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ACKNOWLEDGEMENTS
Yasmine Brown (Hope Restored Suicide Prevention Project, LLC)
Jennifer Higgins (CommonWealth GrantWorks)
Introduction
In 2016, the 114th United States Congress passed, and former President Barack Obama signed into law, the 21st Century Cures Act (Public Law 114-255) (Cures Act). The Cures Act established the Interdepartmental Serious Mental Illness Coordinating Committee (ISMICC or Committee) to enhance coordination across federal agencies and improve access to quality, affordable mental health care for people experiencing serious mental illness (SMI) or serious emotional disturbance (SED). The ISMICC brings together members of 10 federal agencies and 14 non-federal members to coordinate, support, and address the needs of people with SMI and SED. The Committee includes national experts on health care research, mental health providers, advocates, people living with mental health conditions, and their families and caregivers (ISMICC, 2022). The ISMICC also is charged with reporting on advances in research on SMI and SED, evaluating the effect of federal programs on mental health supports and services, and making recommendations for actions that federal agencies can take to improve the coordination and administration of mental health services. One such recommendation by the Data and Evaluation Working Group is the promotion of measurement-based care (MBC) in community behavioral health treatment (ISMICC, 2022).

Objective
This Brief Report provides a common starting point for the promotion of MBC as a clinical intervention in behavioral health care in community settings. We first provide the Data and Evaluation Working Group's operational definition of MBC and a concise and noncomprehensive summary of existing research. We identify important considerations for MBC implementation in community-based behavioral health settings and suggest areas for further study. This shared understanding will allow our Working Group and others to move forward in the promotion of MBC use in community behavioral health treatment delivery.

Measurement Based Care in Community Settings
Although there is a lack of consensus regarding the definition of MBC in community behavioral health service delivery, we define MBC as

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\text{a clinical process that uses standardized, valid, repeated measurements to track a client’s progress over time and to inform treatment, utilizing a shared patient-provider treatment-planning and treatment decision-making process.}
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When a collaborative decision-making model of MBC is followed, MBC is person-centered and recovery oriented and has been found to enhance client experience and engagement in care (de Jong et al., 2021; Scott et al., 2015), which is central to treatment outcomes. The clinician and an individual client, group, or couple/family review and discuss the results of the measure(s) at each administration to ensure shared understanding and guide collaborative treatment planning. Although the term MBC is sometimes used interchangeably with population screening, quality measurement, program monitoring,

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1 This Brief Report uses “behavioral health” as an umbrella term for mental health and substance use disorder services combined.
2 For purposes of this Brief Report, we adopt the Substance Abuse and Mental Health Services Administration (SAMHSA) definition of community-based provider as being “an agency or individual that delivers services in a community setting versus an institution, such as a hospital, jail, or prison” (SAMHSA, 2019). Although MBC may be useful in institutional settings, that is beyond the scope of this Brief Report.
Examples of Measurement Based Care in Use in Outpatient Behavioral Health Treatment\textsuperscript{a,b}

- Veterans Administration (VA) Collect. Share. Act. — Behavioral health settings across the VHA
- Department of Defense — Patients in specialty care, outpatient settings across DoD facilities
- National Institute of Mental Health Early Psychosis Intervention Network (EPINET) — National learning health care system for early psychosis
- Federally qualified health centers — Washington State
- Kaiser Permanente — Patients with depression, nationwide
- Psychotherapy in school-based and other settings for children and adolescents
- Reimbursement requirement in psychiatric Collaborative Care Model — Primary care settings for patients with any behavioral health condition
- The Joint Commission — Required under Behavioral Health accreditation standards
- URAC (formerly known as Utilization Review Accreditation Commission) — Voluntary for accreditation of health plans and providers

\textsuperscript{a} The form, extent, and purpose of MBC varies across these examples.

\textsuperscript{b} See, e.g., Alter et al., 2021; Fortney et al., 2017.

or program evaluation, MBC is not synonymous with these concepts. The data that are gathered for MBC, however, are sometimes used secondarily for these additional distinct purposes.

MBC has many benefits. MBC has been shown to enhance treatment decision-making, detect changes in illness symptoms and severity, result in faster symptom reduction, reduce drop out, and improve the outcomes of care, treatment, or services (Boswell et al., 2015; de Jong et al., 2021; Fortney et al., 2017; Gondek et al., 2016; Goodman et al., 2013; Resnick et al., 2020; Scott et al., 2015; Tarescavage et al., 2014). Based on the preponderance of evidence on the effectiveness of MBC in improving the quality of care and improving treatment outcomes, several national efforts are underway to increase its use in behavioral health treatment. For instance, in 2018, the Joint Commission revised its Behavioral Health Care Accreditation Program to require services accredited under its Behavioral Health standards to utilize MBC. In 2016, the Department of Veterans Affairs (VA) Office of Mental Health and Suicide Prevention launched a national initiative, the \textit{Measurement Based Care (MBC) in Mental Health Initiative} to establish MBC as the standard of care across all VA behavioral health programs (Resnick & Hoff, 2020).

Methods
At the April 13, 2022, full ISMICC meeting, the Data and Evaluation Working Group presented as a goal, and was approved to explore, a collaborative partnership among colleagues from the Department of Veterans Affairs (VA), Health and Human Services (HHS), and other potential interested parties to make recommendations for the implementation of MBC in community-based settings, with a longer-term goal of supporting the integration of MBC into behavioral health treatment and recovery support services.

From May through October 2022, members of the Working Group were joined by colleagues from the VA in bi-weekly meetings. The Working Group heard presentations from federal staff participants and others, including the National Institute of Mental Health (NIMH) and the VA and reviewed relevant literature. These activities focused on exploring the working definitions of MBC, ways MBC is utilized across a diversity of community-based settings for behavioral health care, and lessons on challenges and successes of MBC implementation.
An overview of the implementation of MBC throughout VA behavioral health, preliminary findings from the Working Group, a working definition for MBC in behavioral health community-based settings, and an outline of this Brief Report, were presented and accepted at the October 28, 2022 full ISMICC meeting.

Findings and Considerations for Use

In preparing this Brief Report, the Working Group highlights the need for flexibility in implementing MBC. The Working Group is very conscious of the different settings, populations, and purposes for which MBC may be adopted. We encourage future efforts to create consensus definitions of terms, as well as to identify critical ingredients of MBC and related clinical processes.

Factors to Consider in Adoption, Implementation, and Use of MBCs

**Purposes of MBC implementation.** MBC is a clinical intervention designed to improve clinical care, and thus has a primary benefit to those receiving treatment. There are instances, however, where data from MBC may be used by programs or initiatives for secondary purposes, such as program evaluation, or with primary benefits to others, such as providers or payers, including reimbursement and value-based payment. Our focus in this Brief Report is on MBC as a clinical model of person-centered care.

**Populations served and settings for implementation.** MBC is a transtheoretical and transdiagnostic evidence-based practice, and therefore appropriate in settings and situations when clinically indicated and when adequate measures are available. MBC is appropriate for both adult and child and adolescent populations, although the evidence-base is more limited for non-adults (Parikh et al., 2020). Across child-adolescent and adult populations, MBC can facilitate patient engagement, treatment planning, and problem identification. The incorporation of informants (e.g., parent, caregiver) into MBC may be particularly desirable when working with younger populations (Jensen-Doss et al., 2020).

**Selection and use of measures.** Measures (also often referred to as instruments or tools) selected for use in MBC should align with the clinical services provided and the populations served, and they should be actionable by the provider(s) using them, either directly or by referral. Symptom measures are most frequently used for MBC, but monitoring other outcomes can provide significant clinical utility in an episode of care including measures of general distress, quality of life, functioning, employment, and recovery. Measures may be focused on a population (e.g., children) or a diagnostic category (e.g., depression), or a specific problem (e.g., pain, social functioning), or on factors such as the therapeutic alliance. Multiple instruments can be selected that are relevant to different populations served, settings, services, and needs. Measures should be psychometrically valid and, because the measure should target what is expected to change in treatment, it must have demonstrated sensitivity to change. Efforts also should be made to ensure the cultural sensitivity and relevance of a measure and its availability in multiple languages if needed. Measures should be brief to minimize burden across repeated administrations.

Patient-reported outcome measures (PROMs) are encouraged for use in MBC. PROMs support client engagement and minimize provider bias but, depending on the population served and the treatment target, outcomes may be assessed from a caregiver or family member. In certain clinical situations or for certain populations, administrative (e.g., treatment attendance) or biomedical indicators—whether specific to a behavioral health diagnosis (e.g., urine drug screens) or relevant to physical health concerns (e.g., blood pressure, A1c)—may be used. Situations warranting the use of administrative or biological...
measures for MBC may also benefit from the addition of PROMs, as the process of completing them affords critical opportunity for self-reflection and the promotion of treatment engagement.

The selection of which PROM(s) to use is ideally a collaborative and engaging process, and patients and/or care partners should be included as much as possible in identifying which PROM is most relevant for them and how they should be completed. Thus, while beginning MBC at the initiation of a treatment episode is ideal, it may take multiple visits to identify which PROM(s) best align with the client’s goals and the treatment being delivered (Barber & Resnick, 2022). Proprietary measurement-feedback systems have been developed to facilitate MBC, however there are many PROMs that are free and available in the public domain for use (Beidas et al, 2015).

Completion of measures ideally takes place immediately before a clinical interaction, which reveals how the individual was doing in the days before the interaction, and provides relevant clinical information to be used as part of treatment. Generic recommendations for the frequency of PROM administration are difficult to make because many factors may influence ideal frequency, including: patient preference, the treatment or service being delivered, the measure selected, how often a patient is seen, and local workflow considerations in a clinic. However, given that MBC is predicated on regular and repeated assessment, measures should be administered frequently enough to identify non-response or worsening and guide changes in treatment.

**Implementation of MBC into practice.** Implementation strategies are the methods or practices that a health care setting and/or policymakers use to integrate a new practice into a standard of care (Proctor et al., 2013). Tailoring MBC practice to existing workflows, workforce capacity, the immediate needs of local clinical populations, and existing health care information technology (HIT) is imperative for successful MBC implementation. Many options for implementation strategies may be useful in integrating MBC in a way that is feasible and acceptable for particular providers and clients (Dollar et al., 2019; Powell et al., 2013). Meaningful implementation targets can be developed with the aid of an implementation planning guide such as the MBC-specific guide developed by Dollar and colleagues (2019). Implementation plans are useful tools for thinking through implementation facilitators and challenges and provide a tailored framework based on the specific needs of the setting. An implementation plan allows teams to map out their goals and processes then revisit the plan over time to adjust the plan as needed.

**Leadership.** Active leadership is one critical input for successful MBC implementation, including both formal organizational leadership and MBC Implementation Champions, the latter of whom are local practitioners who are proponents of MBC. Leaders can define a culture of MBC and facilitate the uptake of MBC efforts by making it clear that MBC is a priority for the organization and through the provision of necessary resources such as administrative time, training on correct use and administration of measures, tangible resources (e.g., HIT infrastructure), and workflow adjustments that allow for MBC implementation and uptake. Designated MBC Implementation Champions can guide this process, working with organizational leadership. Champions can be leveraged as an ongoing source of organizational knowledge and can facilitate the shaping of local practice toward MBC (Lewis et al., 2018).
**Teamwork and partnership.** Designing a successful implementation of MBC often requires a team, including clinicians, administrative, and support staff, as well as patients or family caregivers. Although level of participation may vary across team members, including all relevant partners in the planning phase can optimize engagement and allow broader input around workflow design and problem-solving. Teamwork can be enhanced through the process of developing an implementation plan, referenced above. When everyone is engaged in the implementation planning process it can facilitate buy-in and engagement.

**Performance improvement strategies.** In addition to administrative processes and workflows, settings should determine how to allow for appropriate clinical training in MBC and how discussions of MBC will be integrated into existing supervision and team-based clinical discussions. Providing recognition, such as celebrating successes, reinforces the use of MBC and facilitates sustainment and increased uptake of MBC over time, as do audit and feedback strategies. MBC also creates opportunities for performance improvement across a team or setting.

**Building a culture of safety and growth.** It is important that leadership establish a culture of safety in which it is clear to all involved how data from MBC will be used at an organizational level. If providers perceive MBC as a vehicle for encroachment of management and accountability efforts into routine care, or as monitoring efforts for which measures do not align with patient concerns, they may be reluctant to engage in its implementation and use (Boswell et al., 2015; Wolpert, 2014). To reduce concerns regarding inappropriate and unfair uses of MBC data, organizations should have a clear rationale for and policy around the use of any outcome measures derived from MBC data and ongoing dialogue between providers and leadership (Lewis et al., 2018). It is not recommended that leadership use outcomes from MBC to evaluate the performance of individual providers. However, it may be appropriate to evaluate clinicians’ utilization of MBC and offer feedback to support growth in MBC implementation and utilization over time. Additionally, data from measures collected as part of MBC can be rich information to use as part of clinical supervision and team meetings for troubleshooting challenging clinical situations and for general learning.

**Health information technology (HIT).** HIT is not required for MBC implementation, but technological solutions may facilitate MBC implementation. Personnel demands are most reduced when MBC is seamlessly integrated into electronic health record systems (EHRs) (Lewis et al., 2018). A measurement-feedback system (MFS) is software, typically proprietary and distinct from the EHR, that supports the regular administration of outcome measures and the sharing of data to facilitate MBC. MFSs vary widely in their functionality, the outcome measures they include, and their capacity for integration with existing EHRs (Lyon et al., 2016). The increasing availability of mobile and digital platforms for outcome measure collection holds promise for further increasing MBC uptake (Hallgren et al., 2017). While mobile and digital applications hold promise for expanding MBC, organizations must be cognizant of inequities in access to technology and how this may create unintended inequities in access to MBC (Liu et al., 2019; Sisodia et al., 2021). The determination of technology needs for MBC and addressing them requires that service systems have a clear working model of MBC, knowledge of the requisite measures, understanding of clinical workflow, and ongoing assessment of the technological landscape.

**Policy considerations.** All of these implementation considerations, while executed largely at the health care setting itself, may also be influenced or encouraged by policy. One area of implementation that is
more directly aligned with and influenced by policy is reimbursement. Reimbursement, however, is a complex subject and beyond the scope of this Brief Report.

Limitations
This Brief Report has limitations. Because of resource and time constraints, the Working Group’s scan of the literature is not comprehensive and our ability to gather nongovernmental experts to explore and discuss current implementation of MBC in a greater array of behavioral health settings has been limited. Additionally, by virtue of our mandate from the ISMICC, we restricted this Brief Report to outpatient community settings, but recognize that institutional and other noncommunity settings (e.g., hospital, residential, criminal justice settings) also may implement forms of MBC. Additionally, many important subjects (e.g., reimbursement to incentivize MBC) are beyond the scope of this Brief Report.

Additional Activities Important to Further Program Development and Implementation
Although there is strong empirical support for the clinical practice of MBC in some areas, there are also many aspects of MBC that would benefit from future study. Some of these include:

- **What treatments?** Most of the evidence for MBC is from symptom-focused traditional individual outpatient therapies, such as psychotherapy and medication management for depression. There is little to no research examining the use of MBC in other treatment modalities, such as psychiatric rehabilitation (e.g., Assertive Community Treatment, Supported Employment), case management, group therapies, etc.
- **What is the setting?** How might MBC be used in acute inpatient mental health, residential treatment, correctional facilities, or other non-outpatient care environments for the provision of behavioral healthcare treatment?
- **What populations benefit from MBC?** There are unique considerations for different populations that have not been studied. For example:
  - How should MBC be implemented in geriatric populations, especially when there is cognitive impairment?
  - There are currently no validated self-report measures for assessing the symptoms of schizophrenia. What should MBC for this population look like generally and at different stages of illness?
  - There is some evidence that MBC may not be effective for individuals in treatment for personality disorders. What should MBC look like for this population?
- **What measures or types of measures are needed?** Many existing PROMs are used in MBC to assess symptoms. Fewer measures of functioning, recovery, quality of life, etc. have been validated for use in MBC. Additionally, how can measures other than PROMs best be used, such as participation in treatment, measures of the experience of care, and biological factors? What is the potential value of including measures related to patients’ satisfaction with care and using responses to trigger program-focused or clinic-level problem-solving to promote retention in treatment? What is the role of clinician-administered measures in MBC? Most MBC research uses standardized (nomothetic) measures. How can individualized (idiographic) measures be used? Is there a role for Computer Adaptive Testing (CAT) in MBC?
- **How are instruments to be administered?** When using PROMs, are there ideal strategies for administration? How do we maximize the validity and reliability of these measures in routine use? What HIT would be optimal to support measure administration?
• Are the measures psychometrically valid and sensitive to change and are they available in relevant languages? Many measures have been validated on non-representative samples. How can we ensure that measures are culturally responsible and valid for all individuals who might use them, including cutoff scores and norms? How do we understand clinically reliable change for each measure?

• What is the ideal frequency of measurement? Does this vary by measure, by treatment, by population? How do we maximize treatment outcomes and minimize burden and assessment fatigue?

• What are the ideal strategies for integrating MBC into the clinical workflow to optimize use and minimize burden?

• How do providers maximally use measures? What is the best way to present and discuss measure results with patients? What kind of information do providers and patients need to make good decisions? How should that information be presented to providers and patients? Should patients and providers receive information in different ways? What kinds of decision support tools (e.g., alerts, visuals) are most effective? Does MBC with decision support tools based on recovery response curves produce better outcomes than those without?

• What are the most effective strategies to train and supervise staff in MBC? Is there an optimal way to communicate the intended purpose of MBC?

• What implementation strategies work best for implementing MBC?

• What secondary uses of data obtained as part of the MBC process, aside from person-centered treatment and treatment planning, may be intended as part of implementation? If there are intentions beyond treatment and treatment planning, such as research, program or quality monitoring, or incentive payments, what implications do those uses have for patients, individual providers, and the health system or facility?

Conclusion

MBC is a collaborative clinical process that uses psychometrically validated, brief measures administered systematically throughout care to track a patient’s progress and inform treatment. Though further research is needed to clarify key questions related to the implementation and practice of MBC, MBC is a clinical intervention that is adaptable to various settings and populations and can enhance behavioral health treatment outcomes and improve the quality of patient care in community-based care.
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