The Current State of Behavioral Health Quality Measures: Where Are the Gaps?

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Objective: This review examined the extent to which existing behavioral health quality measures address the priority areas of the National Behavioral Health Quality Framework (NBHQF) as well as the extent to which the measures have received National Quality Forum endorsement and are used in major reporting programs.

Methods: This review identified behavioral health quality measures in widely used measure inventories, including the National Quality Measures Clearinghouse, National Quality Forum, and the Center for Quality Assessment in Mental Health. Additional measures were identified through outreach to federal agencies. Measures were categorized by type, condition, target population, data source, reporting unit, endorsement status, and use in reporting programs.

Results: The review identified 510 measures. Nearly one-third of these measures address broad mental health or substance use conditions rather than a specific condition or diagnosis. Seventy-two percent are process measures. The most common data source for measures is administrative claims, and very few measures rely on electronic health records or surveys. Fifty-three (10%) measures have received National Quality Forum (NQF) endorsement, and 28 (5%) unique measures are used in major quality reporting programs. Several subdomains of the NBHQF, such as treatment intensification, financial barriers to care, and continuity of care, lack measures that are NQF endorsed.

Conclusions: Despite the wide array of behavioral health quality measures, relatively few have received endorsement or are used in reporting programs. Future efforts should seek to fill gaps in measurement and to identify the most salient and strongest measures in each priority area.

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Valid and reliable clinical quality measures are integral to implementing and evaluating ongoing health care reforms (1). Reporting of quality measures and benchmarking performance are components of incentive programs for the use of electronic health records and for reforms in delivery systems, such as health homes, advanced primary care, and accountable care organizations (2). Furthermore, quality measures are critical for monitoring changes in the delivery of care in response to Medicaid eligibility expansions and the implementation of health care exchanges, both of which will likely increase access to care for individuals with behavioral health conditions (3). Given that many of today's delivery system and financing reforms focus on populations at high risk of mental and substance use disorders, there is particular need for quality measures that assess behavioral health care.

To guide the conceptualization of measures for behavioral health care, the Substance Abuse and Mental Health Services Administration (SAMHSA) developed the National Behavioral Health Quality Framework (NBHQF) (4). The framework, modeled from the National Quality Strategy, prioritizes prevention, treatment, and recovery goals at a variety of levels that range from health systems to providers. In addition, it lays the groundwork for developing and applying measures that may be used to monitor and improve the quality of care at the provider, health plan, or population level for individuals with behavioral health conditions. However, it is unclear whether measures are available to address the wide range of needs of individuals with behavioral health conditions as described in the NBHQF. Furthermore, because measures are increasingly used in national and state public reporting programs and as the basis for financial incentives, there is a need for information on the extent to which measures have demonstrated reliability and validity.

Currently, the National Quality Forum (NQF) endorses health care quality measures through its consensus development process by using a multistakeholder panel that independently reviews a given measure to determine its importance, scientific acceptability (reliability and validity), feasibility (data availability and reporting burden), and usability for quality improvement. In addition, NQF promotes

TABLE 1. Behavioral health quality measures (N=510), by NBHQF priority area, domain, and subdomain and by NQF endorsement[a]

NBHQF priority area, domain, and subdomain	N	Endorsed by NQF	
		N	%
Total	510	53	10
Effective treatment	147	19	13
Pharmacotherapy			
Use of medications (not specific)	24	0	—
Medication adherence (duration)	22	3	14
Medication dosage	11	0	—
Polypharmacy	8	1	13
Treatment intensification	3	0	—
Psychosocial			
Tobacco cessation advice or counseling	14	6	43
Psychosocial interventions and psychotherapy	16	0	—
Combined			
Pharmacotherapy and psychosocial interventions	14	1	7
Substance use			
Symptom reduction	14	4	29
Alcohol brief intervention	5	3	60
Outcomes			
Outcome assessment	13	1	8
Getting care when needed	3	0	—
Person or family centered			
Person or family centered	32	1	3
Patient involvement (shared decision making and treatment options)	12	0	—
Family or caregiver involvement	10	0	—
Experiences of care	7	1	14
Financial barriers to care	3	0	—
Coordination	78	6	8
Efficiency			
Follow-up after discharge	25	2	8
Overuse	3	0	—
Continuity and coordination of care			
Readmission	16	0	—
Care plan or discharge plan	12	2	17
Case management	8	0	—
Medication monitoring (visits or monitoring levels)	6	1	17
Functioning	3	0	—
Continuity of provider or clinician	3	0	—
Follow-up after emergency department visit	2	1	50
Healthy living	129	24	19
Functioning			
Screening and assessment	98	13	13
Housing	2	0	—
Criminal justice encounters	1	0	—
General medical health			
General medical health monitoring (includes side effects of medications)	28	11	39
Safe	60	2	3
Safety			
Seclusion	19	1	5
Restraint	17	1	6
Injuries	11	0	—
Assaults	5	0	—
Medication errors	3	0	—
Elopement	2	0	—
Falls	2	0	—
Adverse events	1	0	—
Affordable-accessible	64	1	2
Utilization and access			
Treatment retention	31	0	—
Availability of treatment	7	0	—
Initiation of treatment	6	1	17
Primary care access	3	0	—
Utilization	17	0	—

[a] NBHQF, National Behavioral Health Quality Framework; NQF, National Quality Forum

alignment of measures and reduction of reporting burden via the creation of a portfolio of fully harmonized quality measures.

As part of a larger project to develop behavioral health quality measures, we conducted a review of existing quality measures applicable to behavioral health. The review sought to determine to what extent existing measures address a range of behavioral health conditions and how these measures align with NBHQF priority areas. In addition, we determined the number of quality measures that are NQF endorsed and used in public reporting programs.

METHODS

The review identified measures related to behavioral health care in the three most comprehensive databases of measures: the National Quality Measures Clearinghouse (www.qualitymeasures.ahrq.gov), NQF (www.qualityforum.org), and the online inventory maintained by the Center for Quality Assessment in Mental Health (www.cqaimh.org). The search included measures in these inventories up to March 2015. For each data source, key terms and phrases were used to identify measures (available from the authors on request). Search terms were restricted to behavioral health conditions that included only mental disorders and substance use disorders, substance abuse, or substance dependence. The review did not include measures related to dementia or measures for general medical conditions (some of which could be relevant for individuals with comorbid conditions).

To identify any additional measures not captured by the above sources or any measures under development by federal agencies, we interviewed representatives from SAMHSA, the Agency for Healthcare Research and Quality (AHRQ), the National Institute of Mental Health, and the Office of the Assistant Secretary for Planning and Evaluation (ASPE) of the U.S. Department of Health and Human Services. In addition, we reviewed measures developed by the Veterans Health Administration (5) and the National Association of State Mental Health Program Directors (6).

Measures were categorized by steward, description, numerator, denominator, exclusions, NQF identification number (if any), data source, level of specification (for example, health plan, hospital, or provider), type of measure (structure, process, or outcome), behavioral health condition, and age range of the relevant population. Measures were also assigned to an NBHQF priority area (that is, effective; patient-, family-, or community-centered; coordinated; healthy living; safe; and affordable-accessible) and domains and subdomains created within the framework to provide greater specificity. The additional domains and subdomains were based on a categorization scheme developed for the International Initiative for Mental Health Leadership project, which conducted a review of international initiatives in mental health quality measurement (7).

In addition, the review identified whether measures are used in the following selected federal and state reporting programs: adult Medicaid core set (8) and child Medicaid core set (9) (reporting by state Medicaid and Children's Health Insurance Programs), Medicaid health home core set (10) (reporting by health home providers), star ratings for Medicare Advantage and prescription drug plans (11) (reporting by plans for incentive payments), Physician Quality Reporting System (12) (reporting by providers for incentive payments), Medicare and Medicaid Electronic Health Record (EHR) Incentive Programs or meaningful use (13) (incentive payments to organizations that use EHRs to improve patient care), and Centers for Medicare and Medicaid Services (CMS) Inpatient Psychiatric Facility Quality Reporting Program (14) (reporting by inpatient psychiatric facilities).

RESULTS

The review identified 510 measures that address all of the NBHQF priority areas (Table 1). The largest number of available measures are for effective treatment (N=147) and healthy living (N=129). Some topics have many measures, which often address the same concept or variations on a theme. For example, we identified 25 measures that address follow-up after hospital discharge. They focus on various populations or subpopulations (for example, follow-up after hospitalization for mental illness versus follow-up after hospitalization for schizophrenia) or assess the same type of event but specify different time frames (for example, readmission to facilities within 14 versus 30 days).

Only 10% of the 510 behavioral health measures (N=53) are endorsed by NQF. The largest numbers of endorsed measures are in the "screening and assessment" subdomain of the healthy living NBHQF priority area. Of the 98 measures identified, 13 are endorsed by NQF, which includes several measures that consider screening for general medical conditions (for example, diabetes screening for people with schizophrenia or body mass screening for those with serious mental illness). Although some areas have a number of measures, few are endorsed. For example, although we found 60 measures addressing safety, only two are NQF endorsed. Similarly, in the affordable-accessible priority area, we found 64 total measures and one NQF-endorsed measure.

TABLE 2. Characteristics of 510 behavioral health quality measures

Characteristic	Measures (N=510)		Endorsed by NQF[a] (N=53)	
	N	%	N	%
Type of measure				
Process	368	72	44	83
Outcome	109	21	9	17
Structure	33	6	0	—
Condition[b]				
Depression	111	22	13	24
Schizophrenia	62	12	6	11
Tobacco use	63	12	8	15
Alcohol use	59	12	8	15
Drug use	54	11	4	7
Bipolar disorder	33	6	4	7
PTSD	22	4	0	—
ADHD	10	2	1	
>1 mental health or substance use condition	161	32	12	22
Other	7	1	0	—
Age group[b]				
<18	68	12	17	31
18–64	218	43	42	78
≥65	211	41	36	67
Not specified	240	47	2	4
Data source[b]				
Administrative claims or pharmacy data	452	89	48	89
Medical records	348	68	31	57
Patient survey	60	12	4	7
Provider survey	15	3	0	—
Electronic health records	8	2	5	9
Level of specification[b]				
Provider or ambulatory care	252	49	13	24
Hospital	144	28	13	24
Health plan	108	21	26	48
Other or not specified	87	17	0	—

[a] NQF, National Quality Forum

[b] More than one may be selected. For example, some measures use both administrative claims and medical records. Some measures may be specified for several levels of reporting.

Most measures found were process based (72%), and nearly one-third (32%) of the measures broadly defined mental health or substance use populations in the denominator rather than a single condition or diagnostic group (Table 2). In addition, most measures are specified for providers or ambulatory care (49%) and use administrative claims data (89%). Among the measures focused on a single disorder, the largest number (22%) focus on depression.

Selected quality reporting programs use a total of 28 (5%) unique measures. As summarized in Table 3, some reporting programs include relatively few behavioral health measures. The Medicare and Medicaid EHR Incentive Program for Eligible Professionals (also known as "meaningful use" and

TABLE 3. Behavioral health quality measures used in selected federal or state reporting programs

Name[a]	Steward[b]	NQF number[c]	Adult Medicaid core	Child Medicaid core	Medicaid health home	Star ratings for Medicare Advantage and prescription drug plans	Physician Quality Reporting System	EHR Incentive Program for Eligible Professionals (meaningful use)[d]	Inpatient Psychiatric Facility Quality Reporting Program
Depression, bipolar disorder, and schizophrenia									
Preventive care and screening: screening for clinical depression and follow-up plan	CMS	0418	X		X		X	X	
Antidepressant medication management	NCQA	0105	X			X	X	X	
Major depressive disorder: diagnostic evaluation	PCPI	0103					X		
Major depressive disorder: suicide risk assessment	PCPI	0104					X	X	
Child and adolescent major depressive disorder: suicide risk assessment	PCPI	1365		X			X	X	
Maternal depression screening	NCQA	1401					X	X	
Depression utilization of PHQ-9 tool	MNCM	0712					X	X	
Depression remission at 12 months	MNCM	0710					X	X	
Adult major depressive disorder: coordination of care of patients with specific comorbid conditions	PCPI						X		
Bipolar disorder and major depression: appraisal for alcohol or chemical substance use	CQAIMH	0110					X	X	
Adherence to antipsychotics for individuals with schizophrenia	CMS	1879	X						
Other mental health									
Improving or maintaining mental health	CMS					X			
Behavioral health risk assessment (for pregnant women)	PCPI			X					
ADHD: follow-up care for children prescribed ADHD medication	NCQA	0108		X			X	X	
Follow-up after hospitalization for mental illness	NCQA	0576	X	X	X	X			X
HBIPS-4: patients discharged on multiple antipsychotic medications	TJC	0552							X
HBIPS-5: patients discharged on multiple antipsychotic medications with appropriate justification	TJC	0560							X

continued

TABLE 3, *continued*

Name[a]	Steward[b]	NQF number[c]	Adult Medicaid core	Child Medicaid core	Medicaid health home	Star ratings for Medicare Advantage and prescription drug plans	Physician Quality Reporting System	EHR Incentive Program for Eligible Professionals (meaningful use)[d]	Inpatient Psychiatric Facility Quality Reporting Program
Substance use									
Substance use disorders: screening for depression among patients with substance abuse or dependence	NCQA, PCPI						X		
Substance use disorders: counseling regarding psychosocial and pharmacologic treatment options for alcohol dependence	APA, NCQA, PCPI						X		
Preventive care and screening: unhealthy alcohol use: screening and brief counseling	PCPI	2152					X		
SUB-1: alcohol use screening	TJC	1661							X
Preventive care and screening: tobacco screening and cessation intervention	PCPI	0028					X	X	
Medical assistance with smoking and tobacco use cessation	NCQA	0027	X						
Initiation and engagement of alcohol and other drug treatment	NCQA	0004	X		X	X	X	X	
Cross-cutting									
HBIPS-2: hours of physical restraint use	TJC	0640							X
HBIPS-6: postdischarge continuing care plan created	TJC	0557							X
HBIPS-7: postdischarge continuing care plan transmitted to next level of care provider on discharge	TJC	0558							X
HBIPS-3 hours of seclusion use	TJC	0641							X
Total N of behavioral health quality measures in program (%)			6 (23%)	5 (20%)	3 (38%)	4 (5%)	16 (6%)	11 (17%)	8 (100%)
Total N of measures in program			26	24	8	77	283	64	8

[a] HBIPS, Hospital-Based Inpatient Psychiatric Services; PHQ-9, 9-item Patient Health Questionnaire; SUB-1, Substance Use

[b] APA, American Psychiatric Association; CMS, Centers for Medicare and Medicaid Services; CQAIMH, Center for Quality Assessment and Improvement in Mental Health; MNCM, Minnesota Community Measurement; NCQA, National Committee for Quality Assurance; PCPI, Physician Consortium for Performance Improvement; TJC, The Joint Commission

[c] NQF, National Quality Forum

[d] EHR, electronic health record

currently in stage 2) includes 11 measures. We found no behavioral health measures in the Medicare and Medicaid EHR Incentive Program for Eligible Hospitals and Critical Access Hospitals. The child Medicaid core set includes four behavioral health measures. As a result of efforts to align reporting requirements, a number of measures are used in more than one program, with antidepressant medication management (NQF 0105) and follow-up after hospitalization for mental illness (NQF 0576) used in four and five programs, respectively.

Eleven of the 28 total behavioral health measures used in public reporting programs focus on depression care. Depression remission at 12 months (NQF 0710) is the only NQF-endorsed behavioral health outcome measure used in any of the national reporting programs. The other 27 measures focus on screening-assessment, medication management, coordination, restraint, and seclusion.

DISCUSSION

Even though many behavioral health quality measures exist, many measures address similar content areas, and relatively few measures have received national endorsement or are used in major quality reporting programs. Although several NBHQF priority areas have few measures, having more measures in a particular domain is not necessarily better. Some domains have many measures, but it is unclear which of these measures have the strongest potential to improve the quality of care. This underscores the importance of obtaining stronger consensus on well-validated measures that are most useful for improving quality in particular areas where quality issues persist. Nonetheless, opportunities for measure development exist for combined pharmacotherapy and psychosocial treatments, family or caregiver involvement in care, medication errors, and injuries, because no NQF-endorsed measures were found in these topic areas.

This review identified several other limitations associated with existing measures. First, most measures rely solely or in part on administrative or claims data. Even though measures based on claims data are less burdensome to implement than measures that require data collection from medical records, they may not provide the clinical detail sufficient to guide quality improvement. In addition, measures that rely solely on claims data may not lend themselves to comparisons across provider organizations, health plans, or states because of the use of different billing codes for similar behavioral health services (15). Second, few NQF-endorsed measures rely on data collected from EHRs. Even though such measures could provide rich clinical detail, the lack of adoption of EHRs among behavioral health providers limits their use (16). To realize the potential of EHR measures in behavioral health will require the continued development of data systems and infrastructure to support reporting on such measures and using them for quality improvement. Furthermore, data sharing between primary care and behavioral health providers and managed care organizations will be needed for robust measurement and streamlined data collection and to accurately measure the delivery of care.

Most measures focus on processes of care rather than on structures or outcomes, probably because structure and outcome measures are particularly difficult to specify and may lack evidence. At the same time, even though process measures may help improve clinical processes, it is often difficult to link processes to outcomes. Therefore, future measurement development and implementation efforts may wish to focus directly on outcomes, although challenges such as appropriate risk adjustment may impede such efforts. Structural measures may also have value to help guide the field in the implementation of evidence-based practices, but future work is needed to understand what structural aspects of care are associated with the implementation and outcomes of evidence-based care (17).

Several ongoing measure development projects are likely to produce new measures relevant to the NBHQF. Under the Child Health Insurance Program Reauthorization Act, AHRQ and CMS have designated seven Centers of Excellence in Pediatric Quality Measurement. Two of the centers are developing behavioral health measures, including measures related to adolescent depression and attention-deficit hyperactivity disorder. In addition, several behavioral health topics are proposed for future assignment to the centers. Other federal projects include behavioral health measure development through a partnership between the ASPE and SAMHSA. This effort has developed measures for states and health plans that focus on screening, follow-up, and monitoring of chronic general medical conditions among people with serious mental illness and alcohol and other drug dependence. Screening measures specifically for the CMS Inpatient Psychiatric Facility Quality Reporting Program are also being developed by CMS and ASPE. There is at least one federal grant from the National Institute on Alcohol Abuse and Alcoholism that focuses on quality measurement. ASPE, in collaboration with the National Institute of Mental Health, is developing quality measures for posttraumatic stress disorder.

This review has a few important limitations. The scope of the review was largely limited to three databases. Even though the databases are national in scope and widely used, they may not include measures applied in local efforts or research (for example, Medicaid or state behavioral health agencies). In addition, the field is dynamic and rapidly changing, such that the data represent a point-in-time perspective. To our knowledge, this review is the most current aggregation of behavioral health measures in the literature.

CONCLUSIONS

Given that health care reforms will likely influence the organization and financing of behavioral health care, strong quality measures will be a pivotal component of efforts to monitor the delivery of care and identify opportunities for quality improvement. Despite the existence of a wide array

of behavioral health measures, few have received national endorsement or been adopted by reporting programs. Future measure development and implementation efforts should focus on identifying the strongest measures within each domain of the NBHQF and filling gaps where existing measures are insufficient.

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