.

Table 3. Availability of Institutional Claims Data Codes in the APCD

APCD Variable	APCD file	APCD Description	Observations	%
Total	Institutional services	Total Services in the institutional services file	**3,546,899**	
CPT01[1]	Institutional services	Principal procedure code	1,312,521[2]	37.00%
DX00	Institutional services	Primary diagnosis code	3,545,874	99.97%
IBILLTYPE	Institutional services	Institutional Type of Bill	3,528,893	99.49%

Revenue codes may be used as part of HEDIS measures to identify patients for the denominator or numerator of a measure who have had an outpatient facility visit. For example the visit may have occurred at a hospital clinic, health center or hospital emergency department (ED). Certain cost-of-care measures also utilize revenue codes as part of their specification. **Our examination of the APCD institutional file indicates that revenue codes are not included as a variable in the data set**. Insofar as revenue codes are required to identify accurately eligible encounters, numerator hits or requirements related to cost measure calculation elements for specific practitioner measures, the Discern Team recommends the PPM program pursue adding revenue codes to the APCD. If revenue codes cannot be added to the APCD, the PPM program will need to understand whether the codes that do exist in the APCD already capture these outpatient facility visits in some other way, and whether these non-revenue codes are included as part of the standardized measure specifications. If the PPM program decides to deviate from a standard measure specification, this may constitute a requirement for seeking approval for implementing an 'alternative' measure through the Qualified Entity Certification Program (QECP) process.

b) Clinical Action or Status (Measure Numerators)

[1] Although this variable label is CPT01, it includes ICD-9-CM procedure codes.
[2] Institutional claims are required to have a primary diagnosis. If a procedure is performed, the claim must also include a principal procedure code. Absence of a principal procedure code, however, does not necessarily indicate an issue with the claim.

Assessing clinical action or status (measure numerators) via claims data is more complex. Historically, administrative codes to describe clinical action were limited to CPT and HCPCS codes. Other administrative codes to describe clinical action or status did not exist. Over the past several years, however, different code systems have evolved to communicate specific clinical findings and observations.

- *Quality-Data Codes (QDCs):* The American Medical Association (AMA) CPT Committee and the Centers for Medicare & Medicaid Services (CMS) have created Quality-Data Codes (QDCs), which are non-reimbursable Healthcare Common Procedure Coding System (HCPCS) codes comprised of CPT Category II (CPT II) codes and/or specific HCPCs codes known as G-codes. CPT II codes are a five alphanumeric character string that ends with the letter "F". G-codes are a five alphanumeric character string that begins with the letter "G". CPT II codes and/or G-codes are established to describe the clinical action or status required by a measure numerator. QDCs are utilized by CMS to identify clinical action or status including outcomes data such as laboratory or blood pressure values as part of their claims-based assessment of practitioner performance. HEDIS physician measures also utilize CPT II and G-codes to identify clinical action or status. With respect to the utilization of these codes, the Discern Team understands that certain payers are reporting HEDIS measures based upon these codes, but as the data is not complete, they are supplementing with data from other sources (e.g., medical record data, etc.)

- *Logical Observation Identifiers Names and Codes* (LOINC®): Certain HEDIS physician measures use LOINC codes that communicate specific laboratory and clinical observations. LOINC codes are generally included alongside CPT codes in measures that require indication of laboratory testing.

The Maryland APCD does not contain CPT II, G-codes or LOINC codes. These codes are not required to be submitted to the APCD by payers and in general payers themselves, are inconsistent in collecting or receiving them. Although LOINC codes represent a greater level of specificity than CPT codes regarding the technology associated with lab test performed, this information is generally not required for measure compliance as long as the CPT code is present.

With respect to CPT II or G codes, if these data are indeed not available in the APCD, measures that require this type of data for measure calculation currently cannot be implemented, as there is generally no representative claims based substitute.

- *Laboratory Results:* One potential solution to the issue just outlined may exist in relation to laboratory values. The Discern Team understands that two potential avenues may exist for obtaining laboratory values, including from the laboratory vendor to payer data feeds and from data housed at Chesapeake Regional Information System for our Patients (CRISP). Access to these data is currently limited as a result of state reporting requirements. The Discern Team recommends both avenues be explored further by the PPM program to evaluate the feasibility of obtaining this data.

- *Pharmacy Codes:* HEDIS measures also utilize a subset of HCPCS codes referred to as J-codes that are specific to certain specialty pharmaceuticals that may be physician-administered as well as National Drug Codes (NDCs). Since J-codes are reimbursable to practitioners, the APCD professional services file includes data on these drugs. The APCD pharmacy file is complete with regard to NDC (Table 4).

Table 4. Availability of NDC Codes in the APCD

APCD Variable	APCD file	APCD Description	Observations	%
Total	Pharmacy	Total Services in the pharmacy file	17,447,305	
NDC	Pharmacy	Principal procedure code	17,446,497	99.99%

The Discern Team would note, however, that although NDC is complete for existing records, the APCD pharmacy file captures only approximately 50 percent of prescription drugs filled by Maryland residents. This limitation is the result of state requirements for reporting. Pharmacy data are included in the APCD for fully insured residents but not for those with benefits carved-out to Pharmacy Benefit Managers (PBMs). A similar APCD data completeness issue exists regarding carved-out behavioral health services. The Discern Team recommends data from carved-out pharmacy and behavioral health administrators be obtained. Of note, it may be wise to understand exactly how much behavioral health data is missing from the APCD, as the amount of behavioral health services that are carved-out, has lessened over the years.

With respect to cost/efficiency/resource use measures, the Discern Team understands that certain generic prescribing measures require NDC codes and a flag if the drug is generic, or brand priced as generic. While the APDC includes NDC codes, and a GBO (generic/brand indicator), there doesn't appear to be information that indicates brand priced as generic. It is the Discern Team's understanding that the 'brand priced as generic' information may be available through a pharmacy data vendor, but further investigation is warranted to understand the costs associated with this.

2) Data for Attribution

Evaluating the APCD data elements to understand how they support PPM is a critical piece to designing a PPM. Another critical piece is evaluating how the APCD data elements support the attribution of patients to practitioners and the attribution of practitioners to practices. To understand how the APCD supports the attribution of patients to practitioners and/or practice group the Discern Team examined the completeness of data submitted for the following data elements –

- Practitioner Federal Tax ID;
- Servicing Practitioner ID; and
- Billing Practitioner ID.

Table 5 provides a list of key variables within the APCD that identify practitioners and/or practice groups as well as the number of observations for each variable.

Table 5. Availability of Variables that Identify Practitioners or Practice Groups in the APCD

APCD Variable	APCD file	APCD Description	Observations	%
Total	Professional services	Total Services in the professional services file	77,181,129	
FEDTAXID	Professional services	Practitioner Federal Tax ID	76,474,768	99.08
F_VTIN	Professional services	Flag, Federal Tax ID Valid	76,266,002	98.81
NPI	Professional services	National Provider Identifier(NPI) NPI	71,948,598	93.22
F_VNPI	Professional services	Flag, NPI Valid	71,591,655	92.76
NPI_BILL	Professional services	National Provider Identification used for Billing	73,676,262	95.46
F_VNPIBILL	Professional services	Flag, NPI_BILL Valid	71,929,823	93.20

As indicated in Table 5, practitioner federal tax ID is the variable for which the APCD data is most complete. This variable represents the employer tax ID of the billing entity which is the practitioner, practice or office facility that receives payment for services or the SS# of the provider. Where physicians are sole proprietors this variable will identify an individual physician. Where physicians are members of a group practice or are employed this variable will identify the group practice or physician employer. Since the FEDTAXID variable is relatively complete, this variable could be used to assign patients to practitioners. If this variable is used, however, patients will need to be assigned to practice groups rather than to individual practitioners within a practice group.

Other variables to consider for attributing patients to providers are NPI and NPI_Bill as illustrated in Table 5. These variables represent the rendering practitioner National Provider Identification (NPI) number and the billing practitioner NPI[3]. As such, utilizing these variables would allow measurement at the individual practitioner level as well as at the practice group level. The limitations, however, may be the completeness and accuracy of this data for observations within the APCD as discussed previously.

a) Attribution Rules under MHCC PCMH

Under the Maryland PCMH program, Federal Tax ID or organizational NPI is used to define the practice site. If a practice operates across multiple sites, the practice itself designates the individual providers and their associated NPIs for each site. This methodology may be complex for

[3] The NPI is the health care provider identification system adopted by the U.S. Department of Health and Human Services as part of the implementation of HIPAA.

implementing PPM statewide. The PCMH program is voluntary and is limited to a discrete number of practices, therefore, having participating practices designate individual physicians for specific practice sites is manageable. Statewide rollout of a PPM program may not allow for this level of attribution. Regardless, the identifiers that would be utilized are likely the same. If Federal Tax ID is relied upon, existing APCD data are likely complete. If NPI is needed, however, then the APCD data will need to be examined more closely to determine how the reporting of NPIs might be improved. However, all methods that create physician group rosters from claims data have an inherent error of omitting actual members and of including incorrect members. The Discern Team's understanding from experienced practitioner performance measurement programs is that specific techniques have been utilized to allow physicians to edit and correct rosters to achieve greater completeness and accuracy.

Improving the reporting of NPIs is also important considering methods for attributing patients to practices. Under the Maryland PCMH program, patients are attributed to practices based on the number of visits to a practice or practices for specific Evaluation & Management (E/M) CPT codes provided by physicians with a specialty designed as primary care. Specifically, the rules require counting the number of allowable visits (as defined by these specified E/M codes) by patient and by practice (as identified by organizational NPI, Federal Tax ID, or individual NPIs). A patient is then assigned to the practice with the most allowable visits for that patient. If there is a tie, a patient is assigned to the practice with the most recent allowable visit.

b) Attribution Rules under CMS PQRS

The CMS uses a slightly different methodology known as the "plurality of primary care attribution method" to attribute patients to practices. Under the CMS methodology Medicare beneficiaries are attributed to the practice that billed the largest share of allowed E/M services (based on dollars, not services). To implement the plurality of care method, CMS follows a two-step process. The first step assigns a beneficiary to a practice if the beneficiary receives the plurality of his or her primary care services from primary care physicians within the practice. The second step applies only to beneficiaries who have not have had a primary care service furnished by any primary care physician either inside or outside the practice. Under this scenario, a beneficiary is assigned to a practice if the beneficiary received a plurality of his or her primary care services from specialist physicians and certain non-physician practitioners. CMS chose the plurality of primary care attribution method to ensure future alignment with both the Shared Savings Program and the forthcoming Physician Value-Based Payment Modifier. The primary identifier for practices is the Federal Tax ID.

c) Attribution Rules under HEDIS®

HEDIS Technical Specifications for Physician Measurement is not prescriptive about physician attribution, but rather offers considerations regarding goals of attribution, types of attribution (physician-centric and patient-centric) and examples for each of the three categories of attribution algorithms for primary care and specialty care (PCP assignment, visit-based algorithms and cost-based algorithms), including relevant trade-offs .

Summary Assessment Illustration of APCD Data Completeness

In summary, Table 6 provides a single illustration of variables and code systems utilized by PQRS and HEDIS physician quality measures, provider and patient identifiers as well as their availability and completeness within the APCD.

Table 6. A Single Illustration of APCD Availability and Completeness as Related to Variables and Code Systems Utilized by PQRS and HEDIS Physician Measurement and Provider and Patient Identifiers

Variable/Code System	Measure Component	Available in APCD	APCD File	Completeness
Age	Denominator	✓	Professional, Institutional, Pharmacy	●
CPT	Numerator, Denominator	✓	Professional, Institutional, Pharmacy	●
HCPCS (including J-codes)	Numerator, Denominator	✓	Professional, Institutional	●
ICD-9-CM (diagnosis codes)	Denominator	✓	Professional, Institutional	●
ICD-9-PCS (procedure codes)	Denominator	✓	Institutional	●
LOINC	Numerator	✗	N/A	○
NDC	Numerator	✓	Pharmacy	●
Place of Service	Denominator	✓	Professional	●
QDCs (non-reimbursable CPT II and G-codes)	Numerator	✗	N/A	○
Revenue Code	Denominator	✗	N/A	○
Sex	Denominator	✓	Professional, Institutional, Pharmacy	●
Type of Bill	Denominator	✓	Institutional	●

Variable/Code System	Measure Component	Available in APCD	APCD File	Completeness
Patient Identifiers	Aggregation & Attribution	✗*	Professional, Institutional, Pharmacy	○
FEDTAXID	Aggregation & Attribution	✓	Professional, Institutional	●
NPI	Aggregation & Attribution	✓	Professional, Institutional, Pharmacy	○

*APCD contains birth month and birth year (to calculate age), sex and zip code. It does not contain name, birthdate, address, SS# or other patient identifiers.

Assessment of Accuracy of Existing APCD Data

In addition to reviewing the data to identify gaps and to evaluate completeness, it is also important to understand the accuracy of the data. While standard measures under QECP, such as NQF endorsed performance measures, have been tested for reliability and validity of the data elements, the accuracy of the codes that feed these measures is also dependent upon how the fields are used by providers and carriers. The accuracy of NPI has previously been discussed. Another example is "admissions source", which is included in inpatient claims. Because payment is not dependent upon where a patient was prior to admission to the hospital, many hospitals don't code this variable accurately. Discern recommends that the PPM program review individual variables within selected performance measures with SSS in order to understand the quality of the data that will feed these measures.

Assessment of Maryland Regulations

In addition to evaluating completeness and accuracy, the Discern Team examined all regulations under COMAR 10.25.06 that govern the Maryland Medical Care Data Base and Data collection. Specifically we reviewed data submission, audit, and acceptance processes and timelines under the program.

1) Data Submission Timelines

COMAR 10.25.06.04 requires payers to report annually to MHCC by June 30 data for all prior year claims that are fully adjudicated by April 30. Although the reporting deadline is June 30, the actual date of a complete APCD data set is roughly nine months later. This timeline is consistent with the timeline for available Medicare data. For example, the Medicare research identifiable files (RIFs) available from CMS currently were released in spring 2013 and include a 12-month run-off, or about 99+% of total claims for that year (2011). The next release of data will be September 2013. It will contain the 6-month run-off file for calendar year 2012 and include approximately 96% of total claims for the year 2012. The difference between Medicare and MHCC currently is that CMS releases data quarterly. If MHCC were able to adopt a semi-annual or quarterly reporting process, MHCC would be able to combine APCD data with Medicare data on a more frequent basis.

2) Audit & Acceptance Processes

Current audit and acceptance processes do not appear to be specified in the Maryland regulations. Though the Discern Team understands that requirements related to audit and acceptance processes in relation to acceptance of data into the APCD do exist. For example payers must meet reporting thresholds unless they obtain waivers, and all payers receive waivers for some variables. MHCC staff prepare a workbook for SSS which lists the variables for which each payer received a waiver. A recent requirement was initiated which requires submitters to compare values generated from prior year submissions with the values from the data they are about to submit. If there is more than a 10% difference in the values, the carrier has to explain the reason.

Related standards in the QECP program for obtaining and aggregating Medicare data necessitate setting and following requirements to establish the statistical validity of measure results for quality measures, and the systematic evaluation of the accuracy of the measurement process, including correction of errors.

Feasibility of Combining APCD data with Medicare Data

General Description of Medicare Data Available

Medicare data are available in many formats for many different uses. The source of the data varies. Most of the data are the result of Medicare claims that have been submitted by providers for payment. Physicians, hospitals, outpatient facilities, pharmacies, DME providers and any other providers of services under Medicare submit claims. The claims flow through the Medicare Administrative Contractors (MACs) to CMS. Other data available come from Social Security, eligibility files and surveys.

The data that are received by CMS are made available in a variety of formats. There is a beneficiary summary file that includes a record for each eligible patient. There are also claims files for different types of providers. The available files can be obtained by researchers and organizations like QEs and then combined in different ways to accomplish their needs.

The most common beneficiary file is the Master Beneficiary Summary File. It contains demographic information on each Medicare beneficiary: name, data of birth, age, gender, address. The file contains a Health Insurance Claim (HIC) number. The HIC is a unique patient identifier that appears in all Medicare claims data and can be used to link this file with any claims file by patient. It also contains a flag for eligibility by month for Medicare Parts A, B and D. This file also contains derived data from the claims. It has a Cost and Use segment and a Chronic Conditions Segment. This data are available for calendar years 1999 – 2011. The next available data will be released September 2013 and will include calendar year 2012 data.

Many claims files are available and will be of interest for this program. These files include the Carrier Claims, Inpatient Claims, Outpatient Claims, and Prescription Drug Events. MHCC has regularly been receiving all claims files except hospital inpatient, SNF (they receive the MedPAR) and pharmacy. MHCC receives all segments of the MBF.

These files include all information submitted by a provider for a claim. As with the APCD, these include diagnosis and procedure codes in the form of ICD-9-CM, CPT or HCPCS depending upon the type of provider. There are also physician and facility identifiers. The NPI is now required for submission of claims to Medicare and has been since 2011. NPI is also required for submission to Medicaid and other carriers, although as mentioned, these data are not complete in the APCD. This data element can be used to match data sets by physician. The files also contain a HIC number, a unique patient identifier that allows for combination of claims regardless of the source by patient for any Medicare claims data.

CMS Data Available through QE Program

CMS makes data available to researchers and contractors through the Research Data Assistance Center (ResDAC). The ResDAC has three broad categories of files available:

1. Research Identifiable Files (RIF)
2. Limited Data Sets (LDS)
3. Public Use Files (PUF)

The files are created by combining information from the data sources mentioned above, claims data, eligibility files, survey data, etc. The RIFs contain patient and provider identifiable information and a multitude of variables. The LDSs also contain patient and provider identifiable data but are more limited in the variables contained in the files. They are intended for very specific analyses. The PUFs are stripped of patient and provider identifiers. These files are widely available without the need for applications for use, DUAs and security audits. There are a large number of files included in each of these categories; RIF – 49 separate data sets, LDS – 23 data sets, PUF – 21 data sets.

The data that will be made available to QEs includes a subset of the RIF files. There are 12 files. These files are listed in Table 7 along with brief descriptions of the variables contained in the files. As noted with an asterisk below, the most important files for the PPM work are the Carrier RIF and the Master Beneficiary Summary File.

Table 7. RIF Files Available to QEs

Data Set	Description
Durable Medical Equipment RIF	The Durable Medical Equipment (DME) file contains final action, fee-for-service claims submitted by Durable Medical Equipment suppliers.
Skilled Nursing Facility RIF	The Skilled Nursing Facility (SNF) file contains final action, fee-for-service, claims data submitted by SNF providers.
Carrier RIF*	The Carrier file (also known as the Physician/Supplier Part B claims file) contains final action fee-for-service claims submitted on a CMS - 1500 claim form. Most of the claims are from non-institutional providers, such as physicians, physician assistants, clinical social workers and nurse practitioners.
Master Beneficiary Summary File*	The Master Beneficiary Summary File includes several segments. Base (A/B/D) segment : This segment includes beneficiary enrollment information, such as the beneficiary unique identifier, state and county codes, zip code, date of birth, date of death, sex,

	etc.
Inpatient RIF	The Inpatient file contains final action fee-for-service claims data submitted by inpatient hospital providers for reimbursement of facility costs. This file includes: diagnosis (ICD-9 diagnosis), procedure (ICD-9 procedure code), Medicare Severity Diagnosis Related Group (MS-DRG),dates of service, reimbursement amount, hospital provider number, and beneficiary demographic information
Outpatient RIF	The Outpatient file contains final action, fee-for-service claims data submitted by institutional outpatient providers. Examples of institutional outpatient providers include hospital outpatient departments, rural health clinics, renal dialysis facilities, outpatient rehabilitation facilities, comprehensive outpatient rehabilitation facilities, and community mental health centers.
Part D Drug Event File	The PDE data contain prescription drug costs and payment data that enable CMS to make payments to the plans and otherwise administer the Part D benefit.
Part D Formulary File	This is a CMS data file, available for request and use in analysis.
Part D Drug Characteristics File	The drug characteristics file is a supplemental set of variables that are appended to the Part D Event data. The drug characteristics file contains four variables from the First DataBank® (FDB) reference file.
Part D Prescriber Characteristics File	The Prescriber Characteristics file contains information about the practitioner who prescribed the drug. Prescriber identifiers are encrypted in the Part D data, so researchers must link this file with the Prescriber id.
Part D Pharmacy Characteristics File	The pharmacy characteristics file provides information about the type of pharmacy (e.g., community/retail pharmacy, mail order, institutional pharmacy), the location of the pharmacy (i.e., state), and whether the pharmacy has a relationship with a common parent organization.
Part D Plan Characteristics File	The Part D Plan Characteristics file contains plan information in 4 separate files (all of which come standard with the file). Plan identifiers are encrypted in the data, so researchers must use this file to find out more information about the plan.

Assessment of Completeness

Tables describing the completeness of Medicare data are not readily available through ResDAC, as they are for the APCD data set. File layouts and descriptions of variables are available, as well as precautions related to specific data elements. For example, "source of admission" is known to be unreliable in its coding. This precaution is not a function of the completeness of the data but of the accuracy of the coding. Several other variables have similar precautions related to the accuracy of the coding. There are no precautions related to the completeness of data element. The Discern Team will pursue other sources of information related to the completeness of the data.

Attribution and the Combination of Medicare with the APCD

Using the APCD to assess and report on provider quality performance requires data to be obtained and aggregated at the level of the individual patient and at the level of the physician. We understand that the existing MHCC APCD is robust with regard to private carrier data, but that MHCC would seek to aggregate its existing data with public payer data (Medicare and Medicaid) to be able to more fully measure provider performance.

The preceding discussion about the readiness of the APCD clearly lays out the availability of many of the variables necessary for the PPM program. Practice/physician is present in records <<>>% of the time in the form of the tax ID and is accurate <<>>% of the time according to <<<>>>. Codes are present which identify diagnoses and if procedures were done, those procedures are also coded. These same variables will be available in Medicare data and will appear with the same accuracy. SSS currently constructs an APCD-like version of the Medicare carrier claims. This version has the Medicare variable values mapped to APCD variables so that the data could be analyzed together.

There are many types of data available: clinical, inpatient, outpatient facility and pharmacy. The data being examined are all similar in that they are administrative data, they are bills sent to insurance carriers for allowable services. We are primarily concerned here with the measurement of the performance of physicians, either individually or in groups and therefore focus on claims originating in the physician office. Clinics use the same people, processes and the same billing software to bill for services whether the service was provided for a patient on Medicare, Medicaid or private insurance.

How the data will be combined is governed by the intended use and upon limitations of the data. There are two ways that data must be linked in order to provide performance data to physicians. The first is by physician. The second is by patient. Both of these methods of sorting will be required to accomplish the goal of making physician performance information transparent.

Attribution by Physician

Combination of the data by physician will be addressed first. Data from the different data sets can be combined and must be sorted by physician. This will be necessary so that all patients that a physician cares for, regardless of payment source, can be considered in calculating performance on different quality measures. This is important.

Currently, individual carriers have access only to data on a physician's patients that are covered by the carrier. Many already provide performance data to physicians on those patients. This can provide a skewed view of the physician's performance. When considering a physician's patients

who are covered by only one carrier, the sample size is usually so small that the measure is not statistically significant. Because of the small sample size, physicians sometimes receive performance data that vary widely from carrier to carrier. The advantage of combining all available carrier data and then analyzing at the level of the physician is that it provides a much fairer representation of the physician's practice. Combining data in this way will be possible and will be relatively straightforward using both Medicare and Medicaid data combined with APCD.

As mentioned previously, CMS has used TAXID for PQRS attribution purposes. There is also a similar variable in the APCD data. Within APCD, the content of the tax id variable can be the tax id of the billing organization or the social security number of the physician providing the services if those services are provided by a small clinic. The tax id fields in the Medicare and APCD files could conceivably be used to link the data sets by physician or clinic. There is however one practical consideration related to the use of the tax id. Large group practices often use a single tax id for all billing regardless of physician rendering care and regardless of the location the care was delivered. A group of 200 physicians with 12 locations will appear as a single entity if grouped by tax id.

A decision would need to be made about the desirability of reporting at this level of aggregation. Would this serve the interest of Maryland residents? If there is a need to view the performance of your local clinic, this information might not be sufficient. The care provided by the local clinic might be rolled into the care provided by a dozen other clinics throughout the state.

There has been a federal requirement since May 2007 that NPI be submitted on every claim. The NPI is a ten digit identifier. NPIs are issued by the federal government and are unique. Once issued to a physician, they stay with that physician as they move to different clinics or to different states. They are issued to both physicians and provider organizations. Several variables exist in the Medicare and APCD data sets that allow entry of NPIs for the attending physician and provider organization. This will be the ideal variable for matching data sets by physician.

Work will still need to be done to match the physician to a specific practice location. One possibility for establishing the location is the Board of Physician's database. Linkage can occur through the NPI. The group in charge of that database has been working to improve the accuracy of the database. There will also be other considerations once a decision is made about whether information will be reported by physician, clinic, location or some combination. How will physicians who change locations during the reporting period be treated? How will physicians who work in several locations be attributed?

Attribution by Patient

The second way that the data sets will need to be combined is by patient. A requirement of the QE program is that physicians must be provided with their Medicare data (not commercial or Medicaid), by patient, so that the physician has the opportunity to examine the data, verify its accuracy and have the opportunity to correct any inaccuracies present.

While this will technically overcome a limitation in the APCD (because commercial patient demographic data is limited), it creates a potential problem with the accuracy of publicly available

data. If physicians are not able to review all of their data ahead of public release to verify accuracy of patient attribution, a critical step in the process is removed.

Patient Demographic Data and the APCD

The APCD is maintained by SSS. SSS staff were interviewed to get an initial impression of the data and its limitations. They provided two files; "2011 Maryland Medical Care Data Base User's Manual" and "2011 Medical Care Data Base, Data Base Submission Manual."

The APCD database contains a record for every patient encounter reported to a carrier (e.g. inpatient, outpatient, pharmacy). However, many patient identifiers are stripped out before the data are sent to the state. Patient birth month and birth year are included, but not the birth day. Zip codes are included but no other address information for the patient is contained in the files.

The availability of demographic data is the main area where the data sets differ. Claims data, regardless of source initially contain name, age, date of birth, address (street, city, state, zip code), gender, and patient identifiers. Patient identifiers differ by carrier. Medicare uses the Health Identification Code (HIC). Medicaid patient identifiers vary from state to state. If a MCO cares for the Medicaid patient, they usually have a Medicaid number and an MCO number.

While complete demographic data are collected regardless of payer source, this data will not all be available to MHCC. The difference between the Medicare or Medicaid data and the APCD data is that private carriers are not required to submit most demographic data that they collect to MHCC. Discern understands that collection of patient identifiers for commercial data in the APCD would require change in statute.

The APCD file contains two encrypted patient identifiers. The first, "PATIDP," is encrypted by the carrier. It will match for patient encounters by the same patient within the same carrier's submission, but is of no use when trying to match patients from other carriers or other datasets such as Medicare or Medicaid. The second is, "PATIDU," an ID that is created using an encryption algorithm that is provided by SSS. The algorithm encrypts the social security number and name. This variable has been used to identify the same patient across plans within a carrier and across carriers.

The lack of a common patient ID and complete demographic data make matching the data between data sets a challenge. Not only will it be difficult to match data by patient between the APCD and Medicare or Medicaid, different carriers submitting data to MHCC may be submitting data on the same patient that will not match because of the reasons that will be discussed in the next section.

Why is this important? Patients can change carriers during the year. Some patients move on and off of Medicaid. Some individuals change jobs during the year and can therefore have more than one insurance carrier. A growing number of patients leave commercial carriers each year when they become eligible for Medicare. This is not a trivial issue. There are insurance companies that offer several products: Medicaid health plans, Medicare health plans, commercial health plans. Some of these companies also provide claims administration for self-funded employers. It is not uncommon for these companies to use unique patient identifiers for their different insurance offerings. In many

cases if patients move from one of their offerings to another, the insurance company is unable to determine that this is the same patient.

The Discern Team recommends this issue be addressed. If a single patient changes insurance and therefore appears to be two unique patients, this will affect a physician's performance rating. For example, a patient with diabetes should receive an HbA1c and a dilated eye exam at least once each year. If the patient receives both of these tests during the year but different carriers pay for each of the tests, it will appear that the physician has two unique patients with diabetes, each receiving only a portion of the recommended care.

The lack of patient demographic data is a hurdle in combining the APCD data with Medicare or Medicaid data. It is also questionable whether data within the APCD database that are submitted by different carriers can be trusted with respect to patient matching. This is true regardless of which variable is used to match patients. This fundamental flaw in the APCD data will need to be addressed in order to meet the goals of physician reporting.

Possible Solutions to the Lack of Demographic Data in the APCD

1) Use of Current Encrypted Patient IDs

The lack of demographic information precludes the use of the probabilistic software to match patients between the APCD and other databases, such as Medicare and Medicaid. Probabilistic matching requires at least name, address, birthdate and gender.

One possibility for matching the APCD with Medicare and Medicaid data was suggested by SSS. SSS can provide the algorithm that is used to encrypt PATIDU. If MHCC has another data set that contains the patient name and social security number, applying the algorithm will result in a variable that can be linked with PATIDU.

This method might present some problems. If the name is not entered exactly the same way in the two databases, the resulting encrypted variable will be different for the two data sets. It will appear that these are two different patients. For example, "Bill Jones" and "William Jones" would result in separate encrypted IDs even if the same social security number is present.

2) CRISP Master Patient Index (MPI) Pilot

Another solution to this issue is the creation of a Master Patient Index (MPI) for the state. CRISP is using probabilistic matching software provided by IBM to perform its work as the state Health Information Exchange (HIE). A pilot is currently in progress that will allow carriers to submit the demographic data associated with the people they cover to CRISP. CRISP will then return a unique identifier to the carrier. The carrier can attach the unique identifier to its records for submission to the APCD. Theoretically, this will allow accurate patient matching between carriers that submit to the APCD. This could also be theoretically extended to patients included in the Medicare and Medicaid data sets, allowing accurate matching for most patients in the state. As mentioned above, while there would need to be a change in statute for MHCC to hold patient identifiers, CRISP does

not act under the same statute. Its authority is broader than MHCC and could act as a clearinghouse for this type of information.

In addition to assessing the overall reliability and validity of the CRISP MPI, the Discern Team will evaluate how the CRISP MPI may be used with data from new sources, specifically Medicare, to assign claims data to the correct patient identity – both existing and new patient identities. To fully assess whether the CRISP MPI may reasonably be applied to other data, the Discern Team will need to review and evaluate the methods and data employed by the CRISP MPI to assign clinical information to patient identities. As such, the Discern Team will review and evaluate the data elements contained in the Medicare Research Identifiable Files (RIFS) that will be available for practitioner performance measurement if MHCC is approved as a Medicare QE. Finally, the Discern Team will construct a matrix that identifies the extent to which the data utilized by the CRISP MPI and the data provided in the Medicare RIFs intersect. This matrix will be helpful to inform whether the CRISP MPI is a reasonable tool for assigning Medicare data to existing patient identities within the CRISP MPI. Interviews are being scheduled with individuals at CRISP, selected carriers and IBM to explore the possibility and limitations of the use of this MPI.

3) Modify Reporting Requirements for APCD

The final possibility is to modify the reporting requirements of APCD to include patient demographic information. COMAR and Maryland statute would need to be amended to require the reporting by payers of patient names, addresses, dates of birth and patient identifiers such as social security numbers. Much of this information is already collected by the payers, but is not reported to MHCC for inclusion in the APCD.

Feasibility of Combining APCD data with Medicaid Data

The Discern Team's assessment of the feasibility of combining APCD data with Medicaid data is still in progress. The Discern Team also understands from MHCC that there will soon be a study in place to investigate the challenges faced in cross-walking Medicaid file variables to variables contained in the private carrier data.

The following is a description of some of the work currently underway. In relation to this, two broad questions will need to be answered.

The first question is whether the proper variables are available in the data set to match the data with APCD and Medicare data. This will require an examination of the file layout for the presence of demographic data elements for physicians and patients, as well as data elements specific to the quality measures to be reported. This work will be similar to that done for APCD and Medicare. As mentioned in the section on Medicare data, the combination of Medicaid data with APCD will not likely be limited by the presence of data elements in the Medicaid data. The federal government requires certain common data elements be collected and reported in all states. Patient, physician (e.g., NPI) and other provider information are among the variables required. In both cases, combining the data at the level of the physician will prove straightforward due to the presence of physician/clinic identifiers in the databases. The challenge will relate to the lack of patient

demographic information in the APCD. Potential solutions to that challenge are mentioned in the Medicare section.

The second question to be answered is how to access the Medicaid data. This is not as straightforward a question as it is for APCD and Medicare. MHCC controls the APCD data. Medicare has already agreed to provide data through its contractor, ResDAC, and has specified the files and data elements that will be available. Obtaining Medicaid data presents unique issues. The Hilltop Institute is one source of data. The Hilltop Institute receives Medicaid data for the purposes of policy analysis. Two other sources of data that will be explored are the MCOs that provide care to Medicaid patients and the Maryland MMIS. Both of these sources have the potential to provide the data.

Discussions have been held with Medicaid leaders. Maryland' MMIS system is accessible only by DHMH employees. DHMH has had an agreement in place with the Hilltop Institute for several years allowing the Institute access to Medicaid data. The Hilltop Institute receives monthly feeds of the Medicaid claims data. Hilltop analyzes the data to address policy questions. They also make very limited data sets available to researchers that have been approved by DHMH. Medicaid would prefer to utilize this avenue to provide data to the PPM program.

Recommendations

This section summarizes the Discern Team's recommendations for the PPM program related to our assessment of APCD readiness, aggregation with Medicare and Medicaid data and any associated regulation changes. Summarized feedback from the PPM Work Group held on July 30, 2013 to review Discern's recommendations along with any draft MHCC APCD expansion plans have been included where relevant.

As such the Discern Team makes the following recommendations. The PPM should be structured to–

1. Expand APCD data collection efforts to include revenue codes.

The Discern Team understands that expanding the APCD to include revenue codes requires revising the data submission requirements at COMAR 10.25.06.09 (Institutional Services Data Report Submission) to include revenue codes. The team is not aware of any reason why payers may object to this new requirement as these data are required as part of the uniform bill submission and should be readily available to providers.

- *Draft MHCC APCD Expansion Plans:* Revenue codes to become available in the 2014 submission of 2013 data. For measures with revenue codes that require a 2-year look back, implementation of these measures could not occur until submission of data in 2015.

2. Move toward being able to include measures of clinical outcomes. Understand from payers whether they utilize non-reimbursable CPT II codes and G-codes, in their own physician measurement efforts. If these codes are utilized, expand APCD data collection efforts to include these data.

Using purely claims data, we are limited to process measures in provider reporting. Clinical data, such as lab values, can make more outcome measures possible.

CareFirst, United HealthCare, and Aetna, the MCOs that in 2011 covered the majority of privately insured Maryland residents (approximately 4.2 million out of 4.9 million) each utilize HEDIS® to measure practitioner performance. As such, these payers may be collecting CPT II codes and G-codes as part of their own physician measurement or other data collection efforts. The PPM program should discuss with payers whether these data are being collected and whether any obstacles exist to submitting these data to the APCD.

- *07/30/13 PPM Work Group Feedback:* While employers may be pushing carriers for CPT II code information, does it make sense to call for the use of codes that require additional work and that do not fit in the natural flow of patient care? This would create a burden on the system, and is it the change we want? Will there be an opportunity to use EHR data, which is much more complete and needs no attribution, understanding

that there may still be a need for supplementing with claims, for services that come from outside the practice, and for costs. Why not align with systems already in place? For example there is the ONC-certified EHR vendor program. MHCC could pilot this effort with a small number of EHRs, where the practices would self-report, as they do in the PCMH pilot, with the right to be subject to audit. On a different path, if there is a need for CPT II and G code information, think about how you might build incentives for physicians to report the codes. Perhaps you may want to collect the information but not use it in public reporting right away.

3. Also for clinical outcome data, acquire laboratory results data files from locked vendor to payer feeds or from CRISP, and match them using either live identifiers or the MPI that CRISP is testing.

While CPT II and G codes are one way to represent laboratory results (clinical outcomes) within claims data, as mentioned, they are likely being collected inconsistently by payers and are not currently being reported to the APCD. An alternative pathway for inclusion of this information into the APCD is to obtain laboratory results data from locked vendor to payer feeds or from CRISP and match them using either live identifiers or the MPI that CRISP is testing.

4. Expand APCD reporting requirements to include data from pharmacy benefit managers and behavioral health carve-out entities.

Under COMAR 10.25.06.01 (Scope), behavioral health carve-out entities and pharmacy benefit managers servicing standalone prescription benefit plans are not obligated to submit data. As such, the pharmacy data and behavioral health data available through the APCD are limited. This limits the population eligible for many measures that use pharmacy data either for the denominator or the numerator. Behavioral health data is also needed for several measures. Regulation .01 should be revised to require reporting by behavioral health carve-out entities and pharmacy benefit managers servicing standalone prescription drug benefits. Doing so will enhance the PPM program's ability to utilize the APCD data.

- *Draft MHCC APCD Expansion Plans:* Pharmacy claims from PBMs to become available in the 2014 submission of 2013 data. For measures with pharmacy data that require a 2-year look back, implementation of these measures could not occur until submission of data in 2015. Acquisition of behavioral health data will likely occur on a longer time frame.

- *07/30/13 PPM Work Group Feedback:* There may actually be a very minimal amount of behavioral health data that is carved out and not currently available in the APCD. MHCC may want to investigate just how much behavioral health data is missing.

5. Understand patterns of NPI reporting. Consider strategies for improving accuracy, reporting of and obtaining missing NPIs to enhance attribution methods.

The Discern Team's analysis of the completeness of certain variables within the APCD identified gaps in the completeness of NPI data. As discussed above, roughly 7 percent of all records in 2011

were missing NPI data. As discussed previously though, there may be additional issues related to NPI accuracy, which will need to be resolved. MHCC may be able to use physician board data, which is housed within DHMH, to crosswalk the NPIs and verify that the information is a valid physician NPI. The Discern Team's understanding from experienced practitioner performance measurement programs is that specific techniques have been utilized to allow physicians to edit and correct rosters to achieve greater completeness and accuracy.

- *07/30/13 PPM Work Group Feedback:* It will be important to revisit the discussion on what unit of analysis will be measured (practice, site, individual physician, etc.) How does consumer choice improve quality? Patients may be more interested in information at the individual physician level. Also it is very difficult to identify location from the NPI. Consider letting the physicians decide at what level they want to report the information based upon how they practice. Decide if there will be an opt-out for solo or small practices, though there are a very large number of small practices in Maryland. Certain performance measurement programs evaluate at the physician level, unless there isn't enough data. In which case, they report at the group level.

6. Require payers to submit patient level identifying information on all claims, including patient name, address, birthdate and other needed information. Alternatively, if restricted by statute explore using a state-wide MPI.

Patient identifiers are needed to match patients across claims. Combination of the APCD data with Medicare or Medicaid data will require some way of matching patient level demographic data in the APCD data set with Medicare data. It is not currently available in the APCD, yet this information is already collected by payers. Alternatively, if this is restricted by statute, the PPM should explore results from the CRISP pilot project assessing the use of probabilistic software to create a state-wide MPI and the development of a way to unencrypt the existing encrypted patient identifiers, so they can be matched with Medicare identifiers. Though in the end, it is preferable to have patient identifiers in order to give practitioners a complete list of patients for any measure if they request it.

- *Draft MHCC APCD Expansion Plans:* Given the change in statute required for MHCC to hold patient identifiers, MHCC is proposing to use the MPI as an interim measure. CRISP would act as an intermediary between MHCC and the physicians. More specifically, all submitters of 2014 data would provide CRISP with a file of demographic information on all Maryland residents (and non-residents covered by Maryland contracts) enrolled in their products at any time during Jan. 1–June 30, 2014, for assignment of Master Patient Index (MPI) encrypted numbers.

- *07/30/13 PPM Work Group Feedback:* It is critical for physicians to have access to data by patient, so that they have the opportunity to examine their measures, verify the accuracy of the data, and take the steps necessary to help patients who may have not received the recommended care as indicated by the data.

7. Review individual variables within selected performance measures with SSS in order to understand the quality of the data.

While choosing measures that are standardized as part of the QECP process, ensures that the reliability and validity of measures have been tested, the accuracy of the codes that feed the measures is also dependent upon how the fields are used by providers and carriers. It is important to understand the quality of the data in order to truly assess the validity and reliability of the measures within the program.

- *Draft MHCC APCD Expansion Plans:* As part of a special study, MHCC intends to have SSS examine the accuracy of the data feeding variables in measures.

- *07/30/13 PPM Work Group Feedback:* Once more is known about the databases and associated data (including its completeness and accuracy) available for calculating measures in the PPM, there should be an opportunity for a Work Group to review potential measures again in depth to determine which are appropriate and advisable. To facilitate this, a Work Group would need detailed measure specifications, and a listing of what any specific issues may be with calculating those values using the specific databases ultimately employed for the PPM program.

8. Adopt a more frequent data reporting process, so that APCD data can be combined with Medicare data on a more frequent basis.

COMAR 10.25.06.04 requires payers to report annually to MHCC by June 30 data for all prior year claims that are fully adjudicated by April 30. Although the reporting deadline is June 30, the actual date of a complete APCD data set is roughly nine months later. The difference between Medicare and MHCC currently is that CMS releases data quarterly. If MHCC were able to adopt a semi-annual or quarterly reporting process, MHCC would be able to combine APCD data with Medicare data on a more frequent basis.

- *Draft MHCC APCD Expansion Plans:* Data submission requirements will transition from annual, to semi-annual to quarterly over time.

Recommendations Related to Maryland Regulations

To facilitate state objectives, the PPM program should consider revising regulations at COMAR 10.25.06 in several key ways. Recommended changes are highlighted in Table 8.

Table 8. Recommended Changes to Maryland Regulations

Regulation	Brief Description	Proposed Changes to Regulation
10.25.06.01	Scope	• Expand scope to apply to pharmacy benefit managers* and behavioral health carve-out entities*.
10.25.06.02	Definitions	
10.25.06.03	Designation of Payers to Submit Data Reports	
10.25.06.04	Time for Submitting Data Reports	• Adopt a more frequent reporting schedule*.
10.25.06.05	Encryption	• Explore adding patient identifiers to the records or create a Maryland MPI*
10.25.06.06	Professional Services Data Report Submission	• Work with payers to understand availability of CPT II codes and G-codes. If available, expand this regulation to include submission of these data.
10.25.06.07	Pharmacy Data Report Submission	
10.25.06.08	Provider Directory Report Submission	
10.25.06.09	Institutional Services Data Report Submission	• Expand to include the reporting of revenue codes for applicable institutional services.*
10.25.06.10	Medical and Pharmacy Eligibility Report Submission	
10.25.06.11	Report Submission Methods	
10.25.06.12	Security Safeguards	
10.25.06.13	Waiver or Exception Requests	
10.25.06.14	Extension of Time	
10.25.06.15	Failure to File Data Reports	
10.25.06.16	Summaries and Compilations	
10.25.06.17	Disclosure of Data for Research Use	

Regulation	Brief Description	Proposed Changes to Regulation
10.25.06.9999	Administrative History	

indicate regulation changes already being planned.

Appendix A. Potential Quality and Cost Measures Sorted by Groups Based Upon Feasibility Given Data Requirements

While these tables list measures that are potentially available for use in the PPM program with acquisition of certain data elements, further determination of their feasibility within the PPM program will need to be established. Assessments such as accuracy of the data that feeds the variables within measures, and the look-back requirement of the measures and associated number of years of data that will feed the program are just some examples of factors that will need to be evaluated.

Table A. Groups of Potential Quality Measures for the PPM

NQF	Measure Title	Description	Steward	Provider Type
Group 1: Quality Measures Potentially Ready for Use with 2013 Data (with addition of revenue codes, etc.)				
1392	Well-Child Visits in the First 15 Months of Life	Percentage of patients who turned 15 months old during the measurement year and who had the following number of well-child visits with a PCP during their first 15 months of life.	NCQA	Primary Care (Pediatrics, Family Practitioner)
1516	Well-Child Visits in the Third, Fourth, Fifth and Sixth Years of Life	Percentage of patients 3–6 years of age who received one or more well-child visits with a PCP during the measurement year	NCQA	Primary Care (Pediatrics, Family Practitioner)
0038	Childhood Immunization Status	Percentage of children 2 years of age who had four diphtheria, tetanus and acellular pertussis (DtaP); three polio (IPV); one measles, mumps and rubella (MMR); three H influenza type B(HiB); three hepatitis B (HepB); one chicken pox (VZV); four pneumococcal conjugate (PCV); two hepatitis A (HepA); two or three rotavirus (RV); and two influenza (flu) vaccines by their second birthday. The measure calculates a rate for each vaccine and nine separate combination rates.	NCQA	Primary Care (Pediatrics, Family Practitioner)
0579	Annual Cervical Cancer Screening or Follow-Up in High Risk Women	This measure identifies women age 12 to 65 diagnosed with cervical dysplasia (CIN 2), cervical carcinoma-in-situ, or HIV/AIDS prior to the measurement year, and who still have a cervix, who had a cervical CA screen during the measurement year.	Resolution Health	Primary Care (OB/GYN, Family Practitioner)

NQF	Measure Title	Description	Steward	Provider Type
Group 1: Quality Measures Potentially Ready for Use with 2013 Data (with addition of revenue codes, etc.)				
1517	Prenatal & Postpartum Care	The percentage of deliveries of live births between November 6 of the year prior to the measurement year and November 5 of the measurement year. For these women, the measure assesses the following facets of prenatal and postpartum care. • Rate 1: Timeliness of Prenatal Care. The percentage of deliveries that received a prenatal care visit in the first trimester • Rate 2: Postpartum Care. The percentage of deliveries that had a postpartum visit on or between 21 and 56 days after delivery.	NCQA	Primary Care (OB/GYN, Family Practitioner)
N/A	Breast Cancer Screening	Percentage of eligible women 40-69 who receive a mammogram in a two year period.	NCQA	Primary Care (OB/GYN, Family Practitioner, Internist)
0577	Use of Spirometry Testing in the Assessment/Diagnosis of COPD	This measure assesses the percentage of patients 40 years of age and older with a new diagnosis of COPD or newly active COPD, who received appropriate spirometry testing to confirm the diagnosis.	NCQA	Primary Care (Family Practitioner, Internist), Pulmonology
0075	Ischemic Vascular Disease: Complete Profile	The percentage of patients 18 years of age and older who were discharged alive for acute myocardial infarction (AMI), coronary artery bypass graft (CABG) or percutaneous coronary interventions (PCI) from January 1–November 1 of the year prior to the measurement year, or who had a diagnosis of ischemic vascular disease (IVD) during the measurement year and the year prior to measurement year, who had each of the following during the measurement year. • Complete Lipid Profile • LDL-C control <100 mg/dL	NCQA	Primary Care (Family Practitioner, Internist), Cardiology
0600	New Atrial Fibrillation: Thyroid Function Test	This measure identifies patients with new-onset atrial fibrillation during the measurement year who have had a thyroid function test 6 weeks before or after the diagnosis of atrial fibrillation.	Resolution Health	Primary Care (Family Practitioner, Internist), Cardiology
0592	Rheumatoid Arthritis Annual ESR or CRP	This measure identifies adult patients with a history of rheumatoid arthritis who have received erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP) lab tests during the measurement year.	Resolution Health	Primary Care (Family Practitioner, Internist), Rheumatology

NQF	Measure Title	Description	Steward	Provider Type
Group 1: Quality Measures Potentially Ready for Use with 2013 Data (with addition of revenue codes, etc.)				
0052	Use of Imaging Studies for Low Back Pain	The percentage of patients with a primary diagnosis of low back pain who did not have an imaging study (plain x-ray, MRI, CT scan) within 28 days of the diagnosis.	NCQA	Primary Care (Family Practitioner, Internist), Multiple

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Quality Measures for Use with Pharmacy Data				
0022	Use of High Risk Medications in the Elderly	a: Percentage of Medicare patients 66 years of age and older who received at least one high-risk medication. b: Percentage of Medicare patients 66 years of age and older who received at least two different high-risk medications.	NCQA	Primary Care (Family Practitioner, Internist, Geriatrician), Multiple
0053	Osteoporosis Management in Women Who Had a Fracture	The percentage of women 67 years of age and older who suffered a fracture and who had either a bone mineral density (BMD) test or prescription for a drug to treat or prevent osteoporosis in the six months after the date of fracture.	NCQA	Primary Care (Family Practitioner, Internist, Geriatrician), Multiple
0069	Appropriate treatment for children with upper respiratory infection	Percentage of children 3 months to 18 years of age with a diagnosis of URI who were not dispensed an antibiotic medication.	NCQA	Primary Care, (Pediatrics)
0036	Use of appropriate medications for people with asthma	The measure assesses the percentage of patients 5-64 years of age during the measurement year who were identified as having moderate to severe persistent asthma and who were appropriately prescribed medication during the measurement year.	NCQA	Primary Care (Family Practitioner, Internist, Pediatrics), Pulmonology
0002	Appropriate Testing for Children With Pharyngitis	The percentage of children 2–18 years of age who were diagnosed with pharyngitis, dispensed an antibiotic and received a group A streptococcus (strep) test for the episode. A higher rate represents better performance (i.e., appropriate testing).	NCQA	Primary Care (Pediatrics, Family Practitioner)
0663	Patient(s) 2 years of age and older with acute otitis externa who were NOT	This measure identifies patients 2 years of age and older with acute otitis externa who were or were not prescribed systemic antimicrobial therapy.	Optum	Primary Care (Pediatrics, Family Practitioner), ENT

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Quality Measures for Use with Pharmacy Data				
	prescribed systemic antimicrobial therapy.			
0108	Follow-Up Care for Children Prescribed ADHD Medication	The percentage of children newly prescribed attention-deficit/hyperactivity disorder (ADHD) medication who had at least three follow-up care visits within a 10-month period, one of which was within 30 days of when the first ADHD medication was dispensed. Two rates are reported. • Initiation Phase • Continuation and Maintenance (C&M) Phase.	NCQA	Primary Care, (Pediatrics, Family Practitioner)
0033	Chlamydia screening in women	Assesses the percentage of women 16–24 years of age who were identified as sexually active and who had at least one test for chlamydia during the measurement year.	NCQA	Primary Care (Family Practitioner, Internist, OB/GYN)
0071	Persistence of Beta-Blocker Treatment After Heart Attack	The percentage of patients age 18 years and older during the measurement year who were hospitalized and discharged alive July 1 of the year prior to the measurement year through June 30 of the measurement year with a diagnosis of acute myocardial infarction (AMI) and who received persistent beta-blocker treatment for six months after discharge.	NCQA	Primary Care (Family Practitioner, Internist), Cardiology
0569	Adherence to Statins	To ensure that patients who are taking statins to treat hyperlipidemia filled sufficient medication to have at least 80% coverage during the measurement year.	Health Benchmarks	Primary Care (Family Practitioner, Internist), Cardiology
0543	Adherence to Statin Therapy for Individuals with CAD	The percentage of individuals with Coronary Artery Disease (CAD) who are prescribed statin therapy that had a Proportion of Days Covered (PDC) for statin medications of at least 0.8 during the measurement period (12 consecutive months).	CMS	Primary Care (Family Practitioner, Internist), Cardiology
0555	Lack of Monthly INR Monitoring for Individuals on Warfarin	Average percentage of monthly intervals in which individuals with claims for warfarin do not receive an International Normalized Ratio (INR) test during the measurement period.	CMS	Primary Care (Family Practitioner, Internist), Cardiology
0556	INR for Individuals Taking Warfarin and Interacting Anti-Infective Medications	Percentage of episodes with an International Normalized Ratio (INR) test performed 3 to 7 days after a newly-started interacting anti-infective medication for Part D individuals receiving warfarin	CMS	Primary Care (Family Practitioner, Internist), Cardiology

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Quality Measures for Use with Pharmacy Data				
0583	Dyslipidemia new med 12-week lipid test	This measure identifies patients age 18 or older who started lipid-lowering medication during the measurement year and had a lipid panel checked within 3 months after starting drug therapy.	Resolution Health	Primary Care (Family Practitioner, Internist), Cardiology
0605	Patient(s) with hypertension that had a serum creatinine in last 12 months.	This measure identifies patients with hypertension (HTN) that had a serum creatinine in last 12 reported months	Optum	Primary Care (Family Practitioner, Internist), Cardiology
0581	Deep Vein Thrombosis Anticoagulation >= 3 Months	This measure identifies patients with deep vein thrombosis (DVT) on anticoagulation for at least 3 months after the diagnosis	Resolution Health	Cardiology
0593	Pulmonary Embolism Anticoagulation >= 3 Months	This measure identifies patients with pulmonary embolism (PE) on anticoagulation for at least 3 months after the diagnosis.	Resolution Health	Cardiology, Pulmonology
0594	Post MI, w/hypertension, diabetes or HF: ACE inhibitor or ARB therapy	This measure identifies patients with ST elevation MI (STEMI), or non-ST elevation MI (NSTEMI) plus a history of hypertension, heart failure and/or diabetes prior to the measurement year who are taking an ACEI or an ARB during the measurement year.	Resolution Health	Cardiology
0588	PCI: Stent drug-eluting clopidogrel	This measure identifies patients undergoing percutaneous coronary intervention (PCI) with placement of a drug-eluting intracoronary stent during the first 9 months of the measurement year, who filled a prescription for clopidogrel in the 3 months following stent placement.	Resolution Health	Cardiology
0586	Warfarin PT/ INR Test	This measure identifies the percentage of patients taking warfarin during the measurement year who had at least one PT/INR test within 30 days after the first warfarin prescription in the measurement year	Resolution Health	Cardiology
0578	Ambulatory initiated Amiodarone Therapy: TSH Test	This measure identifies the percentage of patients who had a TSH baseline measurement at the start of amiodarone therapy	Resolution Health	Cardiology

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Quality Measures for Use with Pharmacy Data				
0542	Adherence to Chronic Medications	The measure addresses adherence to three types of chronic medications: statins, levothyroxine, and angiotensin converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs). The measure is divided into three sub-measures.	CMS	Primary Care(Family Practitioner, Internist), Cardiology, Endocrinology
0545	Adherence to Chronic Medications for Individuals with Diabetes	The measure addresses adherence to three types of chronic medications; statins, angiotensin converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs) and oral hypoglycemic agents. The measure is divided into three sub-measures.	CMS	Primary Care (Family Practitioner, Internist), Endocrinology
0603	Adult(s) taking insulin with evidence of self-monitoring blood glucose testing.	This measure identifies patients with diabetes mellitus taking insulin that had evidence of self-monitoring blood glucose testing in last 12 reported months.	Optum	Primary Care (Family Practitioner, Internist), Endocrinology
0057	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.	NCQA	Primary Care (Family Practitioner, Internist), Endocrinology
0063	Comprehensive Diabetes Care: LDL-C Screening	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an LDL-C test during the measurement year.	NCQA	Primary Care (Family Practitioner, Internist), Endocrinology
0055	Comprehensive Diabetes Care: Eye Exam	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a retinal or dilated eye exam during the measurement year or a negative retinal or dilated eye exam in the year prior to the measurement year.	NCQA	Primary Care (Family Practitioner, Internist), Endocrinology
0604	Adult(s) with diabetes mellitus that had a serum creatinine in last 12 reported months.	This measure identifies adults with diabetes mellitus that had a serum creatinine test in last 12 reported months.	Optum	Primary Care (Family Practitioner, Internist), Endocrinology
0060	Hemoglobin A1c (HbA1c) Testing for Diabetic Pediatric Patients	Percentage of pediatric patients aged 5-17 years of age with diabetes who received an HbA1c test during the measurement year.	NCQA	Primary Care (Pediatrics, Family Practitioner), Endocrinology

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Quality Measures for Use with Pharmacy Data				
0709	Proportion of patients with a chronic condition that have a potentially avoidable complication during a calendar year.	Percent of adult population aged 18 – 65 years who were identified as having at least one of the following six chronic conditions: Diabetes Mellitus (DM), Congestive Heart Failure (CHF), Coronary Artery Disease (CAD), Hypertension (HTN), Chronic Obstructive Pulmonary Disease (COPD) or Asthma, were followed for one-year, and had one or more potentially avoidable complications (PACs).	Bridges To Excellence	Primary Care
0054	DMARD Therapy for Rheumatoid Arthritis	The percentage of patients 18 years and older by the end of the measurement period, diagnosed with rheumatoid arthritis and who had at least one ambulatory prescription for a disease-modifying anti-rheumatic drug (DMARD).	NCQA	Primary Care (Family Practitioner, Internist), Rheumatology
0589	Rheumatoid Arthritis New DMARD Baseline Serum Creatinine	This measure identifies adult patients with a diagnosis of rheumatoid arthritis who received appropriate baseline serum creatinine testing within 90 days before to 14 days after the new start of methotrexate, leflunomide, azathioprine, D-Penicillamine, intramuscular gold, cyclosporine, or cyclophosphamide during the measurement year.	Resolution Health	Rheumatology
0590	Rheumatoid Arthritis New DMARD Baseline Liver Function Test	This measure identifies adult patients with a diagnosis of rheumatoid arthritis who received appropriate baseline liver function testing (AST or ALT) within 90 days before to 14 days after the new start of sulfasalazine, methotrexate, leflunomide, azathioprine, cyclosporine or cyclophosphamide during the measurement year.	Resolution Health	Rheumatology
0591	Rheumatoid Arthritis New DMARD Baseline CBC	This measure identifies adult patients with a diagnosis of rheumatoid arthritis who received appropriate baseline complete blood count (CBC) testing within 90 days before to 14 days after the new start of sulfasalazine, methotrexate, leflunomide, azathioprine, D-Penicillamine, intramuscular gold, oral gold, cyclosporine, or cyclophosphamide during the measurement year.	Resolution Health	Rheumatology
0597	RA: Methotrexate: LFT within 12 weeks	This measure identifies adult patients with rheumatoid arthritis who were prescribed at least a 6-month supply of methotrexate during the measurement year and received a liver function test (LFT) in the 120 days (3 months + 1 month grace period)	Resolution Health	Rheumatology

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Quality Measures for Use with Pharmacy Data				
		following the earliest observed methotrexate prescription claim.		
0598	RA: Methotrexate: CBC within 12 weeks	This measure identifies adult patients with rheumatoid arthritis who were prescribed at least a 6-month supply of methotrexate during the measurement year and received a CBC test within 120 days (3 months + 1 month grace period) following the earliest observed methotrexate prescription claim	Resolution Health	Rheumatology
0599	RA: Methotrexate: Creatinine within 12 weeks	This measure identifies adult patients with rheumatoid arthritis who were prescribed at least a 6-month supply of methotrexate during the measurement year and received a serum creatinine test in the 120 days (3 months + 1 month grace period) after the earliest observed methotrexate prescription claim.	Resolution Health	Rheumatology
0585	Rheumatoid Arthritis: Hydroxychloroquine annual eye exam	This measure identifies the percentage of patients with Rheumatoid Arthritis who received hydroxychloroquine during the measurement year and had a fundoscopic examination during the measurement year or in the year prior to the measurement year	Resolution Health	Rheumatology
0564	Complications within 30 Days Following Cataract Surgery Requiring Additional Surgical Procedures	Percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and had any of a specified list of surgical procedures in the 30 days following cataract surgery which would indicate the occurrence of any of the following major complications: retained nuclear fragments, endophthalmitis, dislocated or wrong power IOL, retinal detachment, or wound dehiscence.	AMA-PCPI	Ophthalmology

NQF	Measure Title	Description	Steward	Provider Type
Group 3: Quality Measures for Use with CPT II Codes				
0326	Care for Older Adults- Advance Care Plan	Percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in	NCQA	Primary Care (Family Practitioner, Internist,

NQF	Measure Title	Description	Steward	Provider Type
Group 3: Quality Measures for Use with CPT II Codes				
		the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan		Geriatrician)
0553	Care for Older Adults – Medication Review	Percentage of adults 66 years and older who had a medication review; a review of all a patient's medications, including prescription medications, over-the-counter (OTC) medications and herbal or supplemental therapies by a prescribing practitioner or clinical pharmacist.	NCQA	Primary Care (Family Practitioner, Internist, Geriatrician)
0097	Medication Reconciliation-Post Discharge	Percentage of patients aged 65 years and older discharged from any inpatient facility (e.g. hospital, skilled nursing facility, or rehabilitation facility) and seen within 60 days following discharge in the office by the physician providing on-going care who had a reconciliation of the discharge medications with the current medication list in the medical record documented.	NCQA	Primary Care (Family Practitioner, Internist, Geriatrician)
0315	Back Pain: Appropriate Imaging for Acute Back Pain	Percentage of patients at least 18 years of age and younger than 80 with a diagnosis of back pain for whom the physician ordered imaging studies during the six weeks after pain onset, in the absence of "red flags" (overuse measure, lower performance is better).	NCQA	Primary Care (Family Practitioner, Internist), Orthopedic
0313	Back Pain: Advice Against Bed Rest	Percentage of patients at least 18 years of age and younger than 80 with a back pain episode of 28 days or more with medical record documentation that a physician advised them against bed rest lasting four days or longer.	NCQA	Primary Care (Family Practitioner, Internist), Orthopedic
0314	Back Pain: Advice for Normal Activities	Percentage of patients at least 18 years of age and younger than 80 with a back pain episode of 28 days or more with medical record documentation that a physician advised them to maintain or resume normal activities.	NCQA	Primary Care (Family Practitioner, Internist), Orthopedic
0319	Back Pain: Physical Exam	Percentage of patients at least 18 years of age and younger than 80 with a back pain episode of 28 days or more with documentation of a physical examination on the date of the initial visit with the physician.	NCQA	Primary Care (Family Practitioner, Internist), Orthopedic
0051	Osteoarthritis (OA): Assessment for use of anti-	Percentage of patient visits for patients aged 21 years and older with a diagnosis of OA with an assessment for use of anti-	AMA-PCPI	Primary Care(Family Practitioner, Internist),

NQF	Measure Title	Description	Steward	Provider Type
Group 3: Quality Measures for Use with CPT II Codes				
	inflammatory or analgesic over-the-counter (OTC) medications	inflammatory or analgesic OTC medications		Orthopedic
0643	Cardiac Rehabilitation Patient Referral From an Outpatient Setting	Percentage of patients evaluated in an outpatient setting who in the previous 12 months have experienced an acute myocardial infarction or chronic stable angina or who have undergone coronary artery bypass (CABG) surgery, a percutaneous coronary intervention (PCI), cardiac valve surgery (CVS), or cardiac transplantation, who have not already participated in an early outpatient cardiac rehabilitation/secondary prevention program for the qualifying event, and who are referred to an outpatient cardiac rehabilitation/secondary prevention program.	ACC	Primary Care (Family Practitioner, Internist), Cardiology
0078	Heart Failure : Assessment of Clinical Symptoms of Volume Overload	Percentage of patient visits or patients with HF with assessment of clinical symptoms of volume overload (excess).	AMA-PCPI	Cardiology
0088	Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy	Percentage of patients aged 18 years and older with a diagnosis of diabetic retinopathy who had a dilated macular or fundus exam performed which included documentation of the level of severity of retinopathy and the presence or absence of macular edema during one or more office visits within 12 months	AMA-PCPI	Ophthalmology
0087	Age-Related Macular Degeneration: Dilated Macular Examination	Percentage of patients aged 50 years and older with a diagnosis of AMD who had a dilated macular examination performed which included documentation of the presence or absence of macular thickening or hemorrhage AND the level of macular degeneration severity during one or more office visits within 12 months.	AMA-PCPI	Ophthalmology
0086	Primary Open Angle Glaucoma (POAG): Optic Nerve Evaluation	Percentage of patients aged 18 years and older with a diagnosis of POAG who have an optic nerve head evaluation during one or more office visits within 12 months	AMA-PCPI	Ophthalmology
0563	Primary Open-Angle	Percentage of patients aged 18 years and older with a diagnosis	AMA-PCPI	Ophthalmology

NQF	Measure Title	Description	Steward	Provider Type
Group 3: Quality Measures for Use with CPT II Codes				
	Glaucoma: Reduction of Intraocular Pressure by 15% or Documentation of a Plan of Care	of primary open-angle glaucoma whose glaucoma treatment has not failed (the most recent IOP was reduced by at least 15% from the pre-intervention level) OR if the most recent IOP was not reduced by at least 15% from the pre-intervention level a plan of care was documented within 12 months		
0565	Cataracts: 20/40 or Better Visual Acuity within 90 Days Following Cataract Surgery	Percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and no significant ocular conditions impacting the visual outcome of surgery and had best-corrected visual acuity of 20/40 or better (distance or near) achieved within 90 days following the cataract surgery	AMA-PCPI	Ophthalmology
0566	Age-Related Macular Degeneration (AMD): Counseling on Antioxidant Supplement	Percentage of patients aged 50 years and older with a diagnosis of age-related macular degeneration or their caregiver(s) who were counseled within 12 months on the benefits and/or risks of the AREDS formulation for preventing progression of AMD.	AMA-PCPI	Ophthalmology
0622	GERD - Upper Gastrointestinal Study in Adults with Alarm Symptoms	The percentage of adult patients with gastroesophogeal reflux disease (GERD) with alarm symptoms who have had an upper gastrointestinal study	ActiveHealth Management	Gastroenterology
0653*	Acute Otitis Externa: Topical therapy	Percentage of patients aged 2 years and older with a diagnosis of AOE who were prescribed topical preparations	AMA-PCPI	Primary Care (Pediatrics, Family Practitioner), ENT
0654*	Acute Otitis Externa: Systemic antimicrobial therapy – Avoidance of inappropriate use	Percentage of patients aged 2 years and older with a diagnosis of AOE who were not prescribed systemic antimicrobial therapy	AMA-PCPI	Primary Care (Pediatrics, Family Practitioner), ENT
0655*	Otitis Media with Effusion: Antihistamines or decongestants – Avoidance of inappropriate use	Percentage of patients aged 2 months through 12 years with a diagnosis of OME were not prescribed or recommended to receive either antihistamines or decongestants	AMA-PCPI	Primary Care (Pediatrics, Family Practitioner), ENT
0656*	Otitis Media with Effusion: Systemic corticosteroids –	Percentage of patients aged 2 months through 12 years with a diagnosis of OME who were not prescribed systemic	AMA-PCPI	Primary Care (Pediatrics, Family Practitioner), ENT

NQF	Measure Title	Description	Steward	Provider Type
Group 3: Quality Measures for Use with CPT II Codes				
	Avoidance of inappropriate use	corticosteroids		
0657*	Otitis Media with Effusion: Systemic antimicrobials – Avoidance of inappropriate use	Percentage of patients aged 2 months through 12 years with a diagnosis of OME who were not prescribed systemic antimicrobials	AMA-PCPI	Primary Care (Pediatrics, Family Practitioner), ENT
0046^*	Osteoporosis: Screening or Therapy for Women Aged 65 Years and Older	Percentage of female patients aged 65 years and older who have a central DXA measurement ordered or performed at least once since age 60 or pharmacologic therapy prescribed within 12 months.	NCQA	Primary Care (Family Practitioner, Internist, Geriatrician),
0048*	Osteoporosis: Management Following Fracture of Hip, Spine, or Distal Radius for Men and Women Aged 50 and Older	Percentage of patients aged 50 years or older with fracture of the hip, spine or distal radius that had a central DXA measurement ordered or performed or pharmacologic therapy prescribed	NCQA	Primary Care (Family Practitioner, Internist, Geriatrician), Orthopedic
0049*	Osteoporosis: Pharmacologic Therapy for Men and Women Aged 50 Years and Older	Percentage of patients aged 50 years and older with a diagnosis of osteoporosis who were prescribed pharmacologic therapy within 12 months	NCQA	Primary Care(Family Practitioner, Internist, Geriatrician), Orthopedic
0047*	Asthma: Pharmacologic Therapy for Persistent Asthma	Percentage of patients aged 5 through 50 years with a diagnosis of persistent asthma who were prescribed long-term control medication. Three rates are reported for this measure.	AMA-PCPI	Primary Care (Family Practitioner, Internist, Pediatrics), Pulmonology
0067*	Chronic Stable Coronary Artery Disease: Antiplatelet Therapy	Percentage of patients aged 18 years and older with a diagnosis of coronary artery disease seen within a 12 month period who were prescribed aspirin or clopidogrel	AMA-PCPI	Primary Care(Family Practitioner, Internist), Cardiology
0056*	Diabetes: Foot Exam	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a foot exam (visual inspection with either a sensory exam or a pulse exam) during the measurement year.	NCQA	Primary Care (Family Practitioner, Internist), Endocrinology
0096*	Empiric Antibiotic for Community-Acquired	Percentage of patients aged 18 years and older with a diagnosis of community-acquired bacterial pneumonia with an	AMA-PCPI	Primary Care (Family Practitioner, Internist),

NQF	Measure Title	Description	Steward	Provider Type
Group 3: Quality Measures for Use with CPT II Codes				
	Bacterial Pneumonia	appropriate empiric antibiotic prescribed		Pulmonology
N/A *	Heart Failure (HF): Warfarin Therapy Patients with Atrial Fibrillation	Percentage of patients aged 18 years and older with a diagnosis of HF who also have LVSD who were prescribed ACE inhibitor or ARB therapy.	AMA-PCPI	Cardiology

^Requires G codes, * Requires pharmacy data

Table B. Groups of Potential Cost/Efficiency/Resource Use Measures for the PPM

NQF	Measure Title	Description	Steward	Provider Type
Group 1: Standard Cost Measures for Potential Use with 2013 Data				
1609	ETG Based HIP/KNEE replacement cost of care measure	The measure focuses on resources used to deliver episodes of care for patients who have undergone a Hip/Knee Replacement.	Optum	Orthopedic
1611	ETG Based PNEUMONIA cost of care measure	The measure focuses on resources used to deliver episodes of care for patients with Pneumonia.	Optum	Primary Care, Pulmonology

NQF	Measure Title	Description	Steward	Provider Type

Group 1: Alternative Cost Measures for Potential Use with 2013 Data				
N/A*	Emergency Department Visits per thousand member years	Risk and reliability adjusted ED visits per thousand member years (PTMY)	IHA	Primary Care
N/A*	Hospital Days per thousand			Primary Care
N/A	Potentially Avoidable ED Visits, % of Total	This measure assesses the percentage of total ED visits with a primary diagnosis code that appears on California MediCal's list of Avoidable ICD-9 Diagnosis Codes for ED Care	Oregon Health Care Quality Corporation	Primary Care
N/A	Potentially Avoidable ED Visits, Rate per 100 patients	This measure assesses the total number of emergency department visits with a primary diagnosis code that appears on California MediCal's list of Avoidable ICD-9 Diagnosis codes for ED Care among the eligible population, expressed as a rate per 100 patients.	Oregon Health Care Quality Corporation	Primary Care
N/A	Hospital Admissions for Ambulatory-Sensitive Conditions, Rate per 100 patients	All eligible discharges with ICD-9-CM principal diagnosis code for any of the conditions listed in the Acute/Chronic Composite measure, expressed as a rate per 100 patients.	Oregon Health Care Quality Corporation	Primary Care

*Version of measure used by PCMH pilot

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Alternative Cost Measures for Use with Pharmacy Data				
N/A*	Total Cost of Care	Measures actual payments associated with care for all commercial HMO/POS enrolless in a PO, including all covered professional, pharmacy, hospital and ancillary care, as well as administrative payments and adjustments.	IHA	Primary Care
N/A	Generic Prescribing: SSRIs/SNRIs	The generic prescription rate for the given therapeutic class	IHA	Primary Care, Psychiatry
N/A	Generic Prescribing: Statins	The generic prescription rate for the given therapeutic class	IHA	Primary Care, Cardiology, Endocrinology
N/A	Generic Prescribing:	The generic prescription rate for the given therapeutic class	IHA	Primary Care,

NQF	Measure Title	Description	Steward	Provider Type
Group 2: Alternative Cost Measures for Use with Pharmacy Data				
	Diabetes – Oral			Endocrinology
N/A	Generic Prescribing: Anti-Ulcer Agents	The generic prescription rate for the given therapeutic class	IHA	Primary Care, Gastroenterology
N/A	Generic Prescribing: Cardiac – Hypertension and Cardiovascular	The generic prescription rate for the given therapeutic class	IHA	Primary Care, Cardiology
N/A	Generic Prescribing: NASAL Steroids	The generic prescription rate for the given therapeutic class	IHA	Primary Care, Allergy, ENT
N/A	Generic Prescribing: NSAIDS	The generic prescription rate for the given therapeutic class	IHA	Primary Care, Multiple
*Version of measure used by PCMH pilot				