

# Quality Measures at the Interface of Behavioral Health and Primary Care

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**Abstract** The development of quality measures has gained increasing attention as health care reimbursements transition from fee-for-service to value-based payment models. As behavioral health care moves towards integration of services with primary care, specific measures and payment incentives will be needed to successfully expand access. This study uses a keyword search to identify 730 quality indicators that are relevant to behavioral health and general medical health. Measures identified have been coded and grouped into domains based on a taxonomy developed by the authors. The

analysis reveals that quality measures focusing on general medical conditions exceed those focused on behavioral health diagnoses for evidence-based treatments, patient safety, and outcomes. Furthermore, measures predominantly concentrate on care during or following hospitalizations, which represents a minority of behavioral health care and does not characterize the outpatient settings that are the focus of many models of integrated care. The authors offer recommendations for future steps to identify the quality measures that can best evaluate the evolving behavioral health care system.

**Keywords** Quality of care · Performance measurement · Payment reform · Integration of behavioral health and primary care · General medical care

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## Introduction

New goals set by the Department of Health and Human Services earlier this year to expand value-based payments have resulted in an increasing effort to move from fee-for-service payments that reward the volume of care to payments based on the quality of that care [1]. At the same time, there is increasing attention on care delivery models that integrate behavioral health and general medical care in an effort to expand access to services [2]. These shifts in focus present a unique opportunity for transforming the care that is offered to people with mental illness by designing new delivery models in concert with innovative payment mechanisms.

The example of integrated care is complicated by the fact that mental health problems and substance use disorders often co-occur with physical health conditions, to the extent that this is considered the rule rather than the exception [3, 4]. Mental illness and substance use disorders (collectively referred to here as behavioral health problems) are associated with high

health care utilization and medical spending, but even more so when co-occurring with physical health problems. [5] The Center for Health Care Strategies recently found that “mental illness is nearly universal among the highest cost, most frequently hospitalized Medicaid beneficiaries.” [6] The majority of these costs cross traditional health care interfaces: for example, up to 70 % of the costs associated with mood disorders are borne by general medical services [7]. Effective models for integrating behavioral and physical health care have been demonstrated to improve outcomes and control costs for over a decade [8–10]; however, the health system has yet to significantly finance such innovative models.

With the passage of the Affordable Care Act (ACA), a range of mechanisms and provisions have been introduced that could help bridge the traditional “silos” in health care delivery. These include new models of funding and population-based care delivery that aim to ameliorate fragmented care (such as Accountable Care Organizations), and the requirement that behavioral health care be provided and reimbursed at a level equal to other forms of health care. The rollout of the ACA now coincides with the shift towards value-based Medicare payments supported by the Department of Health and Human Services [1]. These approaches may provide impetus for greater organizational and financial integration.

Quality measurement is key to achieving these goals. Measuring the quality of care allows for comparison and benchmarking of performance to remediate gaps between evidence-base and actual practice, which thus holds providers accountable for improving the health of their patients. Consequently, a plethora of performance measures have been developed, but with little oversight. Moreover, a recent report by the Agency for Healthcare Research and Quality suggests that there is little consensus on how to define and implement quality measures for serious mental illness (SMI) and minimal evidence that links the use of these quality measures to improved outcomes [11•]. As a result, there is significant heterogeneity among these measures and widespread disagreement about which measures should be used depending on the interests of various stakeholders [12•].

The development of quality measures for behavioral health lags behind that in general medical care [13], and there are even fewer measures at the interface of behavioral and physical health care [14]. The reasons for this disparity include a lack of a sufficient evidence base from which to develop valid and strictly defined measures, inadequate infrastructure to capture all elements of a behavioral health system, and lack of a cohesive strategy to apply behavioral health quality measurement across different settings [15]. Measures therefore tend to concentrate on single conditions or focus on limited care processes and use imperfect data sources. For example, many measures are derived from insurance claims data that have questionable validity for care across silos, or from data

abstracted from medical records that are unreliable and labor-intensive. Of the 611 measures endorsed by the National Quality Forum, only 31 are behavioral health measures (and only four of these address the interface of behavioral and general medical care). Only one of the 33 measures for the Centers of Medicare and Medicaid Services (CMS) Accountable Care Organization program considers mental health: screening for depression [16•].

Given these shortcomings, researchers have begun to assess whether the available quality measures address the wide-ranging needs of people with behavioral health conditions [3, 14, 17•]. Patel et al., for example, found more than 500 measures to assess the quality of behavioral health care, but many of these were broad and not condition-specific, relied heavily on claims data, and neglected several subdomains of the National Behavioral Health Quality Framework, such as treatment intensity, financial barriers to care, and continuity of care [17•].

This study seeks to identify measures of behavioral health in relation to physical health care that are currently available through the National Quality Measures Clearinghouse (NQMC) and National Quality Forum (NQF) as well as other key sources. Many of these measures lie at the interface of behavioral and physical health care, including those that apply to the population of individuals with behavioral health conditions from the perspective of “whole person care,” i.e., care for their behavioral health and general health conditions as well as preventive care. This review is the first step of a larger project, supported by a grant from the Commonwealth Fund, to provide recommendations for key strategies to develop a balanced portfolio of process, structure, and outcome measures at the interface of general and behavioral health that can be targeted at clinical, organizational, and policy levels.

## Methods to Identify Existing Measures in Behavioral Health and Primary Care

This study presents the results of an internally developed database of quality measures currently used in primary care and behavioral health settings. The database was assembled by reviewing measures from two comprehensive databases: The National Quality Forum ([www.qualityforum.org/](http://www.qualityforum.org/)) and the National Quality Measures Clearinghouse ([www.qualitymeasures.ahrq.gov/](http://www.qualitymeasures.ahrq.gov/)). Each database was systematically queried using keyword search terms (available from the authors upon request) related to physical and behavioral health care up to September 2015. Additional review of related literature and state Medicaid websites was conducted to identify measures in use that are not included in the national databases. The following criteria were used to determine inclusion in the database:

- (1) The measure could apply to identification and/or management of any mental illness or substance use disorder that is likely to be seen in a primary health care population, or
- (2) The measure could apply to identification and/or management of a general medical (ie, non-psychiatric) condition for which there is greater risk in the population seen in behavioral health care settings, or
- (3) The measure could apply to implementation of preventive or other health care services for a whole patient population that would also apply to persons with SMI.
- (4) The measure must have a precisely defined numerator and denominator.
- (5) Measures specific to children were excluded.

Measures were assembled in the database with information about the general description, numerator, denominator, category (e.g., structure, process, outcome, etc.), data source, and measurement setting. The authors then labeled each measure to indicate specific behavioral health or general medical diagnoses described in the numerator or denominator; to describe whether the numerator of each measure addresses physical health, behavioral health, or both; and to identify measures that have potential for being used as an indicator of integration between physical and behavioral health. The measures were subsequently organized into a list of domains and subdomains by an iterative process in which the authors independently coded each measure and then collectively revised the list of domains, repeating rounds of coding until consensus was reached.

### **Indicators Currently Used to Measure the Quality of Behavioral Health and Primary Care**

In total, there are 733 measures compiled in the database, of which 730 are included in the final analysis (Table 1). The majority of these are process measures, followed by measures that focused on patient experience and outcome measures. The data sources for most of the measures come at least in part from administrative claims or pharmacy data, medical records, and electronic health records. Many of the measures draw from patient surveys while only a small fraction derives from provider surveys. A majority of measures focus on outpatient settings (including individual providers or, more generally, ambulatory care settings) followed by measures of quality in hospitals and health plans.

#### *Screening, Diagnosis, and Treatment of Behavioral Health vs. General Medical Health*

The primary purpose of compiling and coding these quality measures was to facilitate characterization of

similarities and differences among the measures within each domain and subdomain (Tables 2 and 3). This comprehensive search yielded approximately equal numbers of measures of screening and diagnostic evaluation for general medical and behavioral health conditions [16•].

Certain types of measures appear more often in general medical categories than behavioral health, including those that focus on ongoing symptomatic assessment and measures of evidence-based interventions. The most common general medical preventive intervention measures are focused on vaccinations, yet there is a conspicuous absence of the various screening measures of adherence to US Preventive Health Care Task Force guidelines, as well as preventive intervention measures specific to behavioral health.

#### *Measures of Patient-Centered Care*

The measures of patient-centered care, including shared decision-making, patient education, provider-patient communication, and patient or family experiences of care, are nearly equal between behavioral health and general medical care (Table 2). One notable finding is the small number of recovery-oriented measures in behavioral health care, which prioritize patient autonomy and independence in striving to achieve his or her definition of health [18]. These findings are consistent with prior studies of international behavioral health quality measures [19•].

#### *Measures of Continuity of Care, Utilization, Cost, Efficiency, and Access to Care*

Among the quality measures that are designed to capture coordination and continuity of care, over half focus on inpatient discharge planning and outpatient follow-up, with relatively few focusing on outpatient coordination between behavioral health and primary care providers (Table 3). There are no measures of coordination between inpatient or outpatient settings with social service providers. This trend is further captured in utilization measures, the majority of which assess hospital readmissions or duration of hospitalization. There are also very few measures that focus on access to care. These findings suggest a disproportionate emphasis on inpatient care, which may be more feasible to measure but less relevant to models of care integration in outpatient settings.

#### *Measures of Outcomes and Patient Safety*

Outcome measures are the third-most common type of measure, and there are nearly twice as many measures related to

**Table 1** Measure characteristics

Characteristic	Measures (N)	Measures (%)
<b>Category</b>		
Process	454	62
Patient Experience	126	17
Outcome	95	13
Structure	23	3
Efficiency	23	3
Access	9	1
<b>Data source<sup>a</sup></b>		
Administrative claims or pharmacy data	450	62
Medical records	317	43
Electronic health records	246	34
Patient survey	170	23
Provider survey	13	2
Other	72	10
<b>Level of specification/measure application<sup>a</sup></b>		
Provider or ambulatory care	465	64
Hospital	223	31
Health plan	139	19
Other or not specified	238	33
<b>Setting</b>		
Behavioral health	200	27
General medical health	345	47
Both	185	25
<b>Integrated care<sup>b</sup></b>		
Yes	81	11
No	649	89
<b>Behavioral health condition<sup>a</sup></b>		
Depression	91	12
Anxiety	8	1
Serious mental illness	46	6
Schizophrenia	10	1
Bipolar disorder	20	3
Unspecified	16	2
Substance use	99	14
Tobacco use	19	3
Alcohol use	11	2
Drugs of abuse	6	1
Unspecified	63	9
Total	216	30
<b>General health condition<sup>a</sup></b>		
Cardiovascular	128	18
Metabolic (e.g., diabetes, obesity)	94	13
Infectious disease	48	7
Preventive care	29	4
Chronic pain	25	3
Pulmonary	20	3
Geriatrics	13	2

**Table 1** (continued)

Characteristic	Measures (N)	Measures (%)
Neurology	11	2
Obstetrics/gynecology	9	1
Oncologic	7	1
Other	13	2
Total	349	48

<sup>a</sup> Measure may be labeled with more than one data source, or level of specification, or condition

<sup>b</sup> Integrated care measures focus specifically on interactions between behavioral health and primary care providers

general medical outcomes compared to mental health or substance use outcomes (Table 3). There are very few measures that focus on patient safety issues, the majority of which describe falls or pressure ulcers. While there are a handful of measures about use of restraints or seclusion, there are none that include any information on inpatient suicide attempts or assaults, which is a key sentinel event according to the Joint Commission [20].

## The Interface of Behavioral Health and Primary Care

### Potential Measures of Integrated Care

The database contains 200 (27 %) measures that focus on behavioral health versus 345 (47 %) measures that focus on general medical issues (Table 1). The remaining 185 (25 %) measures relate to both behavioral health and general medical populations, suggesting that there are many measures that have the potential to capture quality for patients with overlapping needs.

Furthermore, there are 81 (11 %) measures that have potential as measures of integrated care in that they focus specifically on interactions between behavioral and general medical health. These include screening of behavioral health disorders in general medical settings, and screening for general medical conditions among persons with behavioral health conditions, as well as coordination between behavioral health and primary care providers.

### Measures of Specific Conditions

Specific behavioral health diagnoses are described in the numerator, denominator, or both, in only 216 (30 %) of the measures (Table 1). The majority of these focus on depression and substance use. Many more measures describe a specific general medical diagnosis, 349 (48 %) of all measures included in the study. These most often focus on cardiovascular illness, followed by metabolic disorders such

**Table 2** Domains and subdomains by behavioral health and general medical groupings

Domain	Behavioral health setting measures	Behavioral health subdomain	Measures/subdomain	General medical setting measures	General medical subdomain	Measures/subdomain
Screening or diagnostic assessment	64	Screening and follow-up	21	64	Screening and follow-up	18
		Symptomatic/functional ongoing assessment	18		Symptomatic/functional ongoing assessment	32
		Social assessment	0		Social assessment	0
		Substance use assessment	15		Laboratory/imaging ongoing assessment	11
		Suicide risk	5		Other	3
		Blood/urine toxicology	1			
		Other	4			
		Selection of medications	14		Selection of medications	36
		Medication dosage	0		Medication dosage	3
		Medication adherence	23		Medication adherence	18
Evidence-based pharmacotherapy and treatment	77	Medication monitoring/side effects	9	130	Medication monitoring/side effects	7
		Medication reconciliation	1		Medication reconciliation	13
		Polypharmacy	9		Polypharmacy	4
		Preventive interventions	0		Preventive interventions/immunizations	30
		Psychotherapy	4		Non-pharmacologic treatment/surgery	0
		Brain stimulation treatment	0		Other	19
		Team-based interventions	1			
		Substance use medications	3			
		Substance use non-pharmacologic treatment	7			
		Other	6			
Patient-centered care	62	Shared decision-making/patient education	17	67	Shared decision-making/patient education	20
		Provider-patient communication	8		Provider-patient communication	11
		Patient/family experiences of care	30		Patient/family experiences of care	32
		Recovery	4		Other	4
		Other	3			

**Table 3** Additional domains and subdomains

Domain	Measures	Subdomain	Measures/subdomain
Continuity and coordination of care	85	Inpatient discharge planning	17
		Outpatient follow-up after inpatient discharge	26
		Coordination with mental health and/or general medical care	8
		Coordination with substance use treatment	11
		Other	23
Access measures	19	Access to/wait times for mental health services	7
		Access to/wait times for general medical service	8
		Access to/wait times for substance use treatment	2
		Access to social services and housing	0
		Other	2
Utilization, cost, and efficiency	44	Hospital readmissions	21
		Cost/utilization of care	17
		Duration of hospitalization	4
		Other	2
Patient safety issues	14	Inpatient suicide attempts and assaults	0
		Restraints/seclusion	4
		Adverse events	4
		Falls/injuries/pressure ulcers	6
		Other	0
Outcome assessment	95	Mental health outcomes	35
		General medical outcomes	56
		Substance use outcomes	2
		Social outcomes	0
		Other	2
Other types of measures or domains	9	Other	9

as diabetes and obesity, which are the medical issues most often found in people with behavioral health disorders. Many measures were taken from an HIV-specific data set, which is represented in the 48 measures that explicitly mention an infectious disease diagnosis.

There is substantial evidence that behavioral conditions are associated with poorer outcomes in other illnesses, thus increasing costs and complexity [21•]. Moreover, there is similar evidence that the quality of general health care that persons with severe mental illnesses receive is lower than that for the general population [22]. From a measurement perspective, this trend can be conceptualized by considering people with behavioral health conditions as a subpopulation segment similar to a racial or other demographic disparities group. Thus, for example, one can compare the performance of a health system with regard to a set of diabetes quality measures applied to the population of persons with diabetes with a comorbid behavioral health condition to their performance on the same set of measures applied to the population of persons with diabetes without a comorbid behavioral health condition.

## Conclusion

In order for new value-based payment models to appropriately reimburse high-quality care, there must be consensus around which measures will be used. The collection of quality measures assembled in this study is remarkable for its size and its imbalances. An effective measure should be clinically relevant, evidence-based, efficiently calculated, reliably collected from a wide variety of practice settings, and linked to goals that are achievable through systematic or delivery system improvement processes. Furthermore, implementation of quality measures needs to be evaluated against meaningful and measurable outcomes both at the individual and population levels. Development of an evidence base tied to improved patient outcomes is essential to advance the development of measures for this patient population.

This work will inform a Delphi process that will assess the measures identified according to their importance, validity, feasibility, and relevance to high cost and high need populations and the degree to which the measure assesses the quality of behavioral and general health care integration. The immediate next steps will be to consolidate this wide array of quality

measures and distill them to their core measure concepts, determine which concepts are most important, and then assess which, if any, of the specific measures addressing each concept operationalize the concept in a manner that is valid and utilizes data that are feasible to reliably obtain. Further work will continue to elaborate a balanced portfolio of measures that are best suited for assessing the quality of care for individuals at the interface of behavioral and general health care.

### Compliance with Ethical Standards

**Conflict of Interest** Matthew L. Goldman declares that he has no conflict of interest.

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