NQF

NATIONAL QUALITY FORUM

MEDICATION MANAGEMENT

National Voluntary Consensus Standards for Medication Management

A CONSENSUS REPORT

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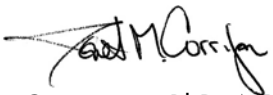
Foreword

WITH AN ESTIMATED 81 PERCENT OF ADULTS in the United States taking at least one medication (including prescription and over-the-counter medications) and 50 percent taking at least one prescription drug, it is not surprising that interest in effective medication management is increasing. Despite improvements in health outcomes from medication therapy, growing evidence indicates that the frequent use of medications, and especially multiple medications in chronically ill patients, may lead to safety and quality problems.

In 2008 the National Voluntary Consensus Standards for the Reporting of Therapeutic Drug Management Quality project recommended the development of a vigorous set of measures to address medication management. In response to this recommendation, the Medication Management Steering Committee has endorsed 19 measures for assessing the quality of medication management.

These measures focus on various important medications such as warfarin, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, and antipsychotics used to treat medical conditions as varied as asthma, diabetes, and coronary artery disease. Appropriate medication management, particularly for patients with chronic illnesses, can help ensure proper medication use, reduce adverse medication events, and improve outcomes.

NQF thanks the members of the Medication Management Steering Committee and NQF Members for their work in developing this critical measure set that will help improve the quality of healthcare for the many Americans who take medications.



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The mission of the National Quality Forum is to improve the quality of American healthcare by setting national priorities and goals for performance improvement, endorsing national consensus standards for measuring and publicly reporting on performance, and promoting the attainment of national goals through education and outreach programs.

This work was conducted under a contract from the Centers for Medicare & Medicaid Services (**www.cms.hhs.gov**).

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Executive Summary

DESPITE IMPROVEMENTS IN HEALTH OUTCOMES resulting from the appropriate use of efficacious medications, there is growing evidence that the frequent use of medications, and especially multiple medications in chronically ill patients, may lead to safety and quality problems. It is estimated that 81 percent of adults take at least one medication (including prescription and over-the-counter medications), and 50 percent take at least one prescription drug. Research suggests that 14 percent to 23 percent of elderly patients receive inappropriate medications, and up to 40 percent of elderly patients do not take their medications as prescribed. Inappropriate medication use is responsible for a significant number of adverse patient safety outcomes as well as resource waste. Adverse drug events contribute to 2.5 percent of emergency department visits for unintentional injuries and 0.6 percent of all visits. Although in the United States significant progress in ensuring the appropriate use of medications has occurred, it remains a major challenge.

The National Quality Forum (NQF) recently completed its National Voluntary Consensus Standards for the Reporting of Therapeutic Drug Management Quality project to establish a foundation for medication management quality. A framework and 20 preferred practices were endorsed to improve patient outcomes in therapeutic drug management. Given the potential for harm if medications are not properly used and monitored, the project also recommended that a robust set of measures that address medication management be developed to supplement the initial work in this area.

This report presents 19 NQF-endorsed® measures for assessing the quality of medication management. The measures focus on various important medications, such as warfarin, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, and antipsychotics used to treat various medical conditions such as asthma, diabetes, and coronary artery disease. Each candidate consensus standard was evaluated for appropriateness as a voluntary consensus standard for accountability and public reporting through the NQF Consensus Development Process.

This set of endorsed measures does not represent the full array of measures that are needed to fully assess medication management and to improve the quality of care in this area. Significant work is still needed to develop measures that address outcomes or that are closely linked to outcomes, that are patient centered and provide consumers with meaningful information about care, and that address all of the priority areas of medication

management and capture a broad spectrum of conditions, settings, and populations. There also is a need to develop measures across conditions that apply concepts and definitions in a consistent manner (e.g., use, adherence) and that enhance harmonization across measure sets.

National Voluntary Consensus Standards for Medication Management

- Proportion of days covered (PDC): 5 rates by therapeutic category
- Adherence to chronic medications
- Coronary artery disease and medication possession ratio for statin therapy
- Use and adherence to antipsychotics among members with schizophrenia
- Diabetes mellitus and medication possession ratio (MPR) for chronic medications
- Diabetes suboptimal treatment regimen (SUB)
- Diabetes and medication possession ratio for statin therapy
- Asthma Control—suboptimal asthma control (SAC) rate (rate 1) and asthma control—absence of controller therapy (ACT) rate (rate 2).
- Pharmacotherapy management of COPD exacerbation (PCE): two rates are reported
- Chronic kidney disease, diabetes mellitus, hypertension, and medication possession ratio for ACEI/ARB therapy
- ACE inhibitor/angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events
- HBIPS-4: patients discharged on multiple antipsychotic medications and
- HBIPS-5: patients discharged on multiple antipsychotic medications with appropriate justification (Paired Measures)
- Care for older adults—medication review (COA)
- Medication reconciliation post-discharge (MRP)
- Monthly INR monitoring for beneficiaries on warfarin
- INR for beneficiaries taking warfarin and interacting anti-infective medications
- HBIPS-6: post discharge continuing care plan created
- HBIPS-7: post discharge continuing care plan transmitted to next level of care provider upon discharge

Background

INTEREST IN USING PERFORMANCE MEASURES to assess the quality of healthcare in the United States has skyrocketed over the past decade, and because of the pervasive use of medications to treat illnesses, interest in effective management of medication use also has increased. However, despite improvements in health outcomes from medication therapy, there is growing evidence that the frequent use of medications, and especially multiple medications in chronically ill patients, may lead to safety and quality problems.

It is estimated that 81 percent of adults take at least one medication (including prescription and over-the-counter medications), and 50 percent take at least one prescription drug.[1] Nearly 90 percent of Medicare beneficiaries report taking prescription medications, and nearly half of those individuals use five or more different medications. Research suggests that 14 percent to 23 percent of elderly patients receive inappropriate medications (i.e., wrong dose, wrong indication, duplicative or omitted therapy), and up to 40 percent of elderly patients do not take their medications as prescribed.[2-6] Inappropriate medication use is responsible for a significant number of adverse patient safety outcomes as well as resource waste. Adverse drug events contribute to 2.5 percent of emergency department visits for unintentional injuries and 0.6 percent for all visits.[7] Appropriate medication management, particularly for patients with chronic illnesses, has the potential to help ensure proper medication use, reduce adverse medication events, and improve outcomes. Having a powerful set of performance measures in place to assess the quality of medication management services is integral to quality improvement and accountability in this area.

In 2003, the National Quality Forum (NQF) took the first step in standardizing measures for medication management quality by endorsing four voluntary consensus standards for medication management in the ambulatory setting.[8] In 2008, NQF established the foundation for a set of medication management performance measures by endorsing a framework and 20 preferred practices and highlighting the areas of medication management that require additional research and measure development.[9]

In August 2008, at the request of the Centers for Medicare & Medicaid Services (CMS), NQF launched the National Voluntary Consensus Standards for Medication Management project to endorse a set of measures that address the priority areas of medication management across the continuum of care.

Strategic Directions for NQF

NQF's mission includes three parts: 1) setting national priorities and goals for performance improvement, 2) endorsing national consensus standards for measuring and publicly reporting on performance, and 3) promoting the attainment of national goals through education and outreach programs. As greater numbers of quality measures are developed and brought to NQF for consideration, NQF must assist stakeholders in measuring "what makes a difference" and addressing what is important to achieve the best outcomes for patients and populations. An updated Measurement Framework promotes shared accountability and measurement across episodes of care with a focus on outcomes and patient engagement in decisionmaking coupled with measures of the healthcare process and cost/resource use. For more information, see **www.qualityforum.org**.

Several strategic directions have been identified to guide the consideration of candidate consensus standards:

DRIVE TOWARD HIGH PERFORMANCE. Over time, the bar of performance expectations should be raised to encourage the achievement of higher levels of system performance.

EMPHASIZE COMPOSITE MEASURES. Composite measures provide much-needed summary information pertaining to multiple dimensions of performance and are more comprehensible to patients and consumers.

MOVE TOWARD OUTCOME MEASUREMENT. Outcome measures provide information of keen interest to consumers and purchasers, and, when coupled with healthcare process measures, they provide useful and actionable information to providers. Outcome measures also focus attention on much-needed system-level improvements, because achieving the best patient outcomes often requires carefully designed care processes, teamwork, and coordinated action on the part of many providers.

FOCUS ON DISPARITIES IN ALL THAT WE DO. Some of the greatest performance gaps relate to care of minority populations. Particular attention should be focused on the most relevant race/ethnicity/language/socioeconomic strata to identify relevant measures for reporting.

NQF'S Consensus Development Process

Evaluating Potential Medication Management Consensus Standards

Candidate consensus standards that address the key aspects of medication decisionmaking, appropriateness, use, and monitoring were solicited through the Consensus Development Process, which included an

open "Call for Measures" in August 2008 and were actively sought by NQF staff through literature reviews and a search of the National Quality Measures Clearinghouse. All candidate consensus standards were evaluated by the project Steering Committee for appropriateness as voluntary consensus standards for accountability and public reporting. The Steering Committee evaluated the candidate consensus standards using its standard criteria of importance, acceptability, usability, and feasibility.[10]

Gaps in Proposed Standards and Recommendations for Measure Development

Thirty-five measures were submitted during the open "Call for Measures." In general, the Steering Committee believed that the measures were not as comprehensive as intended in terms of patient populations and settings and did not address the most important aspects of medication management. The Steering Committee recognized that the submitted and ultimately endorsed medication management measures would be limited by what had already been developed and by what databases would be available for data collection. During the review process, the measure developers incorporated many Committee-recommended modifications into several of the measures. The Steering Committee emphasized that the measures that were submitted and evaluated did not represent the full array of measures that are needed to comprehensively assess medication management and to improve the quality of care in this area. Significant work is still needed to develop measures that address outcomes or are closely linked to outcomes, that are patient centered and provide consumers with meaningful information about care, and that address all of the priority areas of medication management and capture a broad spectrum of conditions, settings, and populations. A discussion of the measurement gaps and recommendations for future measure development are provided in the recommendations section of this report.

Relationship to Other NQF-Endorsed Consensus Standards

This report does not represent the entire scope of NQF work relevant to the quality of care in medication management. NQF has endorsed through other projects numerous measures for medication management across multiple conditions and settings, as well as for condition- and disease-specific medications.

National Voluntary Consensus Standards for Medication Management

Overview of Endorsed Measures

This report presents 19 endorsed measures for medication management (Table 1). The measure specifications are presented in Appendix A. The purpose of these consensus standards is to improve the quality of healthcare through accountability and public reporting by standardizing quality measurement in all relevant care settings. All NQF-endorsed® measures are fully disclosed and available for use by any interested parties (see **www.qualityforum.org**). The medication management consensus standards are intended for use at various levels of analysis, including the individual practitioner level (e.g., Medicare Part D plans, health plans, clinicians, and pharmacists).

The endorsed measures relate to the National Priorities Partnership Goals as follows:

- All healthcare organizations and their staff will strive to ensure a culture of safety while working to lower the incidence of healthcare-induced harm, disability, or death toward zero. They will focus relentlessly on continually reducing and seeking to eliminate all healthcare-associated infections and serious adverse events.
- All healthcare organizations and their staff will work collaboratively with patients to reduce 30-day readmission rates.
- Medication information will be clearly communicated to patients, family members, and the next healthcare professional and/or organization providing care, and medications will be reconfirmed each time a patient experiences a transition in care.
- All healthcare organizations and their staff will work collaboratively with patients to reduce preventable emergency department visits.
- All healthcare organizations will continually strive to improve the delivery of appropriate patient care, and substantially and measurably reduce extraneous service(s) and/or treatment(s). Included areas of focus are inappropriate medication use, targeting antibiotic use and polypharmacy (for multiple chronic conditions; of antipsychotics).

Table 1: National Voluntary Consensus Standards for Medication Management

MEASURE TITLE	MEASURE ID[a]	MEASURE DESCRIPTION AND REVIEW NUMBER[b]	LEVEL OF ANALYSIS	IP OWNER[c]
Proportion of days covered (PDC): 5 rates by therapeutic category*	0541	The percentage of patients 18 years and older who met the proportion of days covered (PDC) threshold of 80% during the measurement year. A performance rate is calculated separately for the following medication categories: beta-blockers (BBs), angiotensin-converting enzyme inhibitors/ angiotensin-receptor blockers (ACEIs/ ARBs), calcium-channel blockers (CCBs), diabetes medication, statins. The full detailed measure specifications have also been submitted as a separate attachment. (MM-001-08)	Can be measured at all levels Other: Pharmacies	NCQA
Adherence to chronic medications*	0542	Medication Possession Ratio (MPR) for chronic medications for individuals over 18 years of age (MM-003-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/ unit, group) Other: State, Medicare Advantage Prescription Drug Plan (MA-PD), Prescription Drug Plan (PDP)	CMS

*Time-limited endorsement.

[a]Upon NQF endorsement, each measure receives a unique NQF measure ID number.

[b]Review number.

[c]IP owner—Intellectual property owner and copyright holder. For the most current specifications and supporting information, please refer to the IP owner:

- CMS - Centers for Medicare & Medicaid Services (**www.cms.hhs.gov**)
- IMS Health - IMS Health/IMS Payer Solutions (**www.imshealth.com**)
- NCQA - National Committee for Quality Assurance (**www.ncqa.org**)
- JC - The Joint Commission (**www.jointcommission.org**)

Table 1: National Voluntary Consensus Standards for Medication Management

Coronary artery disease and medication possession ratio for statin therapy*	0543	Medication Possession Ratio (MPR) for statin therapy for individuals over 18 years of age with coronary artery disease (MM-004-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group) Other: State, Medicare Advantage Prescription Drug Plan (MA-PD), Prescription Drug Plan (PDP)	CMS
Use and adherence to antipsychotics among members with schizophrenia*	0544	Assess the use of and the adherence to antipsychotics among members with schizophrenia during the measurement year (MM-005-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group), facility (hospital, nursing home), integrated delivery system, health plan	IMS Health
Diabetes mellitus and medication possession ratio (MPR) for chronic medications*	0545	Medication Possession Ratio (MPR) for chronic medications in diabetic individuals over 18 years of age • oral hypoglycemics • statins • ACEIs/ARBs (MM-006-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group), facility (hospital, nursing home), integrated delivery system, health plan	CMS
Diabetes suboptimal treatment regimen (SUB)	0546	The percentage of patients who were dispensed a medication for diabetes and hypertension who are not receiving an ACEI/ARB medication The full detailed measure specifications have also been submitted as a separate attachment. (MM-008-08)	Can be measured at all levels Other: Pharmacies	NCQA

Table 1: National Voluntary Consensus Standards for Medication Management

Diabetes and medication possession ratio for statin therapy	0547	Medication Possession Ratio (MPR) for statin therapy in diabetic individuals over 18 years of age (MM-010-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/ unit, group) Other: State, Medicare Advantage Prescription Drug Plan (MA-PD), Prescription Drug Plan (PDP)	CMS
Asthma control— suboptimal asthma control (SAC) rate (rate 1) and asthma control— absence of controller therapy (ACT) rate (rate 2)	0548	Rate 1: The percentage of patients with persistent asthma who were dispensed more than five canisters of a short-acting beta2 agonist inhaler during the same three-month period Rate 2: The percentage of patients with persistent asthma during the measurement year who were dispensed more than five canisters of short-acting beta2 agonist inhalers over a 90-day period and who did not receive controller therapy during the same 90-day period (MM-011-08)	Can be measured at all levels Other: Pharmacies	NCQA
Pharmacotherapy management of COPD exacerbation (PCE): two rates are reported	0549	Percentage of members 40 years of age and older who had an acute inpatient discharge or ER encounter between January 1and November 30 of the measurement year with a principal diagnosis of chronic obstructive pulmonary disease (COPD) and who were dispensed appropriate medications Two rates are reported: dispensed a systemic corticosteroid within 14 days of the event and dispensed a bronchodilator within 30 days of the event Detailed measure specifications were also submitted as a separate document. (MM-013-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/ unit, group), health plan	NCQA

Table 1: National Voluntary Consensus Standards for Medication Management

Chronic kidney disease, diabetes mellitus, hypertension and medication possession ratio for ACEI/ARB therapy*	0550	Medication Possession Ratio (MPR) for ACEI/ARB therapy for individuals with chronic kidney disease (CKD) and/or diabetes mellitus and hypertension (MM-014-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group) Other: State, Medicare Advantage Prescription Drug Plan (MA-PD), Prescription Drug Plan (PDP)	CMS
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events*	0551	To assess the use of and persistence of ACE inhibitors or angiotensin receptor blockers (ARBs) among members with CAD or other atherosclerotic vascular disease (i.e., peripheral arterial disease, atherosclerotic aortic disease, and carotid artery disease) who are at high risk for coronary events during a one year period. High-risk comorbidities are defined as heart failure, hypertension, diabetes, or chronic kidney disease (excluding stage V and patients on dialysis). (MM-017-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group), facility (hospital, nursing home), integrated delivery system, health plan	IMS Health
PAIRED MEASURES **HBIPS-4: patients discharged on multiple antipsychotic medications** **AND** **HBIPS-5: patients discharged on multiple antipsychotic medications with appropriate justification**	0552 0560	Rate 1: Patients discharged from a hospital-based inpatient psychiatric setting on two or more antipsychotic medications (MM-022-08) Rate 2: Patients discharged from a hospital-based inpatient psychiatric setting on two or more antipsychotic medications with appropriate justification (MM-023-08)	Facility (hospital, nursing home)	JC

Table 1: National Voluntary Consensus Standards for Medication Management

Care for older adults—medication review (COA)	0553	Percentage of adults 65 years and older who had a medication review (MM-026-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group), health plan	NCQA
Medication reconciliation post-discharge (MRP)	0554	Percentage of discharges from January 1through December 1 of the measurement year for patients 65 years of age and older for whom medications were reconciled on or within 30 days of discharge (MM-028-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group), health plan	NCQA
Monthly INR monitoring for beneficiaries on warfarin	0555	Average percentage of monthly intervals in which patients with claims for warfarin do not receive an INR test during the measurement period (MM-030-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group) Other: State, Medicare Advantage Prescription Drug Plan (MA-PD), Prescription Drug Plan (PDP)	CMS
INR for beneficiaries taking warfarin and interacting anti-infective medications	0556	Percentage of episodes with an INR test performed 3 to 7 days after a newly started interacting anti-infective medication for patients receiving warfarin (MM-031-08)	Individual clinician (physician, nurse), group of clinicians (facility, dept/unit, group) Other: State, Medicare Advantage Prescription Drug Plan (MA-PD), Prescription Drug Plan (PDP)	CMS
HBIPS-6: post discharge continuing care plan created	0557	Patients discharged from a hospital-based inpatient psychiatric setting with a continuing care plan created (MM-034-08)	Facility (hospital, nursing home)	JC
HBIPS-7: post discharge continuing care plan transmitted to next level of care provider upon discharge	0558	Patients discharged from a hospital-based inpatient psychiatric setting with a continuing care plan provided to the next level of care clinician or entity (MM-035-08)	Facility (hospital, nursing home)	JC

Measures Endorsed

The endorsed measures generally fell into one or more of the following categories (Table 2):

- medication prescribing measures (used to assess appropriate selection);
- medication dispensing measures (used to assess appropriate selection, dispensing, and adherence);
- medication use monitoring; and/or
- outcomes.

Of note, several submitted measures use pharmacy administrative claims data to assess the quality of pharmacies, whether the appropriate medication was prescribed (in the absence of information about prescribing), and patient adherence. However, two measures of asthma control (MM-011-08 and MM-012-08) use pharmacy claims to dispense beta2 agonists to determine whether providers are effectively controlling their patients' asthma symptoms.

During the review and comment period, the Steering Committee received many requests that the measures developed by CMS be modified to apply to a population that is broader than "Part D beneficiaries." CMS agreed to modify the measures to apply to all patients (except where exclusions apply) to ensure broader implementation.

Table 2. Overview—Focus of Endorsed Measures

Measure Number and Title	Prescribing	Dispensing	Monitoring	Outcomes
General Adherence Measures				
0541 Proportion of days covered (PDC): 5 rates by therapeutic category	x	x		
0542 Adherence to chronic medications	x	x		
Coronary Artery Disease Adherence Measures				
0543 Coronary artery disease and medication possession ratio for statin therapy and MM-016-08: Coronary artery disease and lipid-lowering therapy	x	x		
0551 ACE inhibitor/angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events	x	x		

Measure Number and Title	Prescribing	Dispensing	Monitoring	Outcomes
Diabetes Adherence Measures				
0545 Diabetes mellitus and medication possession ratio (MPR) for chronic medications	x	x		
0546 Diabetes suboptimal treatment regimen (SUB)	x	x		
0547 Diabetes and medication possession ratio for statin therapy	x	x		
0550 Chronic kidney disease, diabetes mellitus, hypertension and medication possession ratio for ACEI/ARB therapy	x	x		
Schizophrenia Adherence Measures				
0544 Use and adherence to schizophrenia antipsychotics among members with and MM-021-08: Schizophrenia: treatment with antipsychotics	x	x		
Asthma Control Measures				
0548 Asthma control—suboptimal asthma control (SAC) rate (rate 1) and asthma control—absence of controller therapy (ACT) rate (rate 2) and	x	x	x	
MM-012-08: Absence of controller therapy (ACT)	x	x	x	
COPD Management Measures				
0549 Pharmacotherapy management of COPD exacerbation (PCE): two rates are reported	x	x		
Psychiatric and Schizophrenia Adherence Measures				
0552 HBIPS-4: patients discharged on multiple antipsychotic medications AND HBIS-5: patients discharged on multiple antipsychotic medications with appropriate justification	x			
0557 HBIPS-6: post discharge continuing care plan created			x	

Measure Number and Title	Prescribing	Dispensing	Monitoring	Outcomes
0558 HBIPS-7: post discharge continuing care plan transmitted to next level of care provider upon discharge			x	
INR Monitoring Measures				
0555 Monthly INR monitoring for beneficiaries on warfarin			x	
0556 INR for beneficiaries taking warfarin and interacting anti-infective medications			x	
General Medication Management Measures				
0553: Care for older adults—medication review (COA)			x	
0554: Medication reconciliation post-discharge (MRP)			x	

Adherence Measures

Medication adherence is an important, high-impact area in need of improvement. Evidence suggests that 33 percent to 69 percent of medication-related hospital admissions occur because the patients did not adhere to their medication regimes. This costs the healthcare system approximately $100 billion annually.[12] [13] A reported 30 percent of patients take their medication less often than prescribed, and 20 percent stop taking their medication sooner than prescribed.[14] More than 50 percent of Medicare patients ages 65 years and older and with three or more chronic conditions report that they do not adhere to their prescribed medication regime.[15]

A variety of approaches have been used to measure adherence to prescribed medication therapy. Among these are patient self-report, pill counts, biochemical analysis, and administrative claims. Each of these approaches has strengths and weaknesses in terms of the validity and reliability of measurement results and the burden of data collection. The measures evaluated during this project used pharmacy administrative claims data, with either supplemental health plan eligibility information or diagnosis data, to assess adherence.

Several candidate consensus standards assessed adherence by using the percentage of patients with a given diagnosis who filled

one prescription for a given medication. Other measures assessed adherence over time by examining the "medication possession ratio" (MPR), which is calculated by dividing the number of days' supply of a medication by the number of days in the measurement period using pharmacy administrative claims data. Another commonly used method was the "proportion of days covered" (PDC). Although MPR and PDC have been noted by the literature to be different, they are implemented in virtually identical ways by these candidate consensus standards. However, the measures varied in the way they calculated MPR (or PDC). Some defined the time period to be from first prescription to the end of the measurement year, others from first prescription to the last prescription, and still others from the first prescription plus a specific period of time (e.g., six months).

Because the evidence did not point to the superiority of any one method, the Steering Committee requested that the measure developers employ one standardized method to allow for true comparisons across populations and to minimize the burden placed on potential measure implementers. After much deliberation and the participation of invited experts in this area, the Steering Committee selected standardized specifications for adherence measurement (Table 3). All of the measure developers of recommended measures agreed to modify their measures either immediately or prior to the expiration of their time-limited endorsement period.

Table 3. Standardized Specifications for Adherence Measurement

Numerator	Denominator
1. New users: For patients with no prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications from the first prescription until the end of the measurement period. *Remove the days' supply that extends past the end of the measurement period.* 2. Continuous users: For patients with one or more prescriptions in the 180 days prior to the measurement period, sum of: *Remove the days' supply that extends past the end of the measurement period and add the days' supply from the previous period that applies to the current period.*	1. New users: Number of days from the first prescription to the end of the measurement period. 2. Continued users: Number of days from the beginning to the end of the measurement period. *Multiply by 100. Cannot exceed 100%.*

The Steering Committee considered an alternative approach that excluded patients who experienced a gap in medication possession greater than a specific period of time, such as 30, 60, or 90 days. This method would allow for analysis of what is happening with those patients who remain on a medication but who may be "nonadherent" or may not have a days' supply of medication for every day in the measurement period. Patients who experience long gaps in medication possession may be off the medication altogether, because they or their prescribers stopped therapy. Because it is not feasible to ascertain from administrative claims data why patients experience gaps in medication possession, the Steering Committee decided that these patients should not be excluded. The Committee recognized that this decision introduces the possibility that patients whose physicians stop their medication therapy, for example, nine months into the measurement period, but whose remaining three months would be included in the denominator would look falsely nonadherent. The Committee noted that there are strengths and weaknesses to each approach, and data from field testing of these measures might inform the adoption of a modified standardized approach to measuring adherence.

Many of the comments that were received during the review and comment period echoed the Steering Committee's concerns about the recommended adherence methodolgy, such as threats to validity when patients who purchase medications out of pocket appear to be nonadherent and the appropriateness of clinician-level attribution for these measures. Commenters also expressed the need to identify measures that are more patient centered and that address whether patients are not only filling their prescriptions but also appropriately taking their medications. The Steering Committee strongly agreed with these comments and expressed hope that future research and measure development and maintenance will address these concerns. The Consensus Standards Approval Committee (CSAC) recommended that more global (i.e., less disease-specific) adherence measures be developed in the future.

General Adherence Measures Endorsed

0541[16] **Proportion of days covered (PDC): 5 rates by therapeutic category** (NCQA) *MM-001-08*[17]

This intermediate outcome measure assesses the percentage of patients ages 18 years and older who meet the proportion of days covered threshold for possession of prescribed medications of 80 percent during the measurement year. Five medication categories were originally included in this measure: beta blockers, ACEIs/ARBs, calcium-channel blockers, diabetes medications, and statins. This measure uses only pharmacy administrative claims data to determine adherence.

The Steering Committee strongly supported this measure as being very important and

addressing a high-impact area of adherence for widely used medications. Although there is limited evidence that screening for adherence leads to improved outcomes, the Committee believed that this measure was an important one to put forward for medication management. As with other adherence measures under review, the Committee acknowledged the limitations of this approach to adherence measurement, including the potential for a patient to appear nonadherent while within the "doughnut hole" of Medicare Part D coverage (the gap in coverage between the initial and catastrophic coverage limits when patients must pay out of pocket) or when purchasing discount prescriptions through, for example, a low-cost generic prescription program at selected retailers rather than through his or her health insurance plan. Although it will be very feasible to collect data for this measure (because it utilizes only pharmacy administrative claims), it would be strengthened if diagnosis information were linked to pharmacy data. As the measure is specified, patients are included in the denominator if they fill a prescription for a medication in one of the five therapeutic categories, not because they were diagnosed with a condition for which a medication in one of the five categories is indicated. The Steering Committee requested that beta blockers and calcium-channel blockers be excluded from this measure, because there are many indications for medications in these two categories for which short-term use is appropriate. The measure developer agreed to modify the measure in the future to adhere to the Committee-recommended standardized specifications for assessing adherence.

0542 **Adherence to chronic medications** (CMS) *MM-003-08*

This intermediate outcome measure assesses the percentage of patients who have a medication possession ratio of greater than or equal to 0.8 for seven classes of medications for chronic illnesses. The Steering Committee strongly supported this measure as one that addresses a very important, high-impact area of medication adherence. The Committee stated that the specifications for the eligibility criteria are strong; however, it noted a weakness in the absence of diagnosis-related exclusions. The Committee recommended that beta blockers, calcium-channel blockers, and selective serotonin reuptake inhibitors be excluded unless diagnosis codes are included to ensure appropriate indications for long-term use. The measure developer agreed to exclude these medications.

Coronary Artery Disease Adherence Measures Endorsed

Coronary artery disease (CAD) is related to significant mortality and morbidity, as well as to cost and resource use. According to the American Heart Association, CAD was responsible for 1 out of every 5 deaths (or 445,687 deaths) in the United States in 2005. In 2009, the total direct and indirect costs resulting from CAD are estimated to total

$165.4 billion in the United States alone.[18] Given the significance of CAD and the high prevalence of medication use for patients with CAD, medication management in this area has the potential for significant impact.

0543 **Coronary artery disease and medication possession ratio for statin therapy** (CMS) *MM-004-08*

This intermediate outcome measure assesses the percentage of patients who fill one prescription for statin therapy, as well as the percentage of patients who maintain a 0.8 medication possession ratio for statin therapy over time. The Steering Committee strongly supported this measure as one that addresses a very important, high-impact area of medication adherence. Several studies have demonstrated a link between higher adherence to statin use and improved CAD outcomes, including decreased mortality and myocardial infarction.[19-21] CMS provided data from unpublished testing that indicated that the percentage of CAD patients with an MPR ≥0.8 ranged from 69.6 percent to 77.3 percent. Variation was found among providers in three states combined, ranging from 55.0 percent to 82.4 percent. The variation in performance rates among pharmacies ranged from 54.2 percent to 81.3 percent. The Committee considered this measure to be highly usable and feasible to implement.

0551 **ACE inhibitor: angiotensin receptor blocker use and persistence among members with CAD at high risk for coronary events** (IMS Health) *MM-017-08*

This intermediate outcome measure assesses the percentage of patients ages 18-75 years with CAD who have an 0.8 medication possession ratio for ACEIs/ARBs. Several studies have demonstrated a link between ACEI or ARB use and improved outcomes, including fewer recurrent myocardial infarctions and decreased mortality.[22] The Steering Committee strongly supported this measure as being very important, usable, and feasible. The Committee pointed out that inpatient stays that occur during the measurement year are not taken into consideration.

Diabetes Adherence Measures Endorsed

It is estimated that almost 21 percent of Americans ages 60 years and older have diabetes, a significant proportion with type 2 diabetes.[23] The two most common comorbid conditions for diabetic patients ages 18 years and older are hypertension and high blood cholesterol. The leading cause of mortality among diabetic patients is heart disease. Medication nonadherence is prevalent among patients with diabetes mellitus and is associated with adverse outcomes.[24] Rates of adherence for diabetic patients have been estimated to range from 36 percent to 93 percent.[25]

0545 **Diabetes mellitus and medication possession ratio (MPR) for chronic medications** (CMS) *MM-006-08*

This intermediate outcome measure assesses the percentage of diabetic patients with a medication possession ratio for chronic medications of 0.8. The measure consists of separate MPRs for diabetic patients for three classes of medications: oral hypoglycemics, statins, and ACEIs/ARBs. The measure developer supplied data from unpublished testing that indicate that the percentage of patients ages 18-75 years with an MPR≥0.8 for oral hypoglycemics, statins, and ACEIs/ARBs were 77.2 percent, 68.3 percent, and 74.4 percent overall, respectively. Substantial variation was observed at the plan level as well as at the individual clinician level. The Steering Committee strongly supported this measure as one that addresses an important, high-impact area with a demonstrated quality problem and that is usable and feasible.

0547 **Diabetes and medication possession ratio for statin therapy** (CMS) *MM-010-08*

This intermediate outcome measure assesses the percentage of patients who have at least one claim for a statin medication, as well as the percentage of patients who maintain a 0.8 medication possession ratio over time. The Steering Committee strongly supported this measure. A 2007 American Diabetics Association guideline indicates that lipid management aimed at lowering LDL cholesterol, raising HDL cholesterol, and lowering triglycerides has been shown to reduce macrovascular disease and mortality in patients with type 2 diabetes, particularly in those who have had prior cardiovascular events.[26] A recent meta-analysis confirms the benefit of statin therapy on vascular outcomes for patients with diabetes.[27] The measure developer provided results from unpublished testing of adherence to lipid-lowering medications in three states that demonstrated performance of 59.6 percent to 69.3 percent for this measure. Plan performance ranged from 61.4 percent to 78.4 percent at the 10th and 90th percentiles, and provider performance ranged from 52.6 percent to 83.3 percent at the 10th and 90th percentiles. This evidence suggests room for improvement for this measure.

0546 **Diabetes suboptimal treatment regimen (SUB)** (NCQA) *MM-008-08*

This measure assesses the percentage of patients who are dispensed at least one prescription for an oral hypoglycemic agent, insulin, incretion mimetics, and at least one prescription for an antihypertensive agent who *do not* receive an ACEI/ARB or ACEI/ARB combination during the measurement year. The Steering Committee agreed that this measure assesses a high-impact area with a demonstrated quality gap.

0550 **Chronic kidney disease, diabetes mellitus, hypertension, and medication possession ratio for ACEI/ARB therapy** (CMS) *MM-014-08*

This measure assesses the percentage of patients who have chronic kidney disease or diabetes with hypertension. The Steering Committee believed this measure to be one that assesses an area with high morbidity and mortality and with opportunity for improvement. The measure developer provided data from unpublished testing in three states that indicated measure performance to be 78 percent, with health plan performance ranging from 77 percent to 85 percent. Based on the Steering Committee's recommendation, the measure developer modified the measure specifications for this measure to eliminate the requirement that all three diagnoses be included in the denominator. The measure developer also agreed to add exclusions for contraindications for ACEIs/ARBs.

Asthma Management Measures Endorsed

In 2004, almost 1.8 million emergency department visits were attributed to asthma, and there were 14.7 million outpatient asthma visits to physician offices and hospital outpatient departments.[28] There is good evidence that effective medication management for asthma can significantly reduce unnecessary emergency department and hospital use.

0548 **Asthma—suboptimal asthma control (SAC) rate (rate 1) and asthma control—absence of controller therapy (ACT) rate (rate 2)** (NCQA) *MM-011-08*

This measure was originally submitted as two measures: one to assess the percentage of patients who receive more than five canisters of short-acting beta2 agonist inhalers during a three-month period, and one to assess the percentage of patients who receive more than five canisters of short-acting beta2 agonist inhalers during a three-month period and who receive controller therapy during that period. These measures were intended to focus on the management of patients with asthma by assessing patients whose symptoms are not being appropriately controlled. The first assesses the percentage of patients who have overutilized rescue inhalers, and the second assesses the percentage of patients who have overutilized rescue inhalers and who have been given controller medications to reduce this overutilization.

The Steering Committee strongly supported these measures as ones that address a high-impact area with strong supporting evidence. Although with proper treatment asthma can be controlled in the majority of patients, evidence suggests that asthma is adequately controlled in only a minority of patients.[29] Evidence also suggests that a measure based on the ratio of controller medication to total medication has better predicted subsequent

acute exacerbations than a measure based on controller medication use alone.[28] One study found that the ratio of controller to reliever medications correlates to subsequent emergency department visits.[29] The National Committee for Quality Assurance (NCQA) agreed to adjust the lower age limit to 5 (from 18) to harmonize with similar, NQF-endorsed asthma measures developed by NCQA.

A guideline of the National Heart, Lung, and Blood Institute states that regularly scheduled, daily, long-term use of short-acting beta2 agonists is not recommended.[32] When asked about this by the Steering Committee, the measure developer explained that the specification for five canisters was based on a recommendation of the technical expert panel involved in the development of these measures. There is consensus in the medical community that regular use of beta2 agonists (i.e., four times/day) should be discouraged in favor of anti-inflammatory treatment.[33]

The Steering Committee received several comments that recommended combining the two measures into one measure. The measure developer agreed to combine the measures in such a way that they are reported together but as two separate rates. Therefore, they are not intended to be used separately. Other comments recommended using a number of canisters different from the five canisters specified in the measure to indicate lack of asthma control. Although the specified number of canisters is based only on a face validity established by the measure developer's technical advisory panel, the Steering Committee considered this to be a reasonable number to use.

COPD Management Measures Endorsed

The National Heart, Lung, and Blood Institute estimates that more than 12 million adults have been diagnosed with chronic obstructive pulmonary disease (COPD). COPD mortality has risen recently, making it the fourth leading cause of death in the United States.[34] The economic and social burdens of COPD exacerbations are extremely high, accounting for approximately 1 million emergency department (ED) visits each year and 450,000 hospitalizations at an annual cost of about $2.4 billion.[35]

0549 **Pharmacotherapy management of COPD exacerbation (PCE): two rates are reported** (NCQA) *MM-013-08*

This measure assesses the percentage of patients ages 40 years and older who have an acute inpatient discharge or emergency department visit with COPD, experience exacerbation, and are dispensed appropriate medications. This measure includes two rates, one for patients dispensed a systemic corticosteroid within 14 days of the event and another for patients dispensed a bronchodilator within 30 days of the event.

The Steering Committee strongly supported this measure as one that addresses an

important, high-impact area. One study noted that better provider adherence to established guidelines is one step toward improvement in care and better use of healthcare resources.[36] The Steering Committee recommended that this measure be stratified by risk level and that patients at lower risk levels be considered in the future. The Committee also recommended that the measure be modified to require transmittal of this information to the prescriber. The Committee questioned the inclusion of both emergency department and hospitalized patients, and it recommended further research to assess whether these two types of patients are comparable.

Several commenters recommended that only the use of maintenance bronchodilators be assessed, because there is no gap in quality with steroid use. The Steering Committee maintained its original recommendation to endorse this measure as specified, asserting that the quality gap is sufficient to endorse both rates.

The CSAC recommended that a measure be developed that assesses patients who do not experience COPD exacerbation to allow for the identification of providers who appropriately control their patients' symptoms.

Psychiatric Measures Endorsed

Paired Measures

0552: **HBIPS-4: patients discharged on multiple antipsychotic medications** (JC) *MM-022-08*

0560: **HBIPS-5: patients discharged on multiple antipsychotic medications with appropriate justification** (JC) *MM-023-08*

The Steering Committee agreed that these measures address an important, high-impact area of pervasive overuse with a demonstrated opportunity for improvement. Evidence suggests that 4 percent to 35 percent of outpatients and 30 percent to 50 percent of inpatients treated with antipsychotic medications concurrently receive two or more antipsychotic medications.[37-41] Polypharmacy of antipsychotic medications often leads to an increase in side effects without an improvement in clinical outcomes.[42-43] The measure developer agreed with the Steering Committee's recommendation to modify MM-022-08 to require that justifications for the use of multiple antipsychotic medications be included in the continuing care plan that is transmitted to the next level of care (thus simplifying the task of gathering numerator data and enhancing postdischarge communication). The Steering Committee also recommended that the measure be broadened to include outpatients as well. The Committee stated that it is important to pair these two

measures, because there are situations for which prescribing multiple antipsychotic medications is justified. Several commenters remarked that both of these measures are not needed, because it is important to address polypharmacy without justification, not polypharmacy alone. The measure developer explained that rates for both measures are intended to be reported together as a part of the Hospital-Based Inpatient Psychiatric Services (HBIPS) measure set. Therefore, they are not intended to be used separately. The Steering Committee agreed that it is acceptable to have both measures if they are reported together. The CSAC requested that these measures be endorsed as a measure pair.

0557 **HBIPS-6: Post discharge continuing care plan created** (JC) *MM-034-08*

0558 **HBIPS-7: Post discharge continuing care plan transmitted to next level of care provider upon discharge** (JC) *MM-035-08*

The Steering Committee strongly recommended these measures for endorsement as ones that address the important area of care coordination. The Committee recommended 1) that the measures be broadened to include other conditions and outpatient settings, 2) that dietary restrictions/ precautions be added to the continuing care plan, and 3) that the measures be modified to specify that the patient receives the continuing care plan as well as the next level of care provider.

During the review and comment period, the Steering Committee received recommendations that the measures be expanded to include populations beyond psychiatric patients. The Steering Committee agreed with this recommendation, and it has forwarded a recommendation for measure development for additional harmonized measures for other settings and conditions. The Joint Commission developed these measures specifically to use for psychiatric inpatients and does not plan to expand them to other patients and settings at this time.

Schizophrenia Adherence Measures Endorsed

It is estimated that 1 percent of the U.S. population will be diagnosed with schizophrenia sometime during their lifetime.[44] In 2002, the combined direct and indirect costs associated with schizophrenia in the United States totaled $62.6 billion.[45] The use of antipsychotic medications for patients with schizophrenia is widespread. It is estimated that the use of antipsychotic medications can reduce the risk of relapse by up to 30 percent per year for patients in the stable phase of schizophrenia.[46]

0544 **Use and adherence to antipsychotics among members with schizophrenia (IMS Health)** *MM-005-08*

This measure assesses both the percentage of patients with schizophrenia who fill one prescription for antipsychotic medications, as well as the percentage of patients with schizophrenia who maintain a 0.8 percent medication possession ratio over time. The Steering Committee believed that this measure was strong, given evidence that schizophrenia is a high-impact area with significant antipsychotic medication use and a demonstrated quality problem. In 2004, the American Psychiatric Association stressed the importance of medication adherence to prevent relapse.[47] The measure developer did not provide information to support variation or overall poor performance for this measure. However, the Steering Committee agreed that there is room for improvement in adherence to antipsychotic medications for those with schizophrenia.

INR Monitoring Measures Endorsed

0555 **Monthly INR monitoring for beneficiaries on warfarin (CMS)** *MM-030-08*

0556 **INR for beneficiaries taking warfarin and interacting anti-infective medications (CMS)** *MM-031-08*

These measures assess international normalized ratio (INR) monitoring for patients on warfarin and on warfarin plus anti-infective medications to avoid the adverse drug events associated with warfarin use.

The Steering Committee strongly supported both of these measures, because there is strong evidence to support the need for monitoring of warfarin use to avoid adverse events. More than 31 million prescriptions for warfarin were issued in 2004.[48] It is one of the top drugs responsible for adverse drug events (ADEs), particularly among the elderly. It is estimated that 43,400 cases of ADEs associated with warfarin are treated in U.S. emergency departments each year.[49] Evidence suggests that patients on warfarin are maintained at the optimal therapeutic range to avoid adverse outcomes only 55.0 percent to 63.6 percent of the time.[50, 51] Based on the Steering Committee's recommendation, the measure developer agreed to change the treatment timeframe to 40 days instead of 30 days, to align with the timeframe used by the Institute for Healthcare Improvement.

General Medication Management Measures Endorsed

0553 **Care for older adults—medication review (COA) (NCQA)** *MM-026-08*

This measure assesses the percentage of patients ages 65 years and older who have a medication review. The Steering Committee

agreed that this is a high-impact area with a demonstrated quality problem. One weakness of this measure is that a provider might report that a medication review had been conducted, but the review might be of inferior quality. The Committee recommended that a better-specified definition of medication review is needed in the future. The Committee also recommended that research be conducted to determine whether this measure is appropriate outside of the ambulatory setting.

0554 **Medication reconciliation post-discharge (MRP) (NCQA)**
MM-028-08

This measure assesses the percentage of patients ages 65 years and older whose medications are reconciled within 30 days of discharge. The Steering Committee agreed that this is an extremely important, high-impact area. Failure to appropriately reconcile medications is associated with increased mortality, morbidity, and resource use/cost. The Steering Committee requested that the measure specify that the patient also receives the list of medications; the measure developer will consider this modification at the next measure update.

Several commenters stated that a timeframe of fewer than 30 days would be more appropriate. The Steering Committee agreed with the measure developer's rationale that 30 days allows for sufficient time for reconciliation to occur.

Measures Not Endorsed

MM-002-08 **Gap in therapy (GAP): 5 rates by therapeutic category** (NCQA)

This measure assesses the percentage of patients taking medications in five therapeutic categories who experience a gap in medication therapy greater than or equal to 30 days. Although the Steering Committee agreed that this measure addresses an important, high-impact area, it decided that this measure was not necessary in addition to the medication possession ratio measures discussed above.

Several commenters asked the Steering Committee to reconsider the measure. The Steering Committee re-evaluated the measure but maintained its initial decision to not recommend it for endorsement.

MM-007-08 **Diabetes medication dosing (DOS)** (NCQA)

This measure assesses the number of patients dispensed a dose higher than the daily recommended dose for diabetes medications. The Steering Committee determined that this measure does not meet the importance criterion, because it does not clearly address a significant quality problem. It is neither clear that patients are commonly dispensed more than the recommended dose of diabetes medications nor that there is a significant risk to patients to have extra doses of medication in their possession at times.

MM-009-08 **Statin treatment for members with diabetes** (Health Benchmarks, Inc. [HBI])

This measure assesses statin use for patients with diabetes and is very similar to the Diabetes and Medication Possession Ratio for Statin Therapy measure developed by CMS and discussed above. The Steering Committee preferred the criteria used by CMS to identify diabetic patients to be included in the denominator. The Committee determined that CMS's definition of patients with diabetes was simpler and more feasible, but still able to validly capture the appropriate patients for whom this measure is appropriate, than HBI's definition.

MM-015-08 **Beta-blocker therapy for coronary artery disease beneficiaries with prior myocardial infarction** (CMS)

This measure assesses the percentage of patients with coronary artery disease and prior myocardial infarction who were dispensed beta blocker therapy during the measurement period. The Steering Committee determined that this measure is identical to a previously endorsed measure and therefore did not recommend the measure for endorsement.

MM-018-08 **Treatment of coronary artery disease (CAD) or CAD equivalent: use of statins** (IMS Health)

This measure assesses the use of statins to treat patients with CAD. This measure is very similar to the Coronary Artery Disease and Medication Possession Ratio for Statin Therapy measure submitted by CMS and discussed above. The Steering Committee preferred the criteria used by CMS to identify patients with CAD to be included in the denominator. The Committee determined that CMS's definition of patients with diabetes was simpler and more feasible, but still able to validly capture the appropriate patients for whom this measure is appropriate, than IMS Health's definition.

MM-019-08 **Treatment of community acquired pneumonia** (IMS Health)

This measure assesses the percentage of patients ages 19 years and older who are diagnosed with community-acquired pneumonia (CAP) in the outpatient setting who fill an antibiotic prescription 0-3 days after the date of diagnosis of pneumonia.

Although the Steering Committee identified CAP to be an important area, it asserted that this measure is more appropriately applied to the inpatient setting. There does not seem to be sufficient evidence of a quality gap for this measure, and implementation of this measure could lead to the overuse of antibiotics.

MM-020-08 **Pharmacologic management of migraine headaches** (IMS Health)

This measure assesses the percentage of patients diagnosed with migraines who receive first-line migraine-specific therapy prior to receiving opiate or butalbital-containing rescue medications. The Steering Committee agreed that this measure has high importance and opportunity for improvement. However, the Committee identified a weakness in the measure's encouragement of first-line migraine-specific medication therapy for all patients. Most physicians recommend "step therapy" for patients with migraines (i.e., over-the-counter medications as the first line of treatment), and over-the-counter use cannot be assessed from claims data. The Committee recommended that the measure be modified to capture only patients with more severe migraine symptoms.

MM-024-08 **Osteoporosis: pharmacologic therapy** (CMS)

This measure assesses the percentage of patients ages 50 years and older with a diagnosis of osteoporosis who were prescribed pharmacologic therapy. The Steering Committee determined that a previously endorsed measure is superior to this measure and that a new measure is not needed.

MM-025-08 **Osteoporosis screening for patients on systemic corticosteroids** (IMS Health)

This measure assesses the percentage of patients ages 18 years or older who fill at least a 180-days supply of systemic oral corticosteroids and who receive a bone mineral density study or pharmacological treatment for osteoporosis. The rationale for this measure is based on evidence that the use of corticosteroids increases the risk of osteoporosis by reducing bone formation and increasing bone resorption. The measure developer presented evidence that 50 percent of patients on corticosteroids eventually develop osteoporosis.[52] A guideline released in 2008 by the National Osteoporosis Foundation recommends screening patients for osteoporosis who take medications, including glucocorticoids, that are associated with bone mass or bone loss.[53] The Steering Committee determined that this measure does not meet the importance criterion, because there is not sufficient evidence that taking oral corticosteroids increases the risk for fractures enough to warrant screening for osteoporosis.

MM-027-08 **Potentially harmful drug-disease interactions in the elderly (DDE): 3 rates and a total rate** (NCQA)

This measure assesses the percentage of patients ages 65 years and older who have evidence of an underlying disease/condition/health concern who were dispensed an ambulatory prescription for a contraindicated medication. The categories of patients included in this measure are 1) patients with a history of falls and a prescription for tricyclic antidepressants, antipsychotics, or sleep agents; 2) patients with dementia and a prescription for tricyclic antidepressants

or anticholinergic agents; and 3) patients with chronic renal failure and a prescription for nonaspirin NSAIDs or Cox-2 Selective NSAIDS. The measure is reported as three separate rates and a total rate that combines all three.

The Steering Committee agreed that this measure addresses important patient safety issues. However, the Committee expressed doubt that just one prescription is always necessarily contraindicated for all of these categories of patients. The Steering Committee determined that it is important to allow for the prescriber to weigh the risks and benefits of prescribing these drugs for these populations of patients, rather than to prevent prescribers from ever prescribing these medications.

MM-029-08 **Annual A1c test for diabetes mellitus** (CMS)

This measure assesses the percentage of patients with pharmacologic treatment for diabetes who have a claim for HbA1c (hemoglobin A1c) testing to monitor glucose control. While the Steering Committee determined that this measure met NQF evaluation criteria, it determined that a previously endorsed measure is identical and a new measure is not needed.

MM-032-08 **Potassium and creatinine check for diuretics** (CMS)

MM-033-08 **Potassium and creatinine check for ACEIs/ARBs** (CMS)

These measures assess potassium and creatinine monitoring for patients on diuretic medications or ACEIs/ARBs. The Steering Committee determined that these measures are duplicative of a previously endorsed measure,

Therapeutic Monitoring, and therefore did not recommend this measure for endorsement.

Recommendations

The Steering Committee developed recommendations for research and future measure development that were based on the results of its deliberations and on comments received during the review and comment period. Several commenters requested that the measures be made more comprehensive; inclusive of additional age ranges, conditions, and settings; and patient centered and that they provide information that is more meaningful to consumers.

- **ADHERENCE MEASURES:** The Steering Committee recommended the development of additional measures that address different conditions, are more patient centered, provide additional information to consumers, provide information as to whether medications are taken properly, and identify why patients do not take their

medications properly. Additionally, the Committee recommended further analysis of the effects of the "doughnut hole" and of low-cost generic prescriptions on adherence data.

- **PLAN OF CARE MEASURES:** The Steering Committee expressed a need for research and measure development regarding the creation of care plans for conditions/settings beyond those discussed above. Plan of care measures are needed that are more patient centered, involve the patient and/or caregiver in communication of the care plan, and provide meaningful information to consumers.
- **MEDICATION REVIEW/MEDICATION RECONCILIATION MEASURES:** The Steering Committee recommended that research be conducted and measures be developed that address medication review and reconciliation, including accountability and content.
- **COPD MANAGEMENT:** The Steering Committee recommended that research be conducted into expanding COPD management measures to include lower risk patients.
- **OUTPATIENT PSYCHIATRIC MEASURES:** The Steering Committee recommended that research and measure development is needed regarding the use, adherence, monitoring, and polypharmacy for outpatients with major depression, schizophrenia, and bipolar disorder.
- **MIGRAINE MEDICATION MANAGEMENT:** The Steering Committee agreed that this is a very important area for which measures should be developed, but it did not support the measure submitted for this project.
- **USE OF TECHNOLOGY:** The Steering Committee stated that the use of technology in medication management, such as bedside bar coding, smart pumps, decision support, computer-assisted maximum and correct dose calculations, could significantly reduce the rate of preventable adverse drug events.
- **MEDICATION VALIDATION:** The Steering Committee stated that research is needed to identify the steps that occur from the time an order is written until it is given to the patient. This research should evaluate the process of order or prescription check that identifies errors in selection, dosing, directions, and dispensing.

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Appendix A

Specifications of the National Voluntary Consensus Standards for Medication Management

THE FOLLOWING TABLE PRESENTS the detailed specifications for each of the National Quality Forum-endorsed® National Voluntary Consensus Standards for Medication Management 2008. All information presented has been derived directly from measure sources/developers without modification or alteration (except when the measure developer agreed to such modification during the NQF Consensus Development Process) and is current as of July 2009. (All specifications were confirmed by measure developers as of April 10, 2009.) All NQF-endorsed voluntary consensus standards are open source, meaning they are fully accessible and disclosed.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Proportion of days covered (PDC): 5 rates by therapeutic category*	Measure ID #: 0541 Review #: MM-001-08	NCQA	The number of patients who met the PDC threshold during the measurement year for each therapuetic category seperately. Follow the steps below for each patient to determine whether the patient meets the PDC threshold. Step 1: Count the total days' supply (covered days) within the measurement year for the specific therapeutic medication dispensed during the measurement year. Step 2: Count the total number of days from the first day of the first fill of the relevant medication in the therapeutic category in the measurement year to the last day of the measurement year. Step 3: Divide the total days' supply (covered days) of the medication dispensed within the measurement year (Step 1) over the total number of days from the first fill of the medication in the measurement year to the last day of the measurement year (Step 2).	Patients who were dispensed at least two prescriptions in a specific therapeutic category on two unique dates of service during the measurement year. Beta-Blocker Medications: acebutolol HCL, atenolol, betaxolol HCL, bisoprolol fumarate, carteolol HCL, carvedilol, labetalol HCL, metoprolol succinate, metoprolol tartrate, nadolol, penbutolol sulfate, pindolol, propranolol HCL, timolol maleate, atenolol & chlorthalidone, bisoprolol & hydrochlorothiazide, nadolol & bendroflumethiazide, metoprolol & hydrochlorothiazide, propranolol & hydrochlorothiazide, timolol & hydrochlorothiazide ACE/ARB Medications: candesartan, eprosartan, irbesartan, losartan, olmesartan, telmisartan, valsartan, benazepril, captopril, enalapril, fosinopril, lisinopril, moexipril, perindopril, quinapril, ramipril, trandolopril, amlodipine-benazepril,	•Members who had a nonacute stay during the measurement year. Exclude patients from each eligible population rate who had a nonacute stay in the measurement year. If event codes are not available, use any one of the following criteria to determine if a patient resided in a long-term care facility for any portion of the measurement period: •Long-term care indicator field is populated on claims •Use the NCPD or NABP code on the claim to identify a long-term care specific pharmacy	Data Source: Electronic Pharmacy Data. Level of Measurement: Can be measured at all levels.

Notes for table

* Time-limited endorsement.

[a] IP owner(s)—intellectual property owner(s) and copyright holder(s). For the most current specifications and supporting information, please refer to the IP owner(s):

- CMS - Centers for Medicare & Medicaid Services (**www.cms.hhs.gov**)
- IMS Health - IMS Health/IMS Payer Solutions (**www.imshealth.com**)
- NCQA - National Committee for Quality Assurance (**www.ncqa.org**)
- JC - The Joint Commission (**www.jointcommission.org**)

[b] Further details about data elements and the data dictionary are available at www.jointcommission.org/HBIPS.

[c] ibid.

[d] ibid.

[e] ibid.

[f] ibid.

[g] ibid.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Proportion of days covered (PDC): 5 rates by therapeutic category* ***continued***	Measure ID #: 0541 Review #: MM-001-08		Step 4: Count the number of patients who met a PDC threshold of 80% or higher (as calculated in Step 3).	benazepril + HCTZ, captopril + HCTZ, enalapril + HCTZ, enalapril-felodipine, fosinopril + HCTZ, lisinopril + HCTZ, moexipril + HCTZ, quinapril + HCTZ, trandolopril-verapamil HCL, candesartan + HCTZ, eprosartan + HCTZ, irbesartan + HCTZ, losartan + HCTZ, olmesartan + HCTZ, telmisartan + HCTZ, valsartan + HCTZ Calcium-Channel Blockers: amlodipine besylate, diltiazem HCL, felodipine, isradipine, nicardipine HCL, nifedipine, verapamil HCL, nisoldipine, amlodipine besylate-benazepril HCL, enalapril maleate-felodipine, trandolopril-verapamil HCL Biguanides: metformin, metformin XR,metformin ER, meformin suspension, glipizide/metformin, gluyburide/metformin Sulfonylureas: chlorpropamide, acetohexamide, glimepiride, glipizide IR, glipizide XL, glyburide, micronized glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone, rosiglitazone/metformin, rosiglitazone/glimepiride, pioglitazone/metformin, pioglitazone/glimepiride Statins: niacin/lovastatin, lovastatin XL, rosuvastatin, fluvastatin f, luvastatin XL, atorvastatin, lovastatin, pravastatin, pravastatin and aspirin, simvastatin, omega-3 (N-3) poly-unsaturated fatty acids, cholestyramine powder, cholestyramine light powder, colestipol HCL, fenofibrate, fenofibrate micronized, gemfibrozil, niacin, omega-3-acid ethyl esters, ezetimibe and simvastatin, colesevelam, ezetimibe.	•PBM pharmacy indicator type •Medicare claims with a zero copay Codes to Identify Nonacute Care: •Hospice care codes: UB revenue: 0115, 0125, 0135, 0145, 0155, 0650, 0656, 0658, 0659, UB type of bill: 81x, 82x, Place of service: 34 •SNF care codes: UB revenue: 019x, UB type of bill: 21x, 22x, POS: 31, 32 •Hospital transitional care, swing bed or rehabilitation: UB type of bill: 18x •Rehabilitation: UB revenue: 0118, 0128, 0138, 0148, 0158, DRG: 462 •Respite: UB revenue: 0655 •Intermediate care facility: POS: 54 •Residential substance abuse treatment facility: UB revenue: 1002, POS: 55 •Psychiatric residential treatment center: HCPCS: T2048, H0017-H0019, UB revenue: 1001, POS: 56 •Comprehensive inpatient rehabilitation facility: POS 61.	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Adherence to chronic medications*	Measure ID # : 0542 Review #: MM-003-08	CMS	The sum of the days' supply that falls within the measurement window for each class of chronic medications for each patient in the denominator. For each beneficiary, several MPRs may be calculated, one for each drug class for which the beneficiary has at least one fill. Time Window: Any time during the measurement period (12 consecutive months). Medication Possession Ratio (MPR): The MPR is a measure of medication adherence, which is calculated as the sum of the days' supply dispensed for each claim for any active ingredient in a drug class from the first to the last claim for that drug class, excluding the days' supply for the last claim, divided by the sum of the days between the fill dates (or service dates) for the first and last claims in the measurement period for the drug class. An MPR equal to 1.0 indicates that the beneficiary had the drug dispensed as prescribed. All MPRs are truncated at the maximum value of 1.0 (i.e., if the sum of the days in the numerator exceeds the sum of the days in the denominator, then the MPR is set to 1.0).	Part D beneficiaries with at least one claim for any active ingredient within a drug class. Time Window: Any time during the measurement period (12 consecutive months). MPR Denominator: 1.New users: Number of days from the first prescription to the end of measurement period 2.Continuous users: Number of days from the beginning to the end of the measurement period. Age = 18 years of age as of the end of measurement period. During the measurement period, the beneficiary may not have more than a one-month gap in coverage. Drug Class: The drug class refers to one of the drug classes listed in Table 1 including all of the active ingredients within the drug class. For each drug class listed in Table 1, identify beneficiaries with at least one claim for any active ingredient in the drug class during the measurement period. There will be two separate denominators, one for each drug class listed in Table 1.	•Patients who died during the measurement period •Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Patients who have a zero or missing value for days' supply on any Part D claim for any active ingredient in a drug class listed •Patients with two or more prescriptions within the same class on the same date of service.	Data Source: Electronic Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Adherence to chronic medications* ***continued***	Measure ID # : 0542 Review #: MM-003-08		Numerator A: For each patient in the denominator for each drug class, calculate the MPR, as defined above, and then sum the MPRs within each drug class. For each beneficiary, several MPRs may be calculated, one for each drug class for which the beneficiary has at least two filled prescriptions on different dates of service. Numerator B: For each patient in the denominator for each drug class, calculate the MPR, as defined above, and determine if the MPR is greater than or equal to 0.80. For each beneficiary, several MPRs may be calculated, one for each drug class listed for which the beneficiary has at least two filled prescriptions on different dates of service.	Active Ingredients by Class: Angiotensin-converting enzyme inhibitors (ACEIs): benazepril, captopril, enalapril, fosinopril, lisinopril, moexipril, perindopril, quinapril, ramipril, trandolapril Angiotensin II receptor blockers (ARBs): candesartan, eprosartan, irbesartan, losartan, olmesartan, telmisartan, valsartan HMG-COA reductase inhibitors (statins): atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin. Note: Active ingredients listed include only oral formulations. Combination drugs are included in each respective class. Classes listed together are combined in one submeasure.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Coronary artery disease and medication possession ratio for statin therapy*	Measure ID #: 0543 Review #: MM-004-08	CMS	The sum of the days' supply that falls within the measurement window for a statin fill for each patient in the denominator. Time Window: Any time during the measurement period (12 consecutive months). MPR Numerator: 1. New users: For patients with no prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications from the first prescription until the end of the measurement period. **Remove the days' supply that extends past the end of the measurement period. 2. Continuous users: For patients with 1 or more prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications in the measurement period. **Remove the days' supply that extends past the end of the measurement period and add days' supply from the previous period that applies to the current period. Patients 18 years and over with CAD and at least one Part D claim for a statin.	MPR Denominator: 1. New users: Number of days from the first prescription to the end of measurement period. 2. Continuous users: Number of days from the beginning to the end of the measurement period. Age: ≥18 years of age as of the end of the measurement period. Continuous Enrollment: During the measurement period, the beneficiary may not have more than a one-month gap in coverage. Beneficiaries with CAD are identified by having a diagnosis of CAD within the inpatient or outpatient claims data. Beneficiaries must have: •At least two face-to-face encounters with a diagnosis of CAD with different dates of service in an outpatient setting or nonacute inpatient setting during the measurement period; OR •At least one face-to-face encounter with a diagnosis of CAD in an acute inpatient or emergency department setting during the measurement period.	•Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Patients who have a zero or missing value for days' supply on any Part D claim for any statin •Patients with two or more statin prescriptions on the same date of service.	Data Source: Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Coronary artery disease and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0543 Review #: MM-004-08			Codes Used to Identify CAD: ICD-9-CM diagnosis: 410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92, 411.0, 411.1, 411.81, 411.89, 412.00, 413.00, 413.1, 413.9, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.8, 414.9, V45.81, V45.82; CPT: 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92980, 92981, 92982, 92984, 92995, 92996. Codes Used to Identify Visit Type: Outpatient: CPT: 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB-92 revenue: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983. Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92 revenue: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Coronary artery disease and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0543 Review #: MM-004-08			Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92 revenue: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987. Emergency department: CPT: 99281-99285; UB-92 revenue: 045x, 0981. Active Ingredients for Statins: HMG-COA reductase inhibitors (statins): atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin HMG-COA reductase inhibitors (statins) combinations: amlodipine-atorvastatin, aspirin buffered-pravastatin, ezetimibe-simvastatin, niacin-lovastatin, niacin-simvastatin.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Coronary artery disease and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0543 Review #: MM-004-08		Codes Used to Identify CAD: ICD-9-CM diagnosis: 410.00, 410.01, 410.02, 410.10, 410.11, 410.12, 410.20, 410.21, 410.22, 410.30, 410.31, 410.32, 410.40, 410.41, 410.42, 410.50, 410.51, 410.52, 410.60, 410.61, 410.62, 410.70, 410.71, 410.72, 410.80, 410.81, 410.82, 410.90, 410.91, 410.92, 411.0, 411.1, 411.81, 411.89, 412, 413.0, 413.1, 413.9, 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07, 414.8, 414.9, V45.81, V45.82; CPT: 33140, 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536, 92980, 92981, 92982, 92984, 92995, 92996. Codes Used to Identify Visit Type: Outpatient: CPT: 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB-92 revenue: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983. Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92 revenue: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x			

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Coronary artery disease and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0543 Review #: MM-004-08		Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92 revenue: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x. Emergency department: CPT: 99281-99285; UB-92 revenue: 045x, 0981. Active Ingredients for Statins: HMG-COA Reductase Inhibitors (statins): atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin HMG-COA Reductase Inhibitors (statins) Combinations: amlodipine-atorvastatin, aspirin buffered-pravastatin, ezetimibe-simvastatin, niacin-lovastatin, niacin-simvastatin.			

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Use and adherence to antipsychotics among members with schizophrenia*	Measure ID #: 0544 Review #: MM-005-08	IMS Health/IMS Payer Solutions Copyright© 2009 IMS Health Incorporated. All rights reserved.	Calculate the % adherence to antipsychotic medications during the measurement year. Adherence will be measured by the medication possession ratio (MPR). Individuals with 0% MPR did not fill any prescription for antipsychotic medications. Time Window: 6-month period prior to the measurement year and the measurement year. Of note, the 6-month period prior to the measurement year is needed to differentiate new users of antipsychotic medication from continuous users of antipsychotic medication. The MPR is calculated in the measurement year. Step 1: Check if the member received at least one prescription of antipsychotic medication in the measurement year. If no prescription had been received set MPR = 0 and TERMINATE PROGRAM. Otherwise proceed to Step 2. Of note, this step would identify members who did not receive any antipsychotic medication at all during the measurement year as members with MPR = 0.	Continuously enrolled members ages 19 years or older by the end of the measurement year with schizophrenia. CPT: 99315-99316, 99318-99337, 99341-99350, 99354-99355, 99381-99387, 99391-99397, 99401-99429, 99450, 99455-99456; UB revenue code(s): 0500-0529, 0570-0599, 0770-0779, 0820-0859, 0882, 0982-0983. Emergency room: CPT-4 code(s): 99281-99285; UB revenue code(s): 045x, 0981. [C] Members diagnosed with schizophrenia at least once in the inpatient setting during the year prior to the measurement year. Schizophrenia; ICD-9 diagnosis code(s): 295.xx AND Inpatient setting: CPT-4 code(s): 99221-99223, 99231-99233, 99238-99239, 99251-99255, 99261-99263, 99291-99300, 99356-99357, 99431-99440; UB revenue code(s): 0100-0114, 0117-0124, 0127-0134, 0137-0144, 0147-0154, 0157-0159, 0160-0169, 0220-0229, 0190-0219, 0720-0729, 0800-0809, 0987.	•Women who were pregnant during the measurement year. Denominator Exclusion Logic: A only [A] Pregnancy during the measurement year. ICD-9 diagnosis: 630.xx-649.xx, 651.xx-659.xx, V22.xx, V23.xx, V28.xx; ICD-9 surgical proc: 66.62, 69.0x, 75.0x-75.3x; CPT-4: 59000, 59001, 59012, 59015, 59020, 59025, 59030, 59050, 59051, 59070, 59072, 59074, 59076, 59100, 59120, 59121, 59130, 59135, 59136, 59140, 59150, 59151, 59160, 59200, 59300, 59320, 59325, 59350, 59412, 59414, 59425, 59426, 59525, 59866, 59870, 59871, 59897-59899, 76801, 76802, 76805, 76810-76812, 76815-76819, 76825-76828, 76941, 76945, 76946, 82106, 82143, 82731, 88235, 88267, 88269; DRG: 376-391.	Data Source: Electronic Claims, Electronic Pharmacy Data, Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Health Plan, Facility, Integrated Delivery System.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Use and adherence to antipsychotics among members with schizophrenia* ***continued***	Measure ID #: 0544 Review #: MM-005-08		Step 2: Check if the members received at least one prescription of antipsychotic medication during the 6- month period prior to the beginning of the measurement year. If YES, then this patient is not a new user of antipsychotic medication and set the New_User flag = 0. If NO, then this patient is a new user of antipsychotic medication and set the New_User flag = 1. Of note, this step would differentiate new versus continuous antipsychotic medication user. Step 3: If patient is a new user (New_User flag = 1) then set START_DATE as the date of service (DOS) in which the first antipsychotic medication prescription is filled and set PRIOR_SUPPLY = 0. If START_DATE > 3/31 of the measurement year, then drop the member from the analysis. Of note, this step would allow the denominator timeframe for the new user to be the difference in days between the first prescription of antipsychotic medication and the end of the measurement year. In addition, this would exclude new users whose first prescription is >3/31 from the analysis. Step 4: If patient is NOT a new user (New_User flag = 0) check dates of service (DOS) in which the first antipsychotic medication prescription is filled during the measurement year. Set START_DATE the first day of the measurement year (i.e., January 1st). Of note, this step would set the measurement period of a continuous user as the first date of the measurement period. Step 5: If patient is NOT a new user (New_User flag = 0) then set LAST_DATEi = the date of the last antipsychotic medication prescription in the 6-month period prior to the start of the measurement year and DAY_SUPPLYi = day supply of this prescription.	Hospital observation: CPT-4 code(s): 99217-99220, 99234-99236. [DEMO] Members ages 19 years or older by the end of the measurement year. [CE] Members continuously enrolled for medical benefits during the measurement year and the measurement year. [DB] Members continuously enrolled for pharmacy benefits during the 6-month period prior to the measurement year and the measurement year.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Use and adherence to antipsychotics among members with schizophrenia* ***continued***	Measure ID #: 0544 Review #: MM-005-08		Check if LAST_DATEi + DAY_SUPPLYi > first date of the measurement year. If YES then PRIOR_SUPPLY = DAY_SUPPLYi - (First date of the measurement year – LAST_DATEi + 1); else PRIOR_SUPPLY = 0. Of note, this step would take care of the case in which a prescription for antipsychotic medication filled prior to the first date of the measurement year spilled over into the current measurement year. Step 6: Identify the last prescription of antipsychotic medication given during the measurement year and set the date of this prescription as LAST_DATEe and DAY_ SUPPLYe = day supply of this prescription; Check if LAST_DATEe + DAY_SUPPLYe > last date of the measurement year. If YES then LAST_SUPPLY (Last date of the measurement year - LAST_DATEe + 1). If NO then LAST_SUPPLY = DAY_SUPPLYe. Of note, this step would take care of the case in which the prescription for antipsychotic medication filled spilled over the current measurement year. Step 7: Identify all the prescriptions of antipsychotic medication given during the measurement year, except for the last prescription (i.e., P1, P2, …, Pn-1). MPR = PRIOR_SUPPLY + ? total day supply of Pn-1 + LAST_SUPPLY (Last date of measurement year – START_DATE + 1). Of note, if the calculated MPR >100% then MPR will be set to 100%. In other words, the maximum MPR allowed is 100%. Antipsychotic Medication List: First Generation: chlorpromazine, fluphenazine, mesoridazine, perphenazine, thioridazine, trifluoperazine, haloperidol, loxapine, molindone, thiothixene Second Generation: aripiprazole, clozapine, olanzapine, risperidone, quetiapine, ziprasidone, paliperidone.			

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes mellitus and medication possession ratio (MPR) for chronic medications*	Measure ID #: 0545 Review #: MM-006-08	CMS	Numerator A Statement: The sum of the days' supply that falls within the measurement window for each antidiabetic class for each patient in Denominator A. Numerator B Statement: The sum of the days' supply that falls within the measurement window for a statin fill for each patient in Denominator B. Numerator C Statement: The sum of the days' supply that falls within the measurement window for an ACEI and/or ARB fill for each patient in Denominator C. Time Window: Any time during the measurement period (12 consecutive months). MPR Numerator: 1. New users: For patients with no prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications from the first prescription until the end of the measurement period. Remove the days' supply that extends past the end of the measurement period.	Denominator A Statement: Patients 18 and over with diabetes mellitus who have at least one claim for a single oral hypoglycemic agent or multiple agents within an antidiabetic class. A separate denominator is calculated for each antidiabetic class (e.g., biguanides). Denominator B Statement: Patients 18 and over with diabetes mellitus who have at least one claim for statins. Denominator C Statement: Patients 18 and over with diabetes mellitus who have at least one claim for ACEIs and/or ARBs. Time Window: Any time during the measurement period (12 consecutive months). MPR Denominator: 1. New users: Number of days from the first prescription to the end of measurement period. 2. Continuous users: Number of days from the beginning to the end of the measurement period. Time Window: Any time during the measurement period (12 consecutive months). Age: 18 years of age or older as of the end of the measurement period.	Exclusion Criteria for All Denominators: •Patients who died during the measurement period •Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Patients with two or more prescriptions within the same class on the same date of service •Patients with a diagnosis of polycystic ovaries who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period •Patients with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. Exclusion Criteria for Denominator A: •Patients who have a zero or missing value for days' supply on any Part D claim for an oral hypoglycemic agent in all antidiabetic classes for which the beneficiary had claims. Exclusion Criteria for Denominator B: •Part D beneficiaries who have a zero or missing value for days' supply on any Part D claim for any statin.	Data Source: Electronic Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes mellitus and medication possession ratio (MPR) for chronic medications* ***continued***	Measure ID #: 0545 Review #: MM-006-08		2.Continuous users: For patients with 1 or more prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications in the measurement period. Remove the days' supply that extends past the end of the measurement period and add days' supply from the previous period that applies to the current period.	During the measurement period, the beneficiary may not have more than a one-month gap in coverage. Beneficiaries with diabetes mellitus are identified using an identification method requiring drug proxy and/or diagnosis codes (preferred) or a drug proxy identification method (used only if Parts A and B claims data are not available). Method 1: Identification of patients with diabetes mellitus using diagnosis codes and/or drug proxy (preferred). Beneficiaries with diabetes mellitus are identified using a drug proxy for diabetes mellitus and/or a diagnosis of diabetes mellitus within the inpatient or outpatient claims data. Beneficiaries must have: • At least two face-to-face encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or nonacute inpatient setting during the measurement period; OR • At least one face-to-face encounter with a principal or secondary diagnosis of diabetes in an acute inpatient or emergency department setting during the measurement period; OR • At least one ambulatory prescription claim for insulin or other antidiabetic medication dispensed during the measurement period. Method 2: Identification using drug proxy only to identify diabetes mellitus (use only if Parts A and B claims are not available). Beneficiaries with diabetes mellitus are identified using pharmacologic therapy for diabetes mellitus within the Part D claims data and must have at least one ambulatory prescription claim for insulin or other antidiabetic medication dispensed during the measurement period.	Exclusion Criteria for Denominator C: •Part D beneficiaries who have a zero or missing value for days' supply on any Part D claim for any ACEI or ARB •Polycystic ovaries identified by ICD-9-CM diagnosis code 256.4 •Steroid-induced diabetes identified by ICD-9-CM diagnosis code 251.8 or 962.0 •Gestational diabetes identified by ICD-9-CM diagnosis code 648.8 (648.81-648.84).	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes mellitus and medication possession ratio (MPR) for chronic medications* ***continued***	Measure ID #: 0545 Review #: MM-006-08			Method 1 ICD-9-CM Diagnosis Codes Used to Identify Diabetes Mellitus: 250.xx, 357.2, 362.0x, 366.41, 648.0. Method 1 DRG Codes Used to Identify Diabetes Mellitus: 294, 295. Method 1 Codes Used to Identify Visit Type: Outpatient: CPT: 92002-92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB-92 revenue: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983. Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92 revenue codes: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x. Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92 revenue: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987. Emergency department: CPT: 99281-99285; UB-92 revenue: 045x, 0981.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes mellitus and medication possession ratio (MPR) for chronic medications* ***continued***	Measure ID #: 0545 Review #: MM-006-08			Method 1 Active Ingredients by Class to Identify Diabetic Beneficiaries: Alpha-glucosidase inhibitors: acarbose, miglitol Antidiabetic amylin analogs: pramlintide Antidiabetic combinations: glipizide-metformin, glyburide-metformin, pioglitazone-glimepiride, pioglitazone-metformin, rosiglitazone-glimepiride, rosiglitazone-metformin, sitagliptin-metformin Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin Incretin mimetics: exenatide Insulin: insulin aspart, insulin aspart protamine & aspart (human), insulin detemir, insulin glargine, insulin glulisine, insulin isophane, insulin isophane & reg (human), insulin isophane (human), insulin isophane (pork), insulin lispro (human), insulin lispro protamine & lispro (human), insulin reg (human) buffered, insulin regular, insulin regular (human), insulin regular (pork), insulin zinc (human), insulin zinc (pork), insulin zinc extended (human) Meglitinides: nateglinide, repaglinide Sulfonylureas: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone. Note: Beneficiaries on metformin not in combination with another drug are identified by diagnosis coding only per HEDIS 2008 instructions (NCQA, 2007). Method 2 Active Ingredients by Class to Identify Diabetic Beneficiaries: Alpha-glucosidase inhibitors: acarbose, miglitol Antidiabetic amylin analogs: pramlintide Antidiabetic combinations: glipizide-metformin, glyburide-metformin, metformin-dietary management product, pioglitazone-glimepiride, pioglitazone-metformin, rosiglitazone-glimepiride, rosiglitazone-metformin, sitagliptin-metformin Biguanides: metformin Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin Incretin mimetics: exenatide		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes mellitus and medication possession ratio (MPR) for chronic medications* ***continued***	Measure ID #: 0545 Review #: MM-006-08			Insulin: insulin aspart, insulin aspart protamine & aspart (human), insulin detemir, insulin glargine, insulin glulisine, insulin isophane, insulin isophane & reg (human), insulin isophane (human), insulin isophane (pork), insulin lispro (human), insulin lispro protamine & lispro (human), insulin reg (human) buffered, insulin regular, insulin regular (human), insulin regular (pork), insulin zinc (human), insulin zinc (pork), insulin zinc extended (human) Meglitinides: nateglinide, repaglinide Sulfonylureas: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone. Note: Table includes metformin in all formulations, which is used to identify diabetic beneficiaries when medical claims are not available. Active Ingredients by Class for Oral Hypoglycemic Agents: Alpha-glucosidase inhibitors: acarbose, miglitol Antidiabetic combinations: glipizide-metformin, glyburide-metformin, metformin-dietary management product, pioglitazone-glimepiride, pioglitazone-metformin, rosiglitazone-glimepiride, rosiglitazone-metformin, sitagliptin-metformin Biguanides: metformin Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin Meglitinides: nateglinide, repaglinide Sulfonylureas: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes mellitus and medication possession ratio (MPR) for chronic medications* ***continued***	Measure ID #: 0545 Review #: MM-006-08			Active Ingredients by Class for Statins: HMG-COA reductase inhibitors (statins): atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin HMG-COA reductase inhibitor (statins) combinations: amlodipine-atorvastatin, aspirin buffered-pravastatin, ezetimibe-simvastatin, niacin-lovastatin, niacin-simvastatin. Active Ingredients by Class for ACEIs/ARBs: Angiotensin-converting enzyme inhibitors (ACEIs): benazepril, captopril, enalapril, fosinopril, lisinopril, moexipril, perindopril, quinapril, ramipril, trandolapril Angiotensin II receptor blockers (ARBs): candesartan, eprosartan, irbesartan, losartan, olmesartan, telmisartan, valsartan Antihypertensive combinations: amlodipine-benazepril, amlodipine-olmesartan, amlodipine-valsartan, benazepril-hydrochlorothiazide, candesartan-hydrochlorothiazide, captopril-hydrochlorothiazide, enalapril maleate-hydrochlorothiazide, enalapril-felodipine, eprosartan-hydrochlorothiazide, fosinopril-hydrochlorothiazide, irbesartan-hydrochlorothiazide, lisinopril- hydrochlorothiazide, lisinopril-dietary management product, lisinopril-nutritional supplement, losartan-hydrochlorothiazide, moexipril-hydrochlorothiazide, olmesartan-hydrochlorothiazide, quinapril-hydrochlorothiazide, telmisartan-hydrochlorothiazide, trandolapril-verapamil, valsartan-hydrochlorothiazide. Note: Active ingredients limited to oral formulations only.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes suboptimal treatment regimen (SUB)	Measure ID #: 0546 Review #: MM-008-08	NCQA	The number of patients who did not receive an ACEI/ARB or ACEI/ARB combination during the measurement year. ACE/ARB Medications: candesartan, eprosartan, irbesartan, losartan, olmesartan, telmisartan, valsartan, benazepril, captopril, enalapril, fosinopril, lisinopril, moexipril, perindopril, quinapril, ramipril, trandolopril, amlodipine-benazepril, benazepril + HCTZ, captopril + HCTZ, enalapril + HCTZ, enalapril-felodipine, fosinopril + HCTZ, lisinopril + HCTZ, moexipril + HCTZ, quinapril + HCTZ, trandolopril-verapamil HCL, candesartan + HCTZ, eprosartan + HCTZ, irbesartan + HCTZ, losartan + HCTZ, olmesartan + HCTZ, telmisartan + HCTZ, valsartan + HCTZ.	Patients who were dispensed at least one prescription for an oral hypoglycemic agent, insulin, incretion mimetics and at least one prescription for an antihypertensive agent during the measurement year. Oral Hypoglycemic, Insulin, Incretin Mimetics: Biguanides: metformin, metformin XR, metformin ER, meformin suspension, glipizide/metformin, gluyburide/metformin Sulfonylureas: chlorpropamide, acetohexamide, glimepiride, glipizide IR, glipizide XL, glyburide, micronized glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone, rosiglitazone/metformin, rosiglitazone/glimepiride, pioglitazone/metformin, pioglitazone/glimepiride Meglitinides: nateglinide, repaglinide Alpha-glucosidase inhibitors: acarbose, miglitol Incretin mimetic agents: exenatide, pramlintide DPP-IV inhibitors: sitagliptin Insulin: insulin aspart, insulin aspart protamine & aspart, insulin detemir, insulin glargine, insulin glulisine, insulin isophane & regular human insulin, insulin isophane (human N), insulin lispro, insulin lispro protamine & insulin lispro, insulin regular (human R), insulin regular (human) buffered, insulin regular inhalation powder, insulin zinc (Lente), insulin zinc extended (human ultralente).	• Patients who had a nonacute stay during the measurement year. Exclude patients from the eligible population that had a nonacute stay in the measurement year. If event codes are not available, use any one of the following critieria to determine if a patient resided in a long term care facility for any portion of the measurement period: • Long-term care indicator field is populated on claims • Use the NCPD or NABP code on the claim to identify a long-term care specific pharmacy • PBM pharmacy indicator type • Medicare claims with a zero co-pay.	Data Source: Electronic Pharmacy Data. Level of Measurement: Can be measured at all levels.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes suboptimal treatment regimen (SUB) ***continued***	Measure ID #: 0546 Review #: MM-008-08			Antihypertensive Agents: Calcium-channel blockers: amlodipine besylate, diltiazem HCL, felodipine, isradipine, nicardipine HCL, nifedipine, verapamil HCL, nisoldipine, amlodipine besylate-benazepril HCL, enalapril maleate-felodipine, trandolopril-verapamil HCL Biguanides: metformin, metformin XR, metformin ER, meformin suspension, glipizide/metformin, gluyburide/metformin.	If codes are available, use the following to identify nonacute care: •Hospice care codes: UB revenue: 0115, 0125, 0135, 0145, 0155, 0650, 0656, 0658, 0659, UB type of bill: 81x, 82x, Place of service: 34 •SNF care codes: UB revenue: 019x, UB type of bill: 21x, 22x, POS: 31, 32 •Hospital transitional care, swing bed or rehabilitation: UB type of bill: 18x •Rehabilitation: UB revenue: 0118, 0128, 0138, 0148, 0158, DRG: 462 •Respite: UB revenue: 0655 •Intermediate care facility: POS: 54 •Residential substance abuse treatment facility: UB revenue: 1002, POS: 55 •Psychiatric residential treatment center: HCPCS: T2048, H0017-H0019, UB revenue: 1001, POS: 56 •Comprehensive inpatient rehabilitation facility: POS 61.	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes and medication possession ratio for statin therapy*	Measure ID #: 0547 Review #: MM-010-08	CMS	The sum of the days' supply that fall within the measurement window for a statin fill for each patient in the denominator. Time Window: At any time during the measurement period (12 consecutive months). MPR Numerator: 1. New users: For patients with no prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications from the first prescription until the end of the measurement period. Remove the days' supply that extends past the end of the measurement period. 2. Continuous users: For patients with 1 or more prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications in the measurement period. **Remove the days' supply that extends past the end of the measurement period and add days' supply from the previous period that apply to the current period.	Patients 18-85 years of age with diabetes mellitus and at least one Part D claim for a statin. MPR Denominator: 1. New users: Number of days from the first prescription to the end of measurement period. 2. Continuous users: Number of days from the beginning to the end of the measurement period. Time Window: Any time during the measurement period (12 consecutive months). Age: 18-85 years of age as of the end of measurement period. During the measurement period, the beneficiary may not have more than a one-month gap in coverage. Index Event: Hospital discharge or physician encounter for diabetes or a prescription for diabetes pharmacologic therapy. Beneficiaries with diabetes mellitus are identified using an identification method requiring drug proxy and/or diagnosis codes (preferred) or a drug proxy identification method (used only if Parts A and B claims data are not available).	•Patients who died during the measurement period •Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Patients with a diagnosis of polycystic ovaries who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period (if medical claims (Part A/B data) are available) •Patients with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period (if medical claims (Part A/B data) are available). ICD-9-CM Diagnostic Exclusions for Diabetes Denominator: •Polycystic ovaries: 256.4 •Steroid-induced diabetes: 251.8, 962.0 •Gestational diabetes: 648.8 (648.81-648.84).	Data Source: Electronic Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0547 Review #: MM-010-08			Method 1: Identification using diagnosis codes and/or drug proxy to identify diabetes mellitus (preferred): Beneficiaries with diabetes mellitus are identified using a drug proxy for diabetes mellitus and/or a diagnosis of diabetes mellitus within the inpatient or outpatient claims data. Beneficiaries must have: • At least two face-to-face encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or nonacute inpatient setting during the measurement period; OR • At least one face-to-face encounter with a principal or secondary diagnosis of diabetes in an acute inpatient or emergency department setting during the measurement period; OR • At least one ambulatory prescription claim for insulin or other antidiabetic medication dispensed during the measurement period. Method 2: Identification using drug proxy only to identify diabetes mellitus (use only if Parts A and B claims are not available): Beneficiaries with diabetes mellitus are identified using pharmacologic therapy for diabetes mellitus within the Part D claims data and must have at least one ambulatory prescription claim for insulin or other antidiabetic medication dispensed during the measurement period. Method 1 ICD-9-CM Diagnosis Codes Used to Identify Diabetes Mellitus: 250.xx, 357.2, 362.0x, 366.41, 648.0. Method 1 DRG Codes Used to Identify Diabetes Mellitus: 294, 295. Method 1 Codes Used to Identify Visit Type: Outpatient: CPT: 92002-92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499 UB-92 Revenue Codes: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0547 Review #: MM-010-08			Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92 revenue: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x. Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92 revenue: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987. Emergency department: CPT: 99281-99285; UB-92 revenue: 045x, 0981. Method 1 Active Ingredients by Class to Identify Diabetic Beneficiaries: Alpha-glucosidase inhibitors: acarbose, miglitol Antidiabetic amylin analogs: pramlintide Antidiabetic combinations: glipizide-metformin, glyburide-metformin, pioglitazone-glimepiride, pioglitazone-metformin, rosiglitazone-glimepiride, rosiglitazone-metformin, sitagliptin-metformin Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin Incretin mimetics: exenatide Insulin: insulin aspart, insulin aspart protamine & aspart (human), insulin detemir, insulin glargine, insulin glulisine, insulin isophane, insulin isophane & reg (human), insulin isophane (human), insulin isophane (pork), insulin lispro (human), insulin lispro protamine & lispro (human), insulin reg (human) buffered, insulin regular, insulin regular (human), insulin regular (pork), insulin zinc (human), insulin zinc (pork), insulin zinc extended (human) Meglitinides: nateglinide, repaglinide Sulfonylureas: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone. Note: Beneficiaries on metformin not in combination with another drug are identified by diagnosis coding only per HEDIS 2008 instructions (NCQA, 2007).		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Diabetes and medication possession ratio for statin therapy* ***continued***	Measure ID #: 0547 Review #: MM-010-08			Method 2 Active Ingredients by Class to Identify Diabetic Beneficiaries: Alpha-glucosidase inhibitors: acarbose, miglitol Antidiabetic amylin analogs: pramlintide Antidiabetic combinations: glipizide-metformin, glyburide-metformin, metformin-dietary management product, pioglitazone-glimepiride, pioglitazone-metformin, rosiglitazone-glimepiride, rosiglitazone-metformin, sitagliptin-metformin Biguanides: metformin Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin Incretin mimetics: exenatide Insulin: insulin aspart, insulin aspart protamine & aspart (human), insulin detemir, insulin glargine, insulin glulisine, insulin isophane, insulin isophane & reg (human), insulin isophane (human), insulin isophane (pork), insulin lispro (human), insulin lispro protamine & lispro (human), insulin reg (human) buffered, insulin regular, insulin regular (human), insulin regular (pork), insulin zinc (human), insulin zinc (pork), insulin zinc extended (human) Meglitinides: nateglinide, repaglinide Sulfonylureas: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide Thiazolidinediones: pioglitazone, rosiglitazone. Note: Table includes metformin in all formulations, which is used to identify diabetic beneficiaries when medical claims are not available. Active Ingredients for Statins: HMG-COA reductase inhibitors (statins): atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin HMG-COA reductase inhibitors (statins) combinations: amlodipine-atorvastatin, aspirin buffered-pravastatin, ezetimibe-simvastatin, niacin-lovastatin, niacin-simvastatin.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Asthma control—suboptimal asthma control (SAC) rate (rate 1) and asthma control—absence of controller therapy (ACT) rate (rate 2)	Measure ID #: 0548 Review #: MM-011-08	NCQA	Rate1: From the date of each prescription fill, count all of the canisters of short-acting beta2 agonist inhalers dispensed at that fill and dispensed within 90 days of that fill. If the patient receives 5 or more canisters in at least one 90-day period, then the patient is compliant for the numerator. Short-Acting Inhaled Beta Agonists: albuterol MDI, albuterol HFA, pirbuterol, levalbuterol HFA. Rate 2: Patients who were not dispensed a controller therapy medication during the same 90-day period where they received more than five canisters of short-acting beta-agonist medication.	Rate 1: Step 1: Identify patients 18-50 years of age as of the last day of the measurement year. Step 2: Identify patients who were dispensed at least two consecutive fills for any asthma medication during the measurement year. Step 3: Exclude patients identified in step 1 who meet any of the following criteria: • Any patient who filled one or more COPD medications during the measurement year • Any patient who filled one or more prescriptions for pulmozyme during the measurement year • Any patient who filled one or more nasal steroid medications during the measurement year. Short-Acting Inhaled Beta Agonists: albuterol MDI, albuterol HFA, pirbuterol, levalbuterol HFA Long-Acting Beta Agonists: salmeterol, formoterol Inhaled Corticosteroids: beclomethasone, budesonide, flunisolide, fluticasone, fluticasone/salmeterol, mometasone, triamcinolone	•Members who had a nonacute stay during the measurement year. Exclude patients from each eligible population rate who had a nonacute stay in the measurement year. If event codes are not available, use any one of the following criteria to determine if a patient resided in a long-term care facility for any portion of the measurement period: •Long-term care indicator field is populated on claims •Use the NCPD or NABP code on the claim to identify a long-term care specific pharmacy •PBM pharmacy indicator type •Medicare claims with a zero co-pay Codes to Identify Nonacute Care: •Hospice care codes: UB revenue: 0115, 0125, 0135, 0145, 0155, 0650, 0656, 0658, 0659, UB type of bill: 81x, 82x, Place of Service: 34 •SNF care codes: UB revenue: 019x, UB type of bill: 21x, 22x, POS: 31, 32 •Hospital transitional care, swing bed or rehabilitation: UB type of bill: 18x	Data Source: Electronic Pharmacy Data. Level of Measurement: Can be measured at all levels.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Asthma control—suboptimal asthma control (SAC) rate (rate 1) and asthma control—absence of controller therapy (ACT) rate (rate 2) ***continued***	Measure ID #: 0548 Review #: MM-011-08			Leukotriene Inhibitors: zafirlukast, montelukast, zileuton Xanthines: long acting theophylline Mast Cell Stabilizers: nedocromil, cromolyn COPD Medications: tiotropium, ipratropium/albuterol MDI, ipratropium MDI Nasal Steroids: beclomethasone, budesonide, flunisolide, fluticasone, mometasone, triamcinolone. Rate 2: Step 1: Identify patients 5-50 years of age as of the last day of the measurement year. Step 2: Identify patients who were dispensed at least two consecutive fills for any asthma medication (Table ACT-A: Asthma Medications) during the measurement year. Step 3: Exclude patients identified in step 1 who meet any of the following criteria: • Any patient who filled one or more COPD medications during the measurement year • Any patient who filled one or more prescriptions for pulmozyme during the measurement year • Any patient who filled one or more nasal steroid medications during the measurement year. Step 4: For the remaining patients, identify those who were dispensed more than five canisters of a short-acting beta2? agonist medication during the same 90-day period in the measurement year. It is those patients who, from the date of each prescription fill, had at least 5 canisters of short acting beta2 agonist inhalers dispensed at that fill or dispensed within 90 days of that fill. Note: This is a count of canisters dispensed, not prescriptions filled. If a patient received 2 canisters at one fill, it counts as 2 canisters.	•Rehabilitation: UB revenue: 0118, 0128, 0138, 0148, 0158, DRG: 462 •Respite: UB revenue: 0655 •Intermediate care facility: POS: 54 •Residential substance abuse treatment facility: UB revenue: 1002, POS: 55 •Psychiatric residential treatment center: HCPCS: T2048, H0017-H0019, UB revenue: 1001, POS: 56 •Comprehensive inpatient rehabilitation facility: POS 61.	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Pharmacotherapy management of COPD exacerbation (PCE): two rates are reported	Measure ID #: 0549 Review #: MM-013-08	NCQA	Rate 1: Dispensed prescription for systemic corticosteroid. Rate 2: Dispensed prescription for a bronchodilator. Systemic Corticosteroids: betamethasone, dexamethasone, hydrocortisone, methylprednisolone, prednisolone, prednisone, triamcinolone Bronchodialators: albuterol-ipratropium, ipratropium, tiotropium, albuterol, arformoterol, budesonide-formoterol, epinephrine, fluticasone-salmeterol, formoterol, levalbuterol, metaproterenol, pirbuterol, salmeterol, aminophylline, dyphylline, dyphylline-guaifenesin, guaifenesin-theophylline, potassium iodide-theophylline, theophylline.	Must be 40 years or older as of January 1 of the measurement year. The event would be a COPD exacerbation as indicated by an acute inpatient discharge or ED encounter with a principal diagnosis of COPD. Codes to Identify COPD: Chronic bronchitis (ICD-9 491), Emphysema (ICD-9 492), COPD (ICD-9 496). Codes to Identify Visit Type: Acute inpatient (UB revenue 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 0987), ED visit (CPT 99281-99285, UB revenue 045x, 0981).	• Test for Transfers: Exclude Episode Dates on which the patient was transferred directly to an acute or nonacute care facility for any diagnosis. • Test for Readmission Exclude: inpatient ED Episode Dates on which the patient was readmitted to an acute or nonacute care facility for any diagnosis on or seven days after discharge.	Data Source: Electronic Claims, Electronic Pharmacy Data. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Health Plan.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Chronic kidney disease, diabetes mellitus, hypertension, and medication, possession ratio for ACEI/ARB therapy*	Measure ID #: 0550 Review #: MM-014-08	CMS	The sum of the days' supply that falls within the measurement window for an ACEI/ARB fill for each patient in the denominator. Time Window: Any time during the measurement period (12 months). MPR Numerator: 1. New users: For patients with no prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications from the first prescription until the end of the measurement period. **Remove the days' supply that extends past the end of the measurement period. 2. Continuous users: For patients with 1 or more prescriptions in the 180 days prior to the measurement period, sum of: Days' supply of all medications in the measurement period. **Remove the days' supply that extends past the end of the measurement period and add days' supply from the previous period that applies to the current period. Active Ingredients by Class for ACEIs/ARBs: Angiotensin-converting enzyme inhibitors (ACEIs): benazepril, captopril, enalapril, fosinopril, lisinopril, moexipril, perindopril, quinapril, ramipril, trandolapril	Beneficiaries with CKD stages 1-4 and/or diabetes mellitus and hypertension (HTN) identified during the measurement period with at least one Part D claim for an ACEI/ARB. Time Window: Any time during the measurement period (12 consecutive months). MPR Denominator: 1. New users: Number of days from the first prescription to the end of measurement period. 2. Continuous users: Number of days from the beginning to the end of the measurement period. Age: 18-85 years of age at the end of the measurement period. During the measurement period, the beneficiary may not have more than a one-month gap in coverage. Beneficiaries with CKD stages 1-4 are identified using a principal or secondary diagnosis of CKD within the inpatient or outpatient claims data: • At least two outpatient or physician claims with different dates of service during the measurement period with a principal or secondary diagnosis of CKD; OR • At least one hospital inpatient claim during the measurement period with a principal or secondary diagnosis of CKD.	•Patients who died during the measurement period •Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Patients who have had a kidney transplant during the measurement period •Patients who have ESRD • Patients with a diagnosis of polycystic ovaries who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. •Patients with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period •Kidney transplants identified by ICD-9-CM diagnosis code V42.0 or ICD-9-CM procedure code 55.6x •ESRD identified by entitlement reason of ESRD before or during the measurement period or ICD-9-CM diagnosis code of 585.5 or 585.6	Data Source: Electronic Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Chronic kidney disease, diabetes mellitus, hypertension, and medication, possession ratio for ACEI/ARB therapy* ***continued***	Measure ID #: 0550 Review #: MM-014-08		Angiotensin II receptor blockers (ARBs): candesartan, eprosartan, irbesartan, losartan, olmesartan, telmisartan, valsartan Antihypertensive combinations: amlodipine-benazepril, amlodipine-olmesartan, amlodipine-valsartan, benazepril-hydrochlorothiazide, candesartan-hydrochlorothiazide, captopril-hydrochlorothiazide, enalapril maleate-hydrochlorothiazide, enalapril-felodipine, eprosartan-hydrochlorothiazide, fosinopril-hydrochlorothiazide, irbesartan-hydrochlorothiazide, lisinopril-hydrochlorothiazide, lisinopril-dietary management product, lisinopril-nutritional supplement, losartan-hydrochlorothiazide, moexipril-hydrochlorothiazide, olmesartan-hydrochlorothiazide, quinapril-hydrochlorothiazide, telmisartan-hydrochlorothiazide, trandolapril-verapamil, valsartan-hydrochlorothiazide.	Beneficiaries with diabetes mellitus are identified using an identification method requiring drug proxy and/or diagnosis codes. Beneficiaries must have: • At least two face-to-face encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or nonacute inpatient setting during the measurement period; OR • At least one face-to-face encounter with a principal or secondary diagnosis of diabetes in an acute inpatient or emergency department setting during the measurement period; OR • At least one ambulatory prescription claim for insulin or other antidiabetic medication dispensed during the measurement period. Beneficiaries with hypertension are identified by having a principal or secondary diagnosis of hypertension within the inpatient or outpatient claims data: • At least two outpatient or physician claims with different dates of service during the measurement period with a principal or secondary diagnosis of hypertension; OR • At least one hospital inpatient claim during the measurement period with a principal or secondary diagnosis of hypertension.	•Polycystic ovaries identified by ICD-9-CM diagnosis code 256.4 •Steroid-induced diabetes identified by ICD-9-CM diagnosis code 251.8 or 962.0 •Gestational diabetes identified by ICD-9-CM diagnosis code 648.8 (648.81-648.84).	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Chronic kidney disease, diabetes mellitus, hypertension, and medication possession ratio for ACEI/ARB therapy* ***continued***	Measure ID #: 0550 Review #: MM-014-08			Codes Used to Identfiy Chronic Kidney Disease: ICD-9-CM diagnosis: 016.0, 095.4, 189.0, 189.9, 223.0, 236.91, 250.40, 250.41, 250.42, 250.43, 271.4, 274.1, 283.11, 403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 440.1, 442.1, 572.4, 580.0, 580.4, 580.81, 580.89, 580.9, 581.0, 581.1, 581.2, 581.3, 581.81, 581.89, 581.9, 582.0, 582.1, 582.2, 582.4, 582.81, 582.89, 582.9, 583.0, 583.1, 583.2, 583.4, 583.6, 583.7, 583.81, 583.89, 583.9, 584.5, 584.6, 584.7, 584.8, 584.9, 585.1-585.4, 585.9, 586, 587, 588.0, 588.1, 588.81, 588.89, 588.9, 591, 753.12, 753.13-753.17, 753.19-753.23, 753.29, 794.4 Codes Used to Identify CKD & HTN Visit Type: Outpatient: CPT: 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB-92: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983. Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x. Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987 Emergency department: CPT: 99281-99285; UB-92: 045x, 0981. Codes Used to Identify Diabetes Mellitus: ICD-9-CM diagnosis: 250.xx, 357.2, 362.0x, 366.41, 648.0. Codes Used to Identify Diabetes Mellitus Visit Type: Outpatient: CPT: 92002-92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB-92: 051x, 0520-0523, 0562-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Chronic kidney disease, diabetes mellitus, hypertension, and medication possession ratio for ACEI/ARB therapy* ***continued***	Measure ID #: 0550 Review #: MM-014-08			Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x. Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987. Emergency department: CPT: 99281-99285; UB-92: 045x, 0981. Codes Used to Identify Diabetes Mellitus: ICD-9-CM diagnosis: 250.xx, 357.2, 362.0x, 366.41, 648.0. Codes Used to Identify Diabetes Mellitus Visit Type: Outpatient: CPT: 92002-92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB-92: 051x, 0520-0523, 0562-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983. Nonacute inpatient: CPT: 99301-99313, 99315, 99316, 99318, 99321-99328, 99331-99337; UB-92: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x. Acute inpatient: CPT: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB-92: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 080x, 0987.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Chronic kidney disease, diabetes mellitus, hypertension, and medication possession ratio for ACEI/ARB therapy* ***continued***	Measure ID #: 0550 Review #: MM-014-08			Emergency department: CPT: 99281-99285 UB-92: 045x, 0981 Active Ingredients by Class to Identify Diabetic Beneficiaries: Alpha-glucosidase inhibitors: acarbose, miglitol Antidiabetic amylin analogs: pramlintide Antidiabetic combinations: glipizide-metformin, glyburide-metformin, pioglitazone-glimepiride, pioglitazone-metformin, rosiglitazone-glimepiride, rosiglitazone-metformin, sitagliptin-metformin Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin Incretin mimetics: exenatide Insulin: insulin aspart, insulin aspart protamine & aspart (human), insulin detemir, insulin glargine, insulin glulisine, insulin isophane, insulin isophane & reg (human), insulin isophane (human), insulin isophane (pork), insulin lispro (human), insulin lispro protamine & lispro (human), insulin reg (human) buffered, insulin regular, insulin regular (human), insulin regular (pork), insulin zinc (human), insulin zinc (pork), insulin zinc extended (human) Meglitinides: nateglinide, repaglinide Sulfonylureas: acetohexamide, chlorpropamide, glimepiride, glipizide, glyburide, tolazamide, tolbutamide Thiazolidinediones:pioglitazone, rosiglitazone Note: Beneficiaries on metformin not in combination with another drug are identified by diagnosis coding as defined in HEDIS 2008 instructions. Codes used to identify hypertension: ICD-9-CM Diagnosis: 362.11, 401.x, 402.xx, 403.x, 404.xx, 405.xx, 437.2		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events*	Measure ID #: 0551 Review #: MM-017-08	IMS Health/IMS Payer Solutions Copyright© 2009 IMS Health Incorporated. All rights reserved.	The member's persistence or medication possession ratio (MPR) for ACE inhibitor or ARB prescriptions during the measurement year. Individuals with 0% MPR will be defined as those who did not fill any prescriptions for ACE or ARB. Note: Members may switch between ACE inhibitors and ARB drugs. Time Window: 6-month period prior to measurement year to the measurement year. Of note, the 6-month period prior to the measurement year is needed to identify new ACE/ARB users and the measurement year is used to calculate MPR. Step 1: Check if the member received at least one prescription of ACE/ARB in the measurement year. If no prescription had been received set MPR = 0 and TERMINATE PROGRAM. Otherwise proceed to Step 2. Of note, this step would identify members who did not receive any ACE/ARB at all during the measurement year as members with MPR = 0. Step 2: Check if the members received a least one prescription of ACE/ARB during the 6-month period prior to the beginning of the measurement year. If YES, then this patient is not a new user of ACE/ARB and set the New_User flag = 0. If NO, then this patient is a new user of ACE/ARB medication and set the New_User flag = 1.	Continuously enrolled members 18-75 years of age with established coronary and other atherosclerotic vascular disease at high risk for coronary events. The high-risk subgroup is defined as members with concurrent comorbidity of heart failure, hypertension, diabetes, or chronic kidney disease (excluding stage V and patients on dialysis). Time Window: Year prior to the measurement year. Denominator Logic: (A or B or C or (D and E) or (D and G) or (F and G) or (F and E)) and (H or I or J or K or L or M or N)) and DEMO and CE and DB. [A] Members who had an acute myocardial infarction (AMI) during the year prior to the measurement year. AMI: ICD-9 diagnosis: 410.x1; DRG: 121, 122, 516 AND Inpatient setting: CPT-4: 99221-99223, 99231-99233, 99238-99239, 99251-99255, 99261-99263, 99291-99300, 99356-99357, 99431-99440;	• Members with a diagnosis of angiodema, hyperkalemia, hypotension, arterial stenosis, or renal failure (stage V or dialysis) at any time prior to the end of the measurement year, members who were pregnant during the measurement year, or members who were in hospice during the measurement year. Also, members who were discharged as expired from the denominator qualifying AMI, CABG or PTCA (i.e., denominator criterion [A], [B], or [C]). • Note: Index date is defined as the first instance of denominator steps A or B or C or (D and E) or (D and G) or (F and G) or (F and E) during the year prior to the measurement year (i.e., diagnosis of CAD or other atherosclerotic disease).	Data Source: Electronic Claims, Electronic Pharmacy Data, Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Health Plan, Facility, Integrated Delivery System.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events* ***continued***	Measure ID #: 0551 Review #: MM-017-08		Of note, this step would differentiate new versus continuous ACE/ARB user. Step 3: If patient is a new user (New_User flag = 1) then set START_DATE as the date of service (DOS) in which the first ACE/ARB prescription is filled and set PRIOR_SUPPLY = 0. If START_DATE > 3/31 then drop the member from the analysis. Of note, this step would allow the denominator timeframe for the new user to be the difference in days between the first prescription of ACE/ARB and the end of the measurement year. In addition, this would also drop new users who filled the first prescription after 3/31. Step 4: If patient is NOT a new user (New_User flag = 0) then set START_DATE the first day of the measurement year (i.e., January 1st) . Of note, this step would set the measurement period of a continuous user as the first date of the measurement period. Step 5: If patient is NOT a new user (New_User flag = 0) then set LAST_DATEi = the date of the last ACE/ARB prescription in the 6-month period prior to the start of the measurement year and DAY_SUPPLYi = day supply of this prescription. Check if LAST_DATEi + DAY_SUPPLYi > first date of the measurement year. If YES then PRIOR_SUPPLY = DAY_SUPPLYi - (First date of the measurement year – LAST_DATEi + 1); else PRIOR_SUPPLY = 0.	UB revenue: 0100-0114, 0117-0124, 0127-0134, 0137-0144, 0147-0154, 0157-0159, 0160-0169, 0190-0219, 0220-0229, 0720-0729, 0800-0809, 0987. [B] Members who underwent an angioplasty (PTCA) during year prior to the measurement year. ICD-9 surgical procedure: 00.66, 36.01, 36.02, 36.05, 36.06, 36.07, 36.09; CPT-4: 33140, 92980-92982, 92984, 92995, 92996; DRG: 516, 517, 526, 527, 555-558. [C] Members who underwent coronary artery bypass graft surgery (CABG) during the year prior to the measurement year. ICD-9 surgical procedure: 36.1x, 36.2x; HCPCS: S2205-S2209; CPT-4: 33510-33514, 33516-33519, 33521-33523, 33533-33536, 35600, 33572; DRG: 106, 107, 109, 547-550.	Denominator Exclusion Logic: A or B or C or D: • [A] Members with angioedema, anuric renal failure, hypotension, hyperkalemia, on dialysis, or arterial stenosis anytime in the member's history prior to the end of the measurement year. Hypotension: • ICD-9 diagnosis: 458.xx. Hyperkalemia: • ICD-9 diagnosis: 276.7. Angioedema: • ICD-9 diagnosis: 277.6. Anuric renal failure: • ICD-9 diagnosis: 403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 584.xx, 585.3-585.6, 586.xx, 593.81, 788.5. Dialysis: • ICD-9 diagnosis: V56.0, V56.1, V562, V56.32, V56.8;	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events* ***continued***	Measure ID #: 0551 Review #: MM-017-08		Of note, this step would take care of the case in which a prescription for ACE/ARB filled prior to the first date of the measurement year spilled over into the current measurement year. Step 6: Identify the last prescription of ACE/ARB given during the measurement year and set the date of this prescription as LAST_DATEe and DAY_SUPPLYe = day supply of this prescription. Check if LAST_DATEe + DAY_SUPPLYe > last date of the measurement year. If YES then LAST_SUPPLY = (last date of the measurement year - LAST_DATEe + 1). If NO then LAST_SUPPLY = DAY_SUPPLYe. Of note, this step would take care of the case in which the prescription for ACE/ARB filled spilled over the current measurement year. Step 7: Identify all the prescriptions of ACE/ARB given during the measurement year, except for the last prescription (i.e., P1, P2, …, Pn-1). MPR = PRIOR_SUPPLY + ? total day supply of Pn-1 + LAST_SUPPLY (Last date of measurement year – START_DATE + 1). Of note, the maximum MPR is 100%. If the calculated MPR is > 100% it will be capped at 100%.	Note: Denominator Criteria [D]-[G] represent every possible permutation of having at least 2 visits with a CAD diagnosis with at least 1 visit in the measurement year and at least 1 visit in the year prior to the measurement year. It has been constructed as such for clarity programmatically. [D] Members with at least 1 outpatient visit with an CAD diagnosis in the year prior to the measurement year. Other Forms of Ischemic Heart Disease: ICD-9 diagnosis: 414.0x, 414.8x, 414.9x , 429.2 Stable Angina: ICD-9 diagnosis: 411.xx, 413.x Lower Extremity Arterial Disease/ Peripheral Artery Disease: ICD-9 diagnosis: 440.2x, 443.9x* Stroke: ICD-9 diagnosis code: 433.xx, 434.xx, 436.x*-438.9x* Athero-embolism: ICD-9 diagnosis: 444.xx, 445.xx	• CPT: 0505F, 0507F, 3066F, 3082F-3084F, 4051F-4055F, 36800, 36810, 36815, 36818-36821, 36831-36833, 90920, 90921, 90924, 90925, 90935, 90937, 90939*, 90940, 90945, 90947, 90989, 90993, 90997, 90999, 99512; • HCPCS: G0257, G0314-G0319, G0322, G0323, G0326, G0327, G9013, G9014; • ICD-9 surgical proc: 38.95, 39.27, 39.42, 39.95, 54.98; • UB revenue: 0800-0809, 0820-0859, 0880, 0881, 0882, 0889. Arterial stenosis: • ICD-9 diagnosis code(s): 395.0, 395.2, 396.0, 396.2, 396.8, 425.1, 440.1, 747.22. • [B] Members with pregnancy events prior to and after delivery or delivery/abortion during the measurement year. • ICD-9 diagnosis: 630.xx-677.xx, V22.xx, V23.xx, V24.xx, V27.xx, V28.xx; • ICD-9 surgical proc: 66.62, 69.0x, 72.xx-75.xx.	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events* ***continued***	Measure ID #: 0551 Review #: MM-017-08		Of note, this step would differentiate new versus continuous ACE/ARB user. Step 3: If patient is a new user (New_User flag = 1) then set START_DATE as the date of service (DOS) in which the first ACE/ARB prescription is filled and set PRIOR_SUPPLY = 0. If START_DATE > 3/31 then drop the member from the analysis. Of note, this step would allow the denominator timeframe for the new user to be the difference in days between the first prescription of ACE/ARB and the end of the measurement year. In addition, this would also drop new users who filled the first prescription after 3/31. Step 4: If patient is NOT a new user (New_ User flag = 0) then set START_DATE the first day of the measurement year (i.e., January 1st). Of note, this step would set the measurement period of a continuous user as the first date of the measurement period. Step 5: If patient is NOT a new user (New_User flag = 0) then set LAST_DATEi = the date of the last ACE/ARB prescription in the 6-month period prior to the start of the measurement year and DAY_SUPPLYi = day supply of this prescription. Check if LAST_DATEi + DAY_SUPPLYi > first date of the measurement year. If YES then PRIOR_SUPPLY = DAY_SUPPLYi - (First date of the measurement year – LAST_DATEi + 1); else PRIOR_SUPPLY = 0.	Renal Artery Atherosclerosis: ICD-9 diagnosis: 440.1; DRG: 140, 559; AND Outpatient setting: CPT-4: 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456, 99499; UB revenue: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 0982, 0983. [E] Members with at least 1 inpatient visit with an CAD diagnosis in the measurement year. Other Forms of Ischemic Heart Disease: ICD-9 diagnosis: 414.0x, 414.8x, 414.9x , 429.2 Stable Angina: ICD-9 diagnosis: 411.xx, 413.x. Lower Extremity Arterial Disease/ Peripheral Artery Disease: ICD-9 diagnosis: 440.2x, 443.9x*. Stroke: ICD-9 diagnosis: 433.xx, 434.xx, 436.x*-438.9x*. Athero-embolism: ICD-9 diagnosis: 444.xx, 445.xx.	•CPT-4: 59000, 59001, 59012, 59015, 59020, 59025, 59030, 59050, 59051, 59070, 59072, 59074, 59076, 59100, 59120, 59121, 59130, 59135, 59136, 59140, 59150, 59151, 59160, 59200, 59300, 59320, 59325, 59350, 59400, 59409, 59410, 59412, 59414, 59425, 59426, 59430, 59510, 59514, 59515, 59525, 59610, 59612, 59614, 59618, 59620, 59622, 59812, 59820, 59821, 59830, 59840, 59841, 59850-59852, 59855-59857, 59866, 59870, 59871, 59897-59899, 76801, 76802, 76805, 76810-76812, 76815-76819, 76825-76828, 76941, 76945, 76946, 82106, 82143, 82731, 88235, 88267, 88269; •DRG: 370-391. •[C] Members on hospice during the measurement year. •ICD-9 diagnosis: V66.7; •CPT-4 code(s): 99376,* 99377, 99378; •HCPCS code(s): G0065,* G0182, G0337, Q5001-Q5009, S0271, S9126, T2042-T2046.	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events* ***continued***	Measure ID #: 0551 Review #: MM-017-08		Of note, the maximum MPR is 100%. If the calculated MPR is > 100% it will be capped at 100%.	Renal Artery Atherosclerosis: ICD-9 diagnosis code(s): 440.1; DRG code(s): 140, 559; AND Inpatient setting: CPT-4: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB revenue: 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 072x, 0987. [F] Members with at least 1 inpatient visit with a CAD diagnosis in the year prior to the measurement year. Other Forms of Ischemic Heart Disease: ICD-9 diagnosis code(s): 414.0x, 414.8x, 414.9x, 429.2. Stable Angina: ICD-9 diagnosis: 411.xx, 413.x. Lower Extremity Arterial Disease/Peripheral Artery Disease: ICD-9 diagnosis: 440.2x, 443.9x.* Stroke: ICD-9 diagnosis: 433.xx, 434.xx, 436.x,* 438.9x.* Athero-embolism: ICD-9 diagnosis: 444.xx, 445.xx.	• UB revenue: 0115, 0125, 0135, 0145, 0155, 0235, 0650-0652, 0655-0659; • UB type of bill code(s): 81x, 82x (if available); • Place of service: 34. • [D] Patients who were discharged as expired from the denominator qualifying AMI, CABG or PTCA (i.e., denominator criterion [A], [B], or [C]). *Code range was retired but is still appropriate for retrospective analysis.	

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
ACE inhibitor/ angiotensin receptor blocker use and persistence among members with coronary artery disease at high risk for coronary events* ***continued***	Measure ID #: 0551 Review #: MM-017-08			Renal Artery Atherosclerosis: ICD-9 diagnosis: 440.1; DRG: 140, 559 AND Inpatient setting: CPT-4: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291; UB revenue code(s): 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 0160.		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
HBIPS-4: Patients discharged on multiple antipsychotic medications AND HBIPS-5: Patients discharged on multiple antipsychotic medications with appropriate justification (Paired Measures)	Measure ID #: 0552 Review #: MM-022-08	JC	Rate 1: Psychiatric inpatients discharged on two or more routinely scheduled antipsychotic medications. Rate 2: Psychiatric inpatients discharged on two or more routinely scheduled antipsychotic medications with appropriate justification. Data Element[b]: See data dictionary for detailed data element definition. •Number of Antipsychotic Medications Prescribed at Discharge.	Rate 1: Psychiatric inpatient discharges. Included Population: Patients with ICD-9-CM Principal or Other Diagnosis Codes for Mental Disorders (refer to Appendix A, Table 10.1) discharged on one or more routinely scheduled antipsychotic medications (refer to Appendix B, Table 10.0). Rate 2: Psychiatric inpatients discharged on two or more routinely scheduled antipsychotic medications. Data Elements[c]: See data dictionary for detailed data element definition. •ICD-9-CM Other Diagnosis Codes •ICD-9-CM Principal Diagnosis Code •Number of Antipsychotic Medications Prescribed at Discharge •Psychiatric Care Setting •Patient Referral to Next Level of Care Provider.	Rate 1: •Patients who expired •Patients with an unplanned departure resulting in discharge due to elopement •Patients with an unplanned departure resulting in discharge due to failing to return from leave. Rate 2: •Patients who expired •Patients with an unplanned departure resulting in discharge due to elopement •Patients with an unplanned departure resulting in discharge due to failing to return from leave •Patients with a length of stay less than and equal to 3 days.	Data Source: Paper Medical Record, Electronic Health/ Medical Record. Level of Measurement: Facility.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Care for older adults—medication review (COA)	Measure ID #: 0553 Review #: MM-026-08	NCQA	Evidence of at least one medication review conducted by a prescribing practitioner or clinical pharmacist during the measurment year. At least one medication review conducted by a prescribing practitioner or clinical pharmacist during the measurement year and the presence of a medication list in the medical record. A medication review is a review of a member's medications including prescription medications, over the counter medications (OTC), or herbal therapies. A medication list is a list of member's medications in the medical record, which may include prescriptions, over the counter medications, and herbal therapies or supplements. Documentation must come from the same medical record and must include the following: •A medication list in the medical record, AND •Evidence of a medication review and the date on which it was performed. At a minimum, medication review is documentation that a practitioner has reviewed all medications that the member is taking (including prescriptions, OTCs, and herbal or supplemental therapies). A review of side effects for a single medication at the time of prescription alone is not sufficient. If the member is not taking any medications, notation of this fact and the date on which it was noted is also considered numerator compliant. Codes to Identify Medication Review: Medication review: CPT 90862, 99605, 99606, HCPCS G8427, G8428, G8530, CPT-II 1160F Medication list: CPT-II 1159F.	All patients 66 and older as of December 31 of the measurement year.		Data Source: Record, Electronic Claims, Electronic Health/Medical Record. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Health Plan.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Medication reconciliation post-discharge (MRP)	Measure ID #: 0554 Review #: MM-028-08	NCQA	Medication reconciliation on or within 30 days after discharge. Documentation in the medical record must include evidence of medication reconciliation, and the date on which it was performed. The following evidence meets criteria: •A list of medications that were prescribed or ordered upon discharge, OR •Notation that no medications were prescribed or ordered upon discharge. Codes to Identify Medication Reconciliation: CPT-II 1111F.	All patients 66 years and older as of December 31 of the measurement year.		Data Source: Paper Medical Record, Electronic Claims, Electronic Health/ Medical Record. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Health Plan.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
Monthly INR monitoring for beneficiaries on warfarin	Measure ID #: 0555 Review #: MM-030-08	CMS	Sum of the percentage of monthly intervals without an INR test for each patient in the denominator. Time Window: Any time during the measurement period (12 consecutive months). For each patient in the denominator, the percentage of monthly intervals without an INR test is calculated as the number of monthly intervals without an INR test divided by the number of monthly intervals with warfarin. The INR tests for each patient will be matched by month to the one-month intervals in the denominator. Each one-month interval without an INR test is counted in the numerator. Intervals with a hospitalization of more than 48 hours are considered an interval with an INR test. Code Used to Identify INR (prothrombin time) Monitoring CPT 85610.	Patients with warfarin claims for at least 40 days. Time Window: The first 11 months of the measurement period (12 consecutive months). Age: ≥18 years of age as of the end of measurement period. During the measurement period, the beneficiary may not have more than a one-month gap in Part D coverage. Interval with Warfarin: Warfarin usage is determined by the start date of the first prescription for warfarin to the start date of the last prescription for warfarin plus the days' supply from the last claim. Active Ingredients by Class to Identify Warfarin: Anticoagulants: warfarin. Note: The active ingredient is limited to oral formulations only.	•Patients who died during the measurement period •Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Any intervals covered by the days' supply of a warfarin prescription that are less than a month. Optional Exclusion Criteria: •Patients with mechanical heart valves that are monitoring INR at home •Monthly interval with warfarin: Warfarin usage is determined by the start date of the first prescription for warfarin to the start date of the last prescription for warfarin plus the days' supply from the last claim •For optional exclusion: HCPCS code to identify mechanical heart valve patients that monitor INR at home: G0248-G0250.	Data Source: Electronic Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
INR for beneficiaries taking warfarin and interacting anti-infective medications	Measure ID #: 0556 Review #: MM-031-08	CMS	Number of episodes in the denominator with an INR test performed 3 to 7 days after the start date of an anti-infective medication. Time Window: Three to seven days after each denominator episode. Hospitalizations of more than 48 hours are counted as an INR test. CPT Code Used to Identify INR Monitoring (Prothrombin time): 85610.	Number of episodes with a newly started interacting anti-infective medication with an overlapping days' supply of warfarin. Time Window: Up to seven days before the end of the measurement period (12 consecutive months). Note: Beneficiary must have at least 2 claims for warfarin on different dates of service. If more than one prescription for warfarin with the same date of service overlaps an interacting anti-infective medication, then keep the prescription with the greatest days' supply. If more than one prescription for warfarin with different dates of service overlaps an interacting anti-infective medication, then keep the episode with the greatest number of overlapping days. Age: =18 years of age as of the end of measurement period. During the measurement period, the beneficiary may not have more than a one-month gap in coverage. Newly Started: A beneficiary is considered to be newly started on an interacting anti-infective medication if there are no prescriptions for any interacting anti-infective medications during the 30 days preceding any prescription for an interacting anti-infective medication in the measurement period.	•Patients who are actively enrolled in multiple plans concurrently as of the end of the measurement period •Patients who have a diagnosis of cancer. Optional Exclusion Criteria: •Beneficiaries with mechanical heart valves who are monitoring INR at home •HCPCS code used to identify beneficiaries with mechanical heart valves who are monitoring INR at home: G0248-G0250 •ICD-9 codes used to identify cancer patients: 14002399, 2592, 2732, 2733, 2739, 2883, 28983, V0739, V1000-V109, V580, V5811, V5812, V8741.	Data Source: Electronic Claims, Electronic Pharmacy Data, Electronic Source – Other. Level of Measurement: Individual Clinician (Physician), Group of Clinicians (Facility), Other.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
INR for beneficiaries taking warfarin and interacting anti-infective medications ***continued***	Measure ID #: 0556 Review #: MM-031-08	CMS		Start Date: The date of service for the drug claim. End Date: The date of service for the drug claim plus the days' supply minus 1. Overlapping Days' Supply: The timeframe between the start date of a warfarin claim and end date of a warfarin claim overlaps the timeframe between the start date and end date of the interacting drug. Episode: Presence of pharmacy claims with overlapping days' supply for warfarin and an interacting anti-infective medication. An overlap is defined as an interacting anti-infective claim that has at least a one-day overlap with an existing prescription for warfarin. The date of service for the anti-infective must occur after the first date of service for the warfarin claim during the measurement period. Interacting Anti-infective Medication: Anti-infective drugs that interact with warfarin and are classified with a significance rating of 1, 2, or 4 according to Drug Interaction Facts. Interacting Anti-infective Medication Drug Classes and Active Ingredients: Antifungal agents: fluconazole, itraconazole, ketoconazole, miconazole, voriconazole, griseofulvin, terbinafine Cephalosporins: cefamandole, cefazolin, cefotetan, cefoxitin, ceftriaxone Fluoroquinolones: ciprofloxacin, levofloxacin, moxifloxacin, norfloxacin, ofloxacin Penicillins: dicloxacillin, nafcillin, ampicillin, oxacillin, penicillin G, piperacillin, ticarcillin Sulfonamides: sulfamethoxazole, sulfisoxazole Tetracyclines: demeclocycline, doxycycline, minocycline, tetracycline Protease inhibitors: amprenavir, atazanavir, fosamprenavir, indinavir, lopinavir-ritonavir, nelfinavir, ritonavir, saquinavir Others: metronidazole, chloramphenicol, nalidixic acid, rifabutin, rifampin, rifapentine, mefloquine, nevirapine, ribavirin. Note: Adapted from (Holbrook, Pereira et al. 2005; Tatro 2007). Drugs listed were selected based on a significance rating of 1, 2, or 4 per Drug Interaction Facts. Excludes the following routes of administration: external (EX), inhalation (IN), ophthalmic (OP), otic (OT), mouth/throat preparations (MT), and route does not apply (XX). Isoniazid was excluded because the interaction is dose-dependent. All other formulations and combination products of the active ingredients listed are included unless otherwise noted. Drug Class and Active Ingredient for Warfarin: Anticoagulants: warfarin		

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
HBIPS-6: post discharge continuing care plan created	Measure ID #: 0557 Review #: MM-034-08	JC	Psychiatric inpatients for whom the post discharge continuing care plan is created and contains all of the following: reason for hospitalization, principal discharge diagnosis, discharge medications, and next level of care recommendations. Data Elements[c] : (Note: See data dictionary for detailed data element definition.) •Continuing Care Plan — Discharge Medications •Continuing Care Plan — Next Level of Care •Continuing Care Plan — Principal Discharge Diagnosis •Continuing Care Plan — Reason for Hospitalization.	Psychiatric inpatient discharges. Included Population: Patients referred for next level of care with ICD-9-CM Principal or Other Diagnosis Codes for Mental Disorders (Note, refer to Appendix A, Table 10.1). Data Elements[d] : (Note: See data dictionary for detailed data element definition.) •ICD-9-CM Other Diagnosis Codes •ICD-9-CM Principal Diagnosis Code •Patient Referral to Next Level of Care Provider.	•Patients who expired •Patients with an unplanned departure resulting in discharge due to elopement •Patients or their guardians who refused aftercare •Patients or guardians who refused to sign authorization to release information •Patients with an unplanned departure resulting in discharge due to failing to return from leave.	Data Source: Paper Medical Record, Electronic Health/ Medical Record. Level of Measurement: Facility.

MEASURE TITLE	MEASURE NUMBERS	IP OWNERS	NUMERATOR	DENOMINATOR	EXCLUSIONS	DATA SOURCE
HBIPS-7: post discharge continuing care plan transmitted to next level of care provider upon discharge	Measure ID #: 0558 Review #: MM-035-08	JC	Psychiatric inpatients for whom the post discharge continuing care plan was transmitted to the next level of care. Data Elements[f]: (Note: See data dictionary for detailed data element definition.) •Continuing Care Plan — Discharge Medications •Continuing Care Plan — Next Level of Care •Continuing Care Plan–Principal Discharge Diagnosis •Continuing Care Plan — Reason for Hospitalization.	Psychiatric inpatient discharges. Included Population: Patients referred for next level of care with ICD-9-CM Principal or Other Diagnosis Codes for Mental Disorders (Note, refer to Appendix A, Table 10.1). Data Elements[g]: (Note: See data dictionary for detailed data element definition.) •ICD-9-CM Other Diagnosis Codes •ICD-9-CM Principal Diagnosis Code •Patient Referral to Next Level of Care Provider.	•Patients who expired •Patients with an unplanned departure resulting in discharge due to elopement •Patients or their guardians who refused aftercare •Patients or guardians who refused to sign authorization to release information •Patients with an unplanned departure resulting in discharge due to failing to return from leave.	Data Source: Paper Medical Record, Electronic Health/ Medical Record. Level of Measurement: Facility.

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