

The research and development of this white paper was sponsored by Pfizer Inc. Drs. Fendrick and Chernew, and Ms. Heaton, were paid consultants to Pfizer Inc. Avalere Health and the National Business Coalition on Health received contract funding from Pfizer Inc. to support the research, development, and dissemination of the white paper. Dr. Perfetto is an employee of Pfizer Inc.



Executive Summary

Given the rise in overall health care and drug spending, employers are actively seeking strategies to optimize employee health while efficiently managing medical expenditures. Publications such as the *National Business Coalition on Health (NBCH) Principles for Responsible Health Care Benefit Design* highlight activities in which employers can engage to improve the value in terms of health and productivity achieved from health care expenditures. As employers attempt to become more prudent purchasers of health care, they need value-based tools and metrics to allow the rigorous assessment of benefits in terms of improved employee health and productivity, as well as the impact on the bottom line. This need is particularly pressing as pharmaceutical costs are often designated as a key culprit behind health care cost growth.

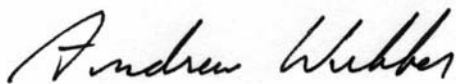
In order to understand the landscape of existing measures available to employers assessing the value of the pharmacy benefits they provide, NBCH, along with researchers from the Center for Value-Based Insurance Design, Avalere Health, and Pfizer Inc., conducted an in-depth examination of the metrics and tools currently available to employer decision-makers.

To our surprise, our analysis reveals that nearly all of the existing quality of care and cost containment measures stop short of measuring the value of the services provided. The majority of measures focus only on either cost or quality, which do not allow a value calculation to be performed. Thus, there is a need for the development, validation, and implementation of tools or metrics focused on the interplay between quality and cost in the longer term, such as the effects of preventive services or adherence to chronic medications on decreasing hospitalizations or long-term costs.

Despite the lack of existing value-oriented measures, there are questions employers can begin to ask about the pharmacy benefits they purchase to better understand the potential value they provide from the clinical and economic perspective. A good starting point for employers looking to consider the implementation of value-based benefit design is to think more about the differential value—not just the cost—of health services, such as chronic medications, and ask questions about the promoters or barriers to the use of these valued services.

We feel strongly that the motivation for pharmacy benefits is the enhancement of the health of our employees and their dependents. As we turn our attention from cost toward value, we hope this research helps highlight the need for enhanced measure development that will ultimately allow the assessment of health achieved given any level of medical expenditure.

Sincerely,



Andrew Webber
President & CEO
National Business Coalition on Health



A. Mark Fendrick, MD
Co-Director
University of Michigan
Center for Value-Based Insurance Design

Introduction

Employers widely acknowledge the growing body of evidence to support the early and appropriate use of medications. Pharmaceutical interventions are critical in appropriately managing high-cost chronic diseases, such as cardiovascular disease and diabetes, which lead to serious adverse consequences that are both expensive and can harm productivity. For example, the benefits of using antihypertensive drugs to control blood pressure have proven to outweigh their costs by reducing deaths from cardiovascular disease as well as hospital discharges for stroke and myocardial infarction.¹ Employers understand there is long-term value in covering antihypertensive therapy, but may not have the ability to assess that value.

However, employers also face economic challenges and commonly contract with a range of providers, mainly health plans, disease management organizations, and pharmacy benefit managers (PBMs), to assist them in defining approaches to contain the increasing costs of their health benefits, particularly prescription drug spending. Cost containment approaches include clinician and employee education, tiered cost sharing benefit designs, utilization reviews of clinician prescribing patterns, use of prior authorization and step-therapy requirements, and generic and therapeutic substitution policies. Until recently, these approaches typically have not focused on the overall value of the service. Too frequently, employers and their contracted providers often misjudge the impact of these approaches to cost containment on their employees' use of effective clinical services and unintentionally increase the potential for sub-optimal utilization of medications and adverse clinical outcomes.^{ii,iii}

There has been a trend in recent years for employers and their contractors to design more value-based benefits.^{iv,v} For example, previous work by the National Business Coalition on Health (NBCH) highlighted value-based efforts of employers and plans to incorporate quality information in the decision-making process when contracting with health plans and providers. Also, emerging value-based insurance designs hold the potential to be a long-term solution to cost containment for employers, while also improving the health outcomes and productivity of employees.^{vi} Several high-profile initiatives, such as the Asheville Project, Pitney Bowes, and the University of Michigan's M-Healthy Focus on Diabetes Program^{vii}, are experimenting with efforts to develop benefit packages that incorporate a range of features, such as lower copayments for high-value therapies, to encourage the effective and efficient delivery of care.^{viii}

The transition of employers to more prudent purchasers of health care has led to the development of tools and measurement systems to capture the performance and quality of services provided by health plans, hospitals, physicians, and other providers.^{ix} They also have begun to capture the cost of the care provided as well as other important dimensions of care, such as patient satisfaction. However, there are outstanding questions as to whether these existing tools and measurement systems adequately assist employers in assessing whether the pharmacy benefits they purchase, including cost sharing provisions, formularies, and utilization management programs achieve the overall goal of promoting value.

Ideally, employers want metrics that evaluate the employee's experience throughout the medication access and delivery exchange (MADE).^x Here, MADE is defined as all aspects of the prescription drug process including more traditional aspects, such as the design of pharmacy benefits, as well as the provision of care including clinician prescribing, pharmacy dispensing,

utilization and adherence to medication regimens, and patient health outcomes. The development of measures that appropriately capture value with regard to MADE are a priority as employers continue to focus on reducing prescription drug costs.

This white paper identifies the existing tools and measures available to employers today when designing pharmacy benefit packages, evaluates how these existing metrics and tools address cost, quality, and value, and identifies where additional measures should be developed. An inventory of 734 existing measures was developed and analyzed in order to assess the existing landscape of value assessment tools available to employers. More detailed information on the methodology used to develop the inventory of measures and the analysis is available in Appendix A.

Value: Defining an Elusive Goal

What is value?

Value is defined as the amount of health gained per dollar spent on health care services or health benefits. Therefore, assessing the value of a treatment or benefit package requires taking into consideration both cost and quality of services simultaneously.

At first glance, employers may think that value equates with purchasing low-cost services. However, while this may be the case in some instances, oftentimes, value does not equal less expensive. In their 2007 article on reforming the health care system in the *Journal of the American Medical Association*, Porter and Teisberg write, “The purpose of the health care system is not to minimize costs but to deliver value to patients, that is, better health per dollar spent.”^{xi} In fact, sometimes the least costly therapy may not generate substantial health benefit and therefore may not provide value. Moreover, in some cases lower-cost services can result in much higher overall costs. For example, while the older low-dose statins may be effective in reducing cholesterol and risk of cardiac events for certain patient groups, research shows that patients at high risk for cardiovascular disease, such as those having recently survived an acute coronary syndrome event, experience better outcomes with high-dose statin therapy.^{xii} The older low-dose statin therapy may be cheaper than the newer high-dose therapy; but, for this particular population, the option incurring the lowest direct cost for drug spend may lead to poor outcomes and increased total health care costs.

Similarly, low-cost benefit packages may not provide substantial value if they erect substantial barriers to utilization of high-value services. High-value benefit packages will encourage use of high-value services and discourage use of low-value services. Benefit design approaches, such as value-based insurance design, can promote value and be structured to achieve maximum health benefit for any level of spending.^{xiii}

Employers are beginning to realize that creating economic barriers to front-end preventive and chronic care maintenance services, including medications, may lead to higher employer costs and worse health outcomes for their workforce over the long term. However, the current health care system lacks adequate measures that allow employers to assess the value of these services and the potential to impact their long-term bottom line, balancing investments in benefits for returns in employee health and productivity. As employers attempt to become more

prudent purchasers of health care, value measures will illustrate the return they get on their investment in health care benefits.

How do we measure value?

Traditionally, quality measures can be categorized into whether the indicator addresses the three aspects of health care: structure, process, and outcomes.^{xiv} This framework is also useful in categorizing value measures for MADE. Structural measures describe the existence of administrative institutions and programs encouraging use of high-value services and discouraging use of low-value services. Examples include the existence of various programs and the copay and formulary provisions. Measures of process generally capture the functioning of these programs or benefit features—whether medicine is properly practiced, or whether “good” medical care, such as that outlined in clinical guidelines, has been encouraged and provided.^{xv} Process measures could relate to how formulary decisions are made or therapy management activities. While process measures capture the means, outcome measures are the ends—to the further objective of improved health. Outcome measures show results from the provision of good medical care. Therefore, outcome measures are measures of the results of *use* of high-value services, which should be high, and the results of use of low-value services, which could be low. An alternative to outcome measures would be measures of health gained relative to cost of health benefits.

Each of these three measure types—structure, process, and outcome—can be further classified to assess whether they focus on cost, quality, or both. Value can only be assessed if based on both. A structural measure related to cost might be whether a plan uses pill splitting as a mechanism to cut costs. A structural measure related to quality may address whether physicians employed by the plan have certain certifications or qualifications deemed to be good indicators of quality clinicians. A structural measure of value takes into account both issues of quality and cost. For example, a structural measure asking whether a plan conducts cost-effectiveness analysis could be considered a measure of value. In addition, disease management and medication therapy management (MTM) programs are examples of structures and processes that inherently reflect value since they largely promote the use of high-value services, such as essential medications for chronically ill patients.

In an ideal world, employers would use outcome measures to assess the value of care provided by the use of essential services and their impact on overall health and health care costs. Outcome measures are ideal since they explicitly measure what they are intended to improve. There is uncertainty as to whether some structure or process measures have been able to improve health outcomes as intended. However, in the absence of outcome measures of value, employers can use structure and process measures to assess whether certain benefit designs or procedures are in place to help promote the use of high-value services.

While a Variety of Organizations Are Developing Measures, None Exist to Measure the Value of Pharmacy Benefits for Employers

Various entities are involved in developing, endorsing, and promoting measures to evaluate the quality of care provided by health care organizations.

Performance measures have been developed for a broad range of health care settings and for various purposes. Quality metrics have been developed for use in public reporting, pay-for-performance, and value-based purchasing programs as well as for the accreditation of

providers, such as hospitals and health plans. At present, the collection of performance measures has gained attention due to the fact it is now easier than before for data to be collected, aggregated, analyzed, and disseminated.

An inventory of existing tools and quality metrics was examined to cull out the measures related to various aspects of MADE; a listing was developed from a total of 48 sources. Sources in the inventory included existing tools, such as the NBCH eValue8 tool for employers, the National Committee for Quality Assurance (NCQA) Health Plan Employer Data and Information Set (HEDIS®) health plan measures, and the Utilization Review Accreditation Commission (URAC) draft PBM Accreditation Standards.^{xvi} Certain measures in the inventory have been tested, validated, and used for reporting and other purposes in the public and private sector, such as those captured by existing medication measure scans^{xvii} and those developed by the RAND Corporation, such as the ACOVE measures and the Quality of Care Assessment Tools. However, other metrics are merely measure “concepts” or are in draft form, such as the Pharmacy Quality Alliance (PQA) endorsed measure concepts and Medicare’s draft measures for their quality improvement organizations (QIOs) to use when working with Medicare Part D prescription drug plans.

All of the metrics and tools included in this analysis measured some dimension of MADE, including the benefit design, prescribing and dispensing of medications, utilization, adherence to treatments, and health outcomes. All other health care quality measures from these sources were not included in the inventory.^{xviii}

Table 1. Existing Tools and Measures Employers Can Use to Judge Quality

Nationally Implemented and Recognized Tools and Measures

National Committee on Quality Assurance (NCQA)

- HEDIS® quality measures (<http://www.ncqa.org/programs/hedis/>)
- Quality Dividend Calculator (<http://www.ncqacalculator.com/Index.asp>)

National Business Coalition on Health (NBCH)

- eValue8 Request for Information (RFI) (<http://www.nbch.org/eValue8/index.cfm>)

Utilization Review Accreditation Commission (URAC)

- Draft PBM Accreditation Standards (<http://www.urac.org/programs/pbm.aspx>)

Ambulatory Care Quality Alliance (AQA)

- Endorsed quality metrics (<http://www.aqaalliance.org/>)

American Medical Association

- Physician Consortium for Performance Improvement (AMA-PCPI) (<http://www.ama-assn.org/ama/pub/category/2946.html>)

Centers for Medicare and Medicaid Services (CMS)

- Medicare Part D Measures (<http://www.medicare.gov/MPDPF/Public/Include/DataSection/Questions/MPDPFIntro.asp> and http://www.cms.hhs.gov/PrescriptionDrugCovContra/08_RxContracting_ReportingOversight.asp#TopOfPage)

Otherwise Available Measures

RAND Corporation

- ACOVE (Assessing the Care of Vulnerable Elders) (<http://www.rand.org/health/projects/acove/>)
- Quality of Care Assessment Tools (QA Tools) (http://www.rand.org/health/surveys_tools/qatools/index.html)

Manitoba Centre on Health Policy

- (<http://www.umanitoba.ca/centres/mchp/reports.htm>)

Study of Clinically Relevant Indicators of Pharmacologic Therapy (SCRIPT)

- (<http://www.jcrinc.com/>)

Centers for Medicare & Medicaid (CMS)

- Quality measures currently used by QIOs for provider quality improvement programs (<http://www.cms.hhs.gov/QualityImprovementOrgs/>)

Institute of Medicine (IOM)

- Measures for the Department of Veterans Affairs (VA) formulary analysis (http://books.nap.edu/catalog.php?record_id=9879)

Draft Measures in Evolution

Centers for Medicare & Medicaid (CMS)

- Draft Medicare Part D Plan Measures for Quality Improvement Organizations (QIOs) (<http://www.medicare.gov/MPDPF/Public/Include/DataSection/Questions/MPDPFIntro.asp>)

Pharmacy Quality Alliance (PQA)

- Concept measures for pharmacy care (<http://www.pqaalliance.org/>)

The development of quality measures for pharmacy benefit decisions is emerging.

The 48 sources for measures and tools to understand MADE were divided into three groupings based on the maturity of their development and use. See Table 1.

- Nationally recognized and implemented tools and measures, such as the NCQA HEDIS® measures and the NBCH eValue8 tool that are already used by employers;
- Otherwise available measures currently available and used for individual public and private-sector programs, but have not been adopted in measurement sets commonly used by employers. They include measures developed by the RAND Corporation and by the Institute of Medicine (IOM) to evaluate the Veteran Affairs' formulary; and
- Measures in evolution are draft measure sets or measure concepts that have been released and could potentially develop into metrics for use by employers, such as the PQA measures that the Centers for Medicare & Medicaid Services (CMS) proposes to use to assess the delivery of outpatient drugs under Medicare Part D.

It should be noted that individual employers, health plans, or PBMs may also have additional proprietary metrics that they consider when making purchasing decisions based on quality, cost, or value. However, this analysis focuses only on publicly available sources of information. These proprietary tools were not available or included in this inventory.

The fragmentation and existence of multiple, and often overlapping, quality reporting tools may make it difficult for employers to navigate which tools or metrics are most meaningful.

In addition, these various measurement tools make it more complicated for providers who may be required to report on several disparate measure sets. Many quality tools exist, such as measurement sets, report cards, and plan surveys that could be used by employers making decisions on the quality of pharmacy benefits and services. However, none of these tools are explicitly intended for employers to measure value.

Analysis of Existing Measures: What Is the Current Landscape?

While there has been an increase in activities to measure the quality of health care delivery, many of the existing measures stop short of measuring the value of the services provided.

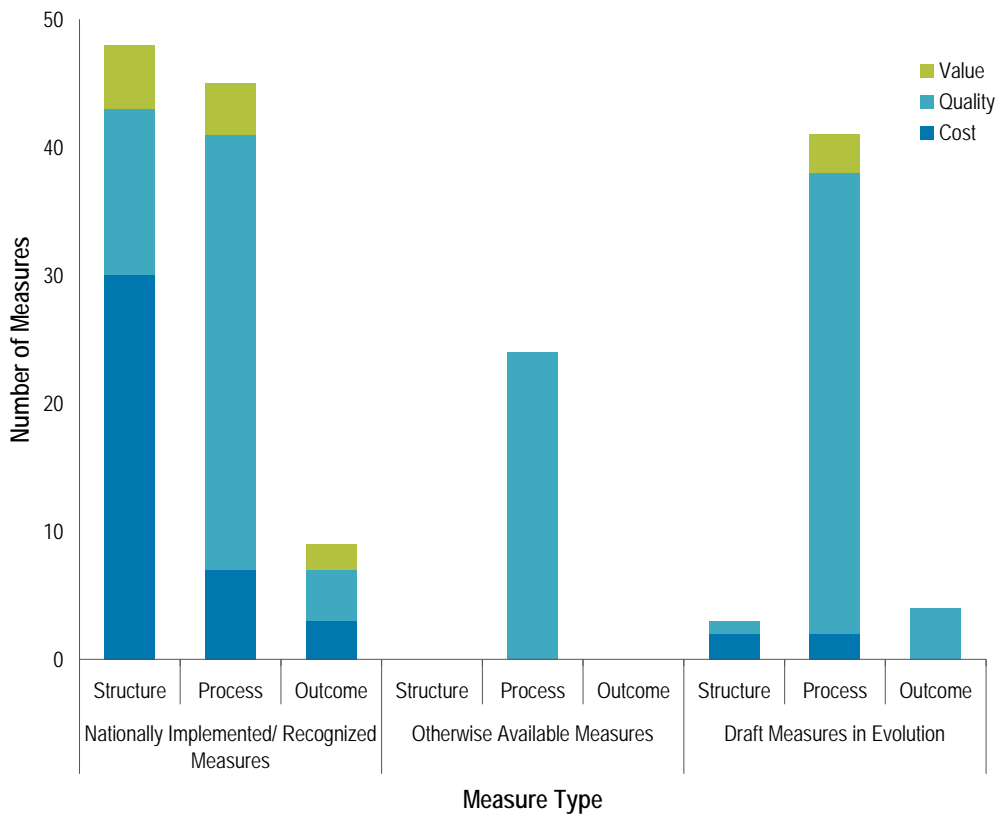
The majority of measures focus on either cost, cost containment, or whether the service was provided in a manner consistent with guidelines or best practices. Tools or metrics focused on the interplay between quality and cost in the longer term, such as the effects of preventive services or adherence to chronic medications on decreasing hospitalizations or long-term costs, for the most part, do not exist in current practice.

To reflect this, metrics identified in this analysis were categorized as those that focus mainly on cost, quality, or value (capturing information on both issues of cost and quality). However, it is important to note that measures are often difficult to classify since it is not always known whether structure or process measures actually promote value. Often, the relationship between these measures and health outcomes may be unknown.

Overall, of the 175 measures identified in this analysis, only 4 percent were identified as measures that may capture value.

The majority (65 percent) of measures were aimed at improving the quality of MADE (116 measures), and 25 percent, or 44 measures, focused on the cost of care alone. Of the 175 measures, 102 are from nationally implemented and recognized sources currently available to assess the provision of pharmacy benefits.

Figure 1. Measures Identified in the Inventory by Type



Of the 102, 39 percent (40 measures) were related to cost alone, while 50 percent (51 measures) gauged the quality of services provided. Only 11 percent of the existing nationally implemented measures (11 measures) captured value, taking into account quality and cost together. Of those 11 measures of value, only 2 were considered outcome measures. Of nationally implemented and recognized tools, the NCQA HEDIS® quality measures and Quality Dividend Calculator^{xix} and NBCH eValue8 are the most developed and widely implemented tools.

Table 2 provides illustrative examples of measures identified in the inventory and how they were classified in terms of measures type (structure, process, or outcome) and description (cost, quality, or value).

Few measures in the other available measures sets or draft measure concepts capture components of value.

The six otherwise available measure sets used in other settings, such as the RAND Corporation's ACOVE measures, only contain discrete metrics of quality. All 24 available measures used in other settings were process measures focused on quality alone. While these 24 process measures were considered quality-related in this analysis, it could be argued that they implicitly take into account aspects of value. Since they are condition-specific, measure developers inherently considered these condition specific services to be essential.

Of the measures in draft form, 84 percent (41 measures) were related to quality while the remaining 8 percent (4 measures) were related to cost. The fact that there are few value measures (3 measures) in the pipeline demonstrates that measure-development organizations continue to focus on issues of quality and cost separately.

Table 2. Examples of Identified Measures and Their Categorization

	Cost	Quality	Value
Structure	If the plan uses pill splitting: List the top three drugs targeted for pill splitting by volume or explain why pill splitting is not recommended by the Plan. (<i>eValue8</i>)	Indicate the percentage of practitioners using technology to generate an electronic prescription and the approximate percentage of members visiting those physicians. (<i>eValue8</i>)	Does the plan currently have plan designs in place that reduce barriers to essential services by eliminating or reducing deductibles and copays (e.g., brand drugs with generic-level copays) for the listed conditions ^{xx} ? (<i>eValue8</i>)
Process	Generic prescribing (dispensing) ratios: Generic prescribing (dispensing) rate (paid claims for generics/total paid claims). (<i>CMS Part D Reporting Requirements</i>)	Appeals: Percent of cases where the Independent Review Entity agreed with a Plan's decision. (<i>CMS Part D Performance Measures</i>)	Rate of pharmacy patients referred for MTM who receive a comprehensive medication review. (<i>PQA</i>)
Outcome	Average cost of prescriptions, per member, per month. (<i>NCQA HEDIS®</i>)	Getting needed care: In the last 12 months, how much of a problem, if any, was it to get your prescription medicine from your health plan? (<i>CAHPS</i>)	Number of beneficiary complaints regarding benefits and access to prescription drugs. (<i>CMS Part D Performance Measures</i>)

Note: Parentheses indicate measure source.

Beginning to Get to Value

The value-oriented measures identified in this analysis only begin to address the value of services provided in the context of MADE.


In summary, the tools that exist measure MADE in a manner that does not sufficiently capture value. The shortcoming of these tools can be attributed to the separate and uncoordinated nature of cost containment and quality improvement strategies, which creates a conflict among incentives in the health care marketplace.^{xxi} Given the current landscape of tools and metrics available, it is a challenge for employers and plans to design a prescription drug benefit structure with features that steer beneficiaries towards high-value services that are provided in a timely manner. Tools that evaluate aspects of MADE are needed to improve decisions about

pharmacy benefit design. Investments in objective tools to evaluate the MADE are necessary to measure the impact on worker health status and total costs, including productivity costs, over time.

Existing value measures are a foundation.

Given the absence of comprehensive value measures, it is possible to take the metrics already in the system to the next step and modify them to be more value-based.

Table 3. Established Measures of Value for Employers: Taking Them to the Next Step

Existing Measure 	Modified as Potential Measure of Value
Does the plan currently have plan designs in place that reduce barriers to essential services by eliminating or reducing deductibles and copays (e.g., brand drugs with generic-level copays) for the listed conditions ^{xxii} ? (<i>eValue8</i>)	Does plan structure, or tiering of benefit design promote use of asthma and other chronic medications of interest (as defined by the employer) demonstrated through high utilization and adherence rates?
Number of beneficiaries participating in MTM programs. (<i>NBCH eValue8 Tool</i>)	Utilization and adherence rates for employees participating in MTM or disease management programs. Demonstrates the impact of these services on beneficiary adherence to medication and health outcomes.
Number of beneficiaries disenrolled from MTM programs. (<i>Medicare Part D Reporting Requirements</i>)	Number of beneficiaries disenrolled from MTM programs because service was ineffective- service did not improve adherence or outcomes.
Does the plan conduct a cost-effectiveness analysis with sources independent of manufacturer inserts before adding a drug to the formulary? (<i>NBCH eValue8 Tool</i>)	Does the plan use results from cost-effectiveness and comparative effectiveness studies to inform which services are promoted or restricted at a granular level? What are the utilization and adherence rates for these services?
Indicate the percentage of practitioners using technology to generate an electronic prescription and the approximate percentage of members visiting those physicians. (<i>eValue8</i>)	Percentage of prescriptions generated though electronic prescribing (eRX). Demonstrates the plan’s ability to use electronic prescribing as a tool to promote the use of essential clinical services to the appropriate beneficiaries. For example, percent of eRX for essential medications for chronically ill beneficiaries.

Note: Parentheses indicate measure source.

A handful of measures identified provide a solid start to comparing pharmacy benefits providers on the basis of value-based measures, but there is room to grow. For example, eValue8 is commonly used by employers to answer questions related to the quality and cost of benefits such as how benefit tiering structures are determined, whether programs are in place to address medication use, if generic utilization programs exist, or whether systems are in place to catch harmful drug-drug interactions. These existing questions may be further developed and expanded to obtain more information and quantify the impact of these therapies and processes - in other words, to get more at value. The CMS Part D reporting requirement regarding the number of beneficiaries participating in MTM programs is an important measure. However, the measure falls short of informing a payer on whether the patient actually had good adherence,

improved health outcome, and/or lower overall health utilization or costs as a result of this program. Future revisions of these metrics may provide an opportunity to refine these existing measures and begin to capture value.

Although the existing measures are a first step, there are additional dimensions of MADE that merit the development of value measures.

Additional areas include: how formulary decisions are made, the ability of individuals to access medications that their clinician believes to be medically necessary, and the clinically appropriate use of various utilization management strategies.

What Employers Can Do Today

While existing measures are being revised and new measures developed, employers annually face decisions on how to best provide health care benefits to their employees and ways to assess the value of what is provided. Based on existing measures, there are ways that employers can begin to ask themselves and their contracted providers whether the care provided will result in improved outcome or value and not simply focus on desired, but potentially unachievable cost savings.

For employers, the “Holy Grail” of value-related measures should be outcome measures or utilization rates that demonstrate the use of essential services that also include the incremental costs necessary to achieve these outcomes.^{xxiii} An example of such an outcome measure is the change in the percentage of employees age 18-75 years with Type I or Type II diabetes over a specific time period who had a recent hemoglobin A1c less than 9 percent and a detailed financial analysis of health care spending—preferably by type of service—by these individuals over the duration of observation.

However, given the lack of such measures, as a second option, process measures that reflect barriers to or promoters of clinically essential services can serve as proxy tools for employers in the interim. For example, the American Medical Association Physician Consortium for Performance Improvement (AMA-PCPI) measures assess whether patients with depression or asthma are receiving the appropriate therapy:

- Asthma-pharmacologic therapy: Patients (aged 5-40 years) diagnosed with mild, moderate, or severe persistent asthma who were prescribed either the preferred long-term control medication (inhaled corticosteroid) or an acceptable alternative treatment.
- Depression-antidepressant therapy: Percent of patients with major depressive disorder who were continued on medication for a minimum of 16 weeks following remission of symptoms.

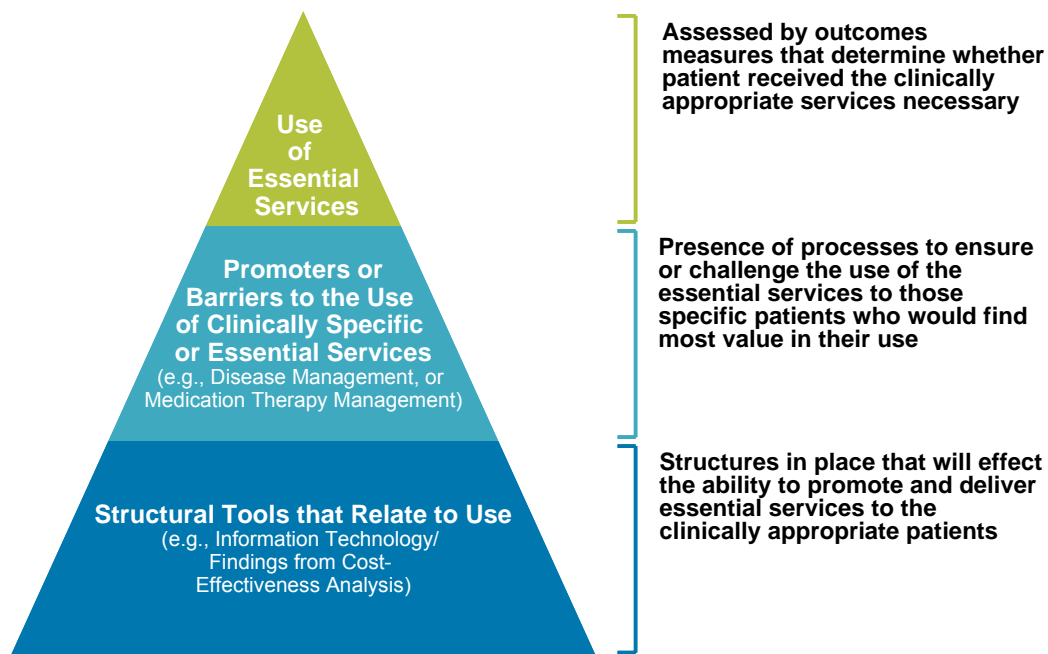
While the measures as listed are merely process measures related to quality, the AMA-PCPI clearly took the widely recognized and evidence-supported value of these therapies into account in drafting and implementing them, and recognized that for patients with asthma or depression, these services are clinically essential. That is, the relationship between use of these therapies and improved outcomes has been established, simply assuring their adherence and persistence could be assumed to ensure some level of value. Thus, their use is the expected standard of care and barriers to treatment should be removed and interventions to ensure treatment should be promoted. However, it should be noted that for some process measures their relationship with health outcomes is unclear.

Another option would be for employers to ask whether more direct mechanisms exist that promote the use of essential services to appropriate patients, such as disease management and MTM services. These programs aim to ensure certain services are directed to those patients who would benefit most from their use, such as the adherence to lipid lowering and anti-hypertensive medications for patients with diabetes. Also, some cost sharing designs may better target non-essential care or services deemed to be of low-value and can act as barriers to steer patients away from their use.

As a final option, employers can assess whether there are structures that may not promote the appropriate use of a specific treatment, but, if in existence, may promote the overall value of their benefits. For example, whether a plan uses comparative or cost-effectiveness research in their coverage decisions, or has information technology in place to allow them to link beneficiary data across settings, are important indicators as to whether plans and/or practitioners have the ability to promote and deliver clinically appropriate services to the appropriate patients.

Figure 2 illustrates the types of questions employers would ideally ask in order to assess the value of the pharmacy benefit services they provide their employees.

Figure 2. Series of Questions Employers Can Ask to Get to Value



Employers can start to ask questions to get at the value of the benefits they provide by first picking key conditions and services of high-value to their population. Once they have chosen conditions of interest, employers can look to see whether the benefit structure promotes the use of related services by examining where these services are placed on the formulary, whether there is restrictive cost sharing that may lead to underutilization of these services, and if an efficient appeals process is in place. Second, employers can ask questions regarding the

processes the plan uses to promote the appropriate use of medications such as how the MTM or disease management programs are structured to encourage appropriate and optimal use of these treatments.

Further Considerations for Employers

The movement towards greater transparency in health care and the empowerment of all stakeholders to be better purchasers of health care services has only just begun. Employers are now encouraged to comply with President Bush's 2006 Executive Order and Four Cornerstones of Value-Driven Health Care by: 1) increasing transparency in pricing; 2) increasing transparency in quality; 3) encouraging adoption of health information technology (HIT) standards; and 4) providing options that promote quality and efficiency in health care.^{xxiv,xxv} However, even meeting those check-box type requirements does not fully ensure that value is achieved in the provision of benefits. Transparency of health care price and quality information data are important; but, currently there are not robust measures or systems in place to capture value.

Thus, there are five areas that warrant future consideration:

Acknowledge the tension between cost constraint and quality improvement: Encourage the development of measures of value.

The analysis presented here further strengthens the claim that the current measurement systems lack adequate performance measures with regard to the provision of prescription drug benefits and their value. There are multiple organizations either with established tools or measures, or in the process of creating measures to capture the quality and cost of pharmacy care. These organizations should be encouraged to adopt comprehensive measures of value in future revisions of their tools and measures. Already, many policymakers and decision-makers are calling for more actionable outcome measures. For the employer population, this should include measures that assess how the benefit is provided and resulting impact on employees' health outcomes and productivity.

Acknowledge that health care services differ in the value they provide: Treat high-valued services differently.

As employers are developing more sophisticated strategies to managing drug costs, there is a need for these strategies to be clinically sensitive, especially to employees with chronic conditions such as diabetes, asthma, depression, and hypertension. Existing employer efforts have demonstrated that for chronic conditions such as diabetes, implementing value-based benefit design may have both short and long-term payouts for employers. For example, in some cases, lower copayments for chronic medications could save employers money by decreasing absenteeism and presenteeism costs, which prove to be greater than the increased cost in pharmaceuticals.^{xxvi} The Diabetes Outcomes Analyzer Model is an example of recent work in this area, but more investment in metrics to assess impact is necessary.^{xxvii} In addition, the National Business Group on Health (NBGH), in collaboration with the Centers for Disease Control and Prevention (CDC), has developed the Purchaser's Guide to Clinical Preventive Services, which lists medications considered to be preventative and that should be covered by employers.^{xxviii}

Invest in HIT and systems to link data across pharmacy claims with claims and/or data for other health services: Attain information on value across the health care system.

Employers are increasingly contracting out the management of their employees' health care benefits to multiple vendors—health plan, pharmacy benefit management (PBM), disease management organization, long- and short-term disability etc. Therefore, there is an increasing need for linked data and HIT systems to better understand the full experience of employees in the health care system. Linked systems also will encourage the development and collection of necessary quality, cost, and value measures to capture the impact of value-based benefit designs, disease management programs, and medication therapy management programs on adherence and persistence, as well as health and productivity outcomes such as absenteeism and presenteeism.

Acknowledge that patients respond to financial and non-financial incentives when it comes to adherence to medications.

While it is clear that financial incentives, such as reduced copays, can lead to improved adherence to medications through programs like Pitney Bowes and M-Healthy, non-financial incentives such as MTM services can also positively impact adherence. The personalized education and coaching that takes place in most MTM programs has the potential to turn beneficiaries into active participants in the health care system, helping them to understand the positive and negative effects of adherence and non-adherence respectively.^{xxix,xxx} Employers should examine what other types of financial and non-financial incentives they may be able to use to improve adherence to high-value services.

Consider the full health care spectrum.

Employers should move toward understanding the value they receive from offering health benefits in terms of the whole health of their employees. The traditional silos of preventive, pharmacy, and medical services fail to account for the full picture of potential health gains and cost offsets through appropriate use of all services.

Conclusion

It is critical for employers to optimize their investment in health benefits by measuring and understanding the impact of their benefit design decisions on employee health and productivity. This is not an easy task given the current landscape of tools available to employers facing these decisions. While many measures are available to employers to assess quality and some level of cost for MADE, few current measures from publicly available sources are targeted specifically at value. Of publicly available measures from nationally recognized sources, 11 are value-oriented and can serve as initial starting points for a value metrics set. There is a vital need for the development of a full set of metrics that will measure value across the levels of MADE including health and productivity outcomes.

Endnotes

- ⁱ Cutler DM, Long G, Berndt E, Royer J, Fournier A, Sasser A, and P Cremieux. *The Value of Antihypertensive Drugs: A Perspective on Medical Innovation*. Health Affairs 2007; (26)1:97-110.
- ⁱⁱ Ibid.
- ⁱⁱⁱ Fendrick AM. *Mechanisms to Improve Pharmaceutical Use in Managed Care: To Study Controls, Control the Studies [Please]*. American Journal of Managed Care. 2003;9(11):711-712.
- ^{iv} Freudenheim, Milt. *Some Employers Are Offering Free Drugs*. New York Times. February 21, 2007. Accessed at: <http://www.nytimes.com/2007/02/21/business/21free.html?ex=1174104000&en=7672c9815b9a11cb&ei=5070>.
- ^v Chernew ME, Rosen AB, Fendrick AM. *Value-Based Insurance Design*. Health Affairs 26, no. 2 (2007): w195-w203 (published online 30 January 2007; 10.1377/hlthaff.26.2.w195).
- ^{vi} National Business Coalition on Health. *Promoting Consumerism through Responsible Health Care Benefit Design*. November 2006. Accessed at: http://www.nbch.org/resources/policypapers/health_benefit_design.pdf.
- ^{vii} University of Michigan. M Healthy Focus on Diabetes. Accessed at: <http://www.umich.edu/~hrraa/mhealthy/improve/diabetes.html>.
- ^{viii} Fendrick AM, and ME Chernew. *Value-Based Insurance Design: Aligning Incentives to Bridge the Divide between Quality Improvement and Cost Containment*. American Journal of Managed Care 2006; 12:SP5-10.
- ^{ix} Centers for Medicare & Medicaid Services Press Release. Office of Public Affairs, Thursday, July 20, 2006. *CMS Administrator Speaks to Institute of Medicine Report*. Accessed at: www.cms.hhs.gov.
- ^x Detailed description of the medication access and delivery exchange (MADE) provided in the Appendix.
- ^{xi} Porter ME and EO Teisberg. *How Physicians Can Change the Future of Health Care*. Journal of the American Medical Association. 2007;297:1103-1111.
- ^{xii} Cannon CJ, Braunwald E, McCabe CH. *Pravastatin or Atorvastatin Evaluation and Infection Therapy: Thrombolysis in Myocardial Infarction 22 Investigators. Comparison of intensive and Moderate Lipid Lowering with Statins after Acute Coronary Syndromes*. New England Journal of Medicine. 2004. Published online before print (April 8 issue). Abstract available at: <http://content.nejm.org/cgi/content/abstract/NEJMoa040583v1>.
- ^{xiii} Chernew ME, Rosen AB, Fendrick AM. *Value-Based Insurance Design*. Health Affairs 26, no. 2 (2007): w195-w203 (published online 30 January 2007; 10.1377/hlthaff.26.2.w195).
- ^{xiv} Donabedian A. *Evaluating the Quality of Medical Care*. The Millbank Memorial Fund Quarterly. 1966; 44(3):166-203.
- ^{xv} Ibid.
- ^{xvi} A full list of these sources can be found in the Appendix.
- ^{xvii} Such as the PQA Environmental Scan. Conducted by Brad Tice. July 2006.
- ^{xviii} See Appendix for additional information on measures included in the inventory.
- ^{xix} The National Committee for Quality Assurance (NCQA) Quality Dividend Calculator Press Release. *Updated Online Tool Helps Employers Calculate Savings From Improved Health Care Quality*. November 20, 2006. Accessed at: http://www.ncqa.org/Communications/News/QDC_06.htm.
- ^{xx} Listed conditions include asthma, hypertension, hyperlipidemia, diabetes, and depression.
- ^{xxi} Rosen AB. *Grounding Coverage in Value. A Paradigm for Linking Quality and Costs*. Medical Care. 2006; 44(5):389-391.
- ^{xxii} Listed conditions include asthma, hypertension, hyperlipidemia, diabetes, and depression.
- ^{xxiii} As previously defined on page 3.
- ^{xxiv} White House Press Release. *The Executive Order Promoting Quality and Efficient Health Care in Federal Government Administered or Sponsored Health Care Programs*. August 22, 2006. Accessed at: <http://www.whitehouse.gov/news/releases/2006/08/20060822-2.html>. Fact Sheet available at: <http://www.whitehouse.gov/news/releases/2006/08/20060822.html>.
- ^{xxv} National Business Coalition on Health (NBCH). *2007 Value Driven Health Care Purchaser Guide*. Version 1.0. Accessed at: http://www.nbch.org/documents/purchaserguide_valuedriven.pdf.
- ^{xxvi} Nicholson S. *The Effect of Cost Sharing on Employees with Diabetes*. American Journal of Managed Care 2006; 12:SP20-26.
- ^{xxvii} Ibid.
- ^{xxviii} National Business Group on Health. *A Purchaser's Guide to Clinical Preventive Services: Moving Science into Coverage*. Accessed at: <http://www.businessgrouphealth.org/prevention/purchasers/>.
- ^{xxix} Cranor CW, Bunting BA, and DB Christensen. *The Asheville Project: Long-Term Clinical and Economic Outcomes of A Community Pharmacy Diabetes Care Program*. Journal of the American Pharmaceutical Association. 2003;43:173-84.
- ^{xxx} Murray MD, Young J, Hoke S, Tu W, Weiner M, Morrow D, Stoupe KT, Wu J, Clark D, Smith F, Gradus-Pizlo I, Weinberger M, and DC Brater. *Pharmacist Intervention to Improve Medication Adherence in Heart Failure. A Randomized Trial*. Annals of Internal Medicine. 2007;146:714-725.

Appendix A: Measure Inventory Development - Detailed Methodology

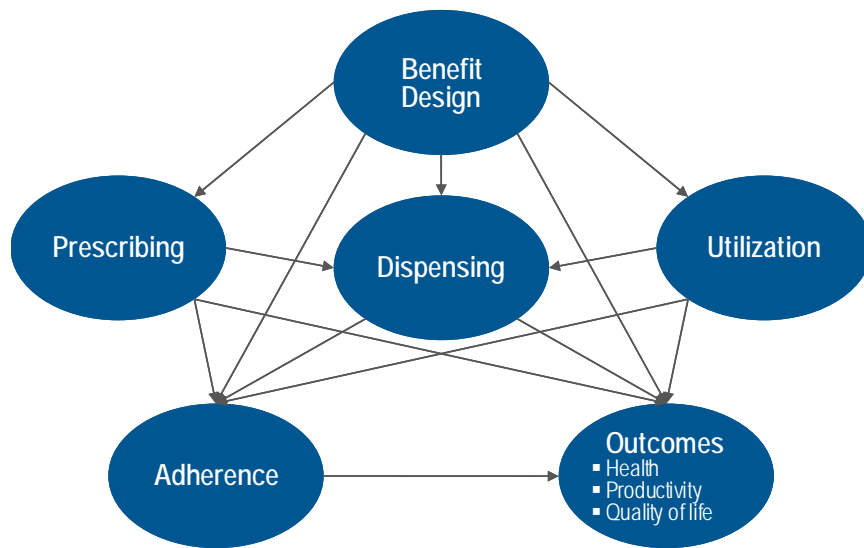
From November 2 to November 30, 2006, Avalere Health LLC developed an inventory of existing medication-related measures in order to assess the current landscape of metrics and identify areas where further research may be needed.

The initial scan of measures identified more than 700 metrics addressing aspects related to the medication access and delivery exchange (MADE). Given the specific focus on metrics related to medication access and use in the outpatient setting, the inventory was reduced to include only measures in the health plan, pharmacy benefit management (PBM), pharmacy, or ambulatory care settings. Measures that assess elements of MADE in the nursing home, hospital, or other facility settings were excluded from this analysis. In addition, any measures that would not be possible for PBMs to report, such as those requiring patient medical history, diagnosis or lab information the PBM or pharmacist would not have access to, were excluded. This included measures that required additional claims data beyond pharmacy claims or medical record abstraction. While these data may become available to the PBM in the future, they are not available now and it would not be appropriate to hold them to an unreasonable standard today. Using these criteria, 295 measures were excluded.

The MADE framework

In order to organize and assess the measures captured in the inventory, a framework was developed to depict how medications are delivered as part of a pharmacy benefit, and the effect that delivery ultimately has on medication use and health outcomes. The framework is useful in categorizing value measures for MADE and is comprised of two dimensions. The first addresses whether the measure is an indicator of three aspects of health care: structure, process, or outcomes. The second consists of whether the measure is a gauge of cost, quality, or both (value). All measures address at least one of the domains of MADE, identified as benefit design, prescribing, dispensing, utilization, adherence and compliance, and outcomes (both those related to overall patient health and productivity) (Figure A-1).

Figure A-1. Medication Access and Delivery Exchange



Domains of MADE

Benefit design impacts all five of the steps in MADE. The MADE framework used for this analysis defines the six dimensions of pharmaceutical care delivery as **benefit design** (or structure), **prescribing** (by physicians), **dispensing** of medications (by pharmacists), **utilization** (by beneficiaries), **adherence** to medication regimens, and **outcomes**, both health and productivity outcomes, related to medication use. Table A-1 further describes these dimensions.

Table A-1. Six Domains of MADE

Benefit Design	Factors associated with the administration of the pharmacy benefit, including available pharmacy networks, formulary structure (coverage of medications and cost sharing), as well as the existence and operation of plan processes, such as drug utilization review (DUR), utilization management tools, or those designed for member appeals and complaints.
Prescribing	Factors related to the prescription for medication written by the physician and the appropriateness of that specific prescription for the patient given his or her diagnosis and comorbidities.
Dispensing	Actions taken by the pharmacist upon receiving a prescription and providing medications to a beneficiary; filling the prescription properly and with the right dose. Another important factor during the dispensing step is the pharmacist's ability to recognize any red flags when interacting with the patient, such as contraindicated medications or potential allergies, and providing patient counseling or education on proper medication use.
Utilization	Actions taken by beneficiaries upon receipt of medication from a pharmacy, such as taking the medication and taking it properly.
Adherence	Whether the beneficiary remains on their medication regimen, taking the right dose and with the appropriate periodicity.
Outcomes	Overall changes in health status related to the use of medications, such as a reduction in disease severity or hospital stays, OR, overall changes in employee productivity related to improved health outcomes and avoidance of hospital stays.

These six domains of pharmaceutical care are interrelated, and each is an important stage in the delivery of pharmacy benefits as shown in Figure A-1. For example, whether a drug is covered by a plan will impact whether the physician can prescribe that medication. If that patient then takes the prescription to a pharmacy and the drug requires prior authorization, the pharmacist must contact the plan and physician in order to dispense the drug. Consequently, if the prescription eventually gets filled, high cost sharing, in the form of copayments or co-insurance, could prevent the beneficiary from using the medication, or from using it properly. These actions or inactions may translate into poor adherence and compliance and, potentially, lead to negative health outcomes for the patient. Poor health outcomes in turn, lead to lower work productivity, higher rates of absenteeism, presenteeism, and potentially higher error rates among employees.

Applying the framework to existing quality measures

Using the cost-quality-value, and structure-process-outcomes framework, as described in the body of the white paper, each of the metrics remaining in the inventory was categorized in one of nine distinct groupings.

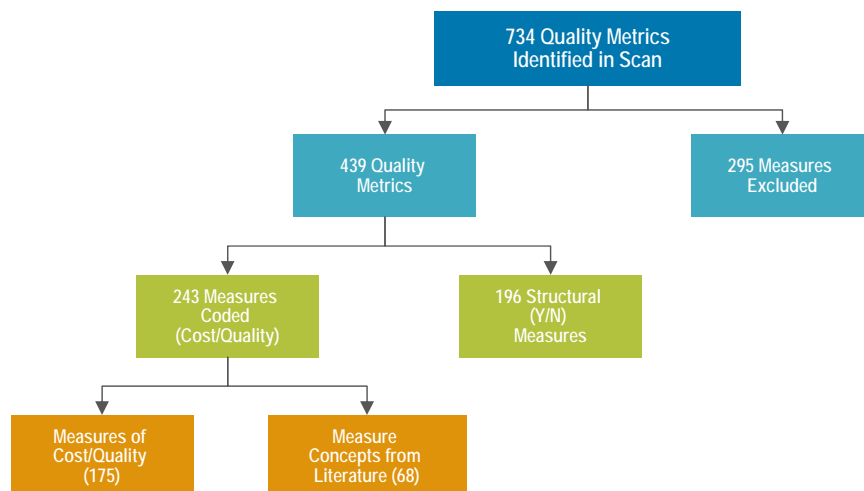
Measures that were entirely structural in nature and only required a yes/no response were excluded from the framework categories, but coded as structural measures. These structural measures describe whether a plan has certain processes in place, but do not go far enough to quantify the effectiveness of these practices or procedures. They remained in the inventory as they are of interest to employers, but do not provide actionable information in terms of the quality in which the benefit is actually administered.

For example, Utilization Review Accreditation Commission (URAC) measures such as, “The organization reports analysis of the complaints and appeals to the quality management committee (yes/no response),” and “The organization establishes and implements policies and procedures that address the structure and process components of their benefit design and administration (yes/no response),” were coded as structural measures. More qualitative or quantitative measures, such as the number of complaints reported, or the types of processes implemented and what their success has been in addressing issues of benefit design and administration, would be more useful to employer decision-makers.

Metrics of formulary restrictiveness were coded as cost measures since they are used by employers and payers for cost containment purposes, despite the fact that further down the line they may have quality implications. For example, measures of formulary structure including step therapy, prior authorization, therapeutic interchange, or generic substitution could have an impact on whether the beneficiary can access the necessary medication in a timely fashion. In this sense, benefit design, and even measures of cost containment alone, have an impact on appropriate and optimal medication use over time. Metrics of access, number of appeals and grievances, or the timeliness of the appeals process were categorized as quality metrics.

Further, of the 439 remaining quality metrics, the 196 coded as structural (e.g., yes/no) measures were removed to focus on measures that would help employers to determine value. The remaining metrics (n=243) were then coded as cost, quality, or value. Measure concepts taken from literature were then excluded in an effort to focus on existing tools that employers may draw, resulting in a final inventory of 175 measures.

Figure A-2. Developing the Measure Inventory



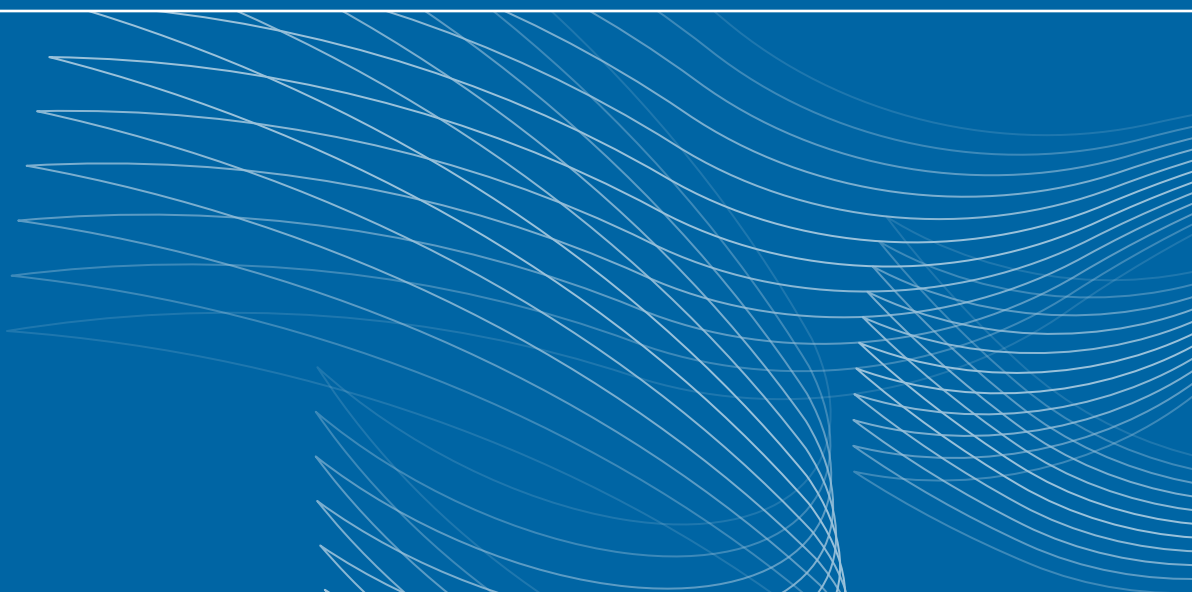
Appendix B: Measure Inventory Development - Measure Sources

- Agency for Healthcare Research and Quality (AHRQ): National Healthcare Quality Report & National Health Disparities Report
- National Committee for Quality Assurance (NCQA): Health Plan Employer Data Information Set (HEDIS) 2006
- NCQA: State of Health Care Quality 2006 (HEDIS Measures)
- Consumer Assessment of Healthcare Providers and Systems (CAHPS)
- National Quality Forum (NQF)
- Medicare Payment Advisory Commission's (MedPAC) June 2005 Report
- Final Medicare Part D Reporting Requirements
- Quality Improvement Organizations (QIOs) 8th Scope of Work
- Institute of Medicine (IOM) Department of Veterans Affairs (VA) Report
- Medicare Doctors Office Quality Project (DOQ-IT)
- American Medical Association (AMA) Physician Consortium Performance Improvement (PCPI)
- Utilization Review Accreditation Commission (URAC): Draft Pharmacy Benefits Management Standards, November 2006
- Pharmacy Quality Alliance (PQA): An Environmental Scan of Quality Measures*
- PQA Master Draft of Quality Measures, November 2006
- Academy of Managed Care Pharmacy (AMCP)/ NCQA: White Paper on Quality Measurement for Part D Plans
- An internal measure scan conducted by the Pharmaceutical Research and Manufacturers of America (PhRMA)
- Questions from the National Business Coalition on Health's (NBCH) eValu8 Tool (2006 and 2007 Requests for Information (RFIs))
- Draft Quality Improvement Organization (QIO) measures from the Centers for Medicare & Medicaid Services (CMS)/BearingPoint measure development contract
- Alliance for Cardiac Care Excellence (ACE)

Endnotes: Appendices A, B

Sources for the PQA Environmental Scan of Measures include:

- American Heart Association (AHA)
- Assessing Care of Vulnerable Elders (ACOVE)
- AMA
- Ambulatory Care Quality Alliance (AQA)
- Academy of Managed Care Pharmacy (AMCP)/ National Committee for Quality Assurance (NCQA) White Paper
- American Academy of Orthopedic Surgeons (AAOS)
- American College of Cardiology (ACC)
- American Heart Association (AHA)
- American Medical Association on behalf of the American College of Cardiology (ACC), the American Heart Association (AHA), and the Physician Consortium for Performance Improvement (PCPI)
- American Medical Directors Association
- Canadian Cardiovascular Outcomes Research Team
- CMS
- CMS/Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
- Hospital Quality Alliance (HQA)
- Institute for Clinical Systems Improvement (ICSI)
- JCAHO
- Manitoba Centre for Health Policy
- NCQA
- NCQA/HEDIS
- National Diabetes Quality Improvement Alliance (NDQIA)
- National Healthcare Quality Report (NHQR)
- Physician Consortium for Performance Improvement (PCPI)
- RAND Corporation
- Recommended Starter Set of Clinical Performance Measures for the AQA
- Renal Physicians Association
- Study of Clinically Relevant Indicators for Pharmacologic Therapy (SCRIPT)
- State of Wisconsin, Department of Health and Family Services
- Veterans Health Administration (VHA)



Avalere Health LLC
1350 Connecticut Ave. NW
Suite 900
Washington, DC 20036
202.207.1300

www.avalerehealth.net

**National Business Coalition
on Health (NBCH)**
1015 18th Street NW
Suite 730
Washington, DC 20036
202.775.9300

www.nbch.org

**Center for Value-Based
Insurance Design**
University of Michigan
School of Public Health
109 South Observatory
Ann Arbor, MI 48109-2029
734.615.7197

www.vbidcenter.org