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The Need for a Measurement-Based Care Professional Practice Guideline

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Professional practice guidelines (PPGs) are intended to promote a high level of professional practice and serve as an educational resource, providing pragmatic guidance in a clinical area for psychologists. Measurement-based care (MBC) is an evidence-based psychological practice with accumulating empirical support and alignment with patient-centered care. In connection with the American Psychological Association's Advisory Committee for Measurement-based Care and the Mental and Behavioral Health Registry, this article outlines various lines of support for the development and implementation of an MBC PPG. In addition to research evidence, we address the demonstrated need of this guideline across three domains: public benefit, professional guidance, and legal and regulatory issues. Consistent with the aspirational spirit of a PPG, this article proposes a draft PPG statement and highlights how an MBC PPG would improve service delivery, facilitate implementation of an evidence-based practice associated with symptom reduction, improved retention, and greater patient satisfaction, as well as create a framework that will better align changes in reimbursement models with patients' and providers' treatment goals. We also identify key future directions and critical gaps in MBC science and implementation that require attention.

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Clinical Impact Statement
Question: Is there a need for a measurement-based care (MBC) professional practice guideline? ***Findings:*** Extant evidence supports the use of MBC across stakeholder benefit; professional guidance; and legal, regulatory, and ethical domains. ***Meaning:*** Patients, psychologists, and organizations would benefit from the development and implementation of an MBC professional practice guideline. ***Next Steps:*** Additional work is needed to identify (a) the critical components and context needed for MBC to be most beneficial to diverse patient populations, (b) what concepts should be measured and when, and (c) how to adapt and evaluate mental and behavioral telehealth.

Keywords: professional practice guidelines, measurement-based care, evidence-based practice

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Measurement-based care (MBC) has amassed a robust research base supporting its use as one component of evidence-based professional practice in health care. Yet, uptake remains minimal with less than 20% of mental and behavioral health providers reporting use (Fortney et al., 2015; Jensen-Doss et al., 2018; Lewis et al., 2019). One of the challenges has been the lack of consensus on the terms used to describe the systematic and routine practice of measuring care, resulting in often-interchangeable usage of similar, although not necessarily synonymous, terms including routine outcome monitoring (ROM), feedback-informed treatment, and practice-based evidence, to name a few. This lack of standardization, along with patient, provider, and system-level challenges, creates barriers to effective dissemination and implementation of MBC. Herein, we use the term MBC to promote a shared language with key stakeholders in the health care space among other reasons discussed further below.

Health care guidelines play a critical role in promoting quality care by increasing standardization and consistency in care, improving clinical decision-making and efficiency, and recommending best practices based on systematic reviews of existing research (Kredo et al., 2016; Woolf et al., 1999). The American Psychological Association (APA), the largest scientific and professional organization representing psychology in the United States, has approved as policy a variety of *clinical* practice and *professional* practice guidelines, which are often related but distinctive of each other. Clinical practice guidelines provide research-based recommendations for the treatment of particular disorders and conditions, such as depression, post-traumatic stress disorder, and obesity. Professional practice guidelines (PPGs), on the other hand, are "designed to guide psychologists in practice with regards to particular roles, populations, or settings and provide them with the current scholarly literature" (APA, 2015, p. 823). PPGs are aspirational statements regarding professional behavior; they are not mandates, highly prescriptive, or exhaustive treatises, and they are not intended to take precedence over professional judgment based on science or professional knowledge. They are intended to promote a high level of professional practice and serve as an educational resource, providing pragmatic guidance in a particular clinical area for psychologists.

APA has developed and approved a variety of PPGs, including, but not limited to Psychological Practice with Girls and Women, Practice with Transgender and Gender Non-Conforming People, the Practice of Telepsychology, and Multicultural Guidelines (APA, 2021a). Within the recently published APA Guidelines on Evidence-Based Psychological Practice in Health Care, Guideline 7 states "Psychologists aim to monitor the treatment process and clinical outcomes routinely" (2021b, p. 7). Although inclusion of monitoring treatment process and outcomes in these guidelines was an important step, we will highlight how MBC is a unique, multifaceted clinical process that goes beyond the practice of monitoring and warrants the development of a new, stand-alone PPG. MBC involves monitoring treatment process and outcomes routinely, as well as sharing findings with patients, and adjusting treatment based on the findings. Expert use of MBC in the context of ongoing treatment to guide adjustments and responsiveness to patient progress is a clinical skill (see Brooks Holliday et al., 2021). This underscores a need for continuing education and training for psychologists to use MBC effectively, given the rapid advancements in technology (e.g., machine learning and natural language processing), predictive analytics (e.g., expected response trajectories), and understanding of the underlying mechanisms of action associated with more robust outcomes.

This article was inspired by the APA governance-appointed *Advisory Committee for Measurement-Based Care and the Mental and Behavioral Health Registry*, as part of its mission to support dissemination and implementation of MBC. The committee collaborates with APA on two related priorities. The first is to support the Mental and Behavioral Health Registry, a web-based platform that providers can use to meet quality measure reporting requirements of the Centers for Medicare and Medicaid Services Merit-Based Incentive Payment System (MIPS). The committee supports the development and maintenance of quality measures included in the registry, along with developing resources to support expanded registry use (Wright et al., 2020). The second priority is to inform and influence the field about MBC, making recommendations regarding the dissemination and implementation of MBC. The current committee is made up of psychologists who bring expertise in quality measurement, patient-reported outcomes, MBC, clinical practice, and clinical research.

In this article, we contend that there is a need for a PPG that is dedicated to MBC. APA policy (2015) states that PPGs should only be developed when there is a clearly demonstrated need in three domains: public benefit, professional guidance, and legal and regulatory issues. Consistent with the aspirational spirit of a PPG, this article proposes an initial draft PPG statement and highlights how an MBC PPG would improve service delivery and facilitate implementation of an evidence-based practice associated with symptom reduction, improved retention, and greater patient satisfaction. We also highlight how an MBC PPG would create a framework that will better align changes in reimbursement models with patients' and providers' treatment goals. In addition, we touch on how the pathways to MBC are rapidly evolving, underscoring the

need for more research on MBC implementation mechanisms and outcomes.

MBC

MBC is the evidence-based practice of systematic and routine assessment using patient-generated data (most commonly patient-reported outcome measures) throughout the course of care to monitor and tailor behavioral health treatment (Scott & Lewis, 2015). MBC is a clinical process consisting of three essential elements which include as follows: (a) routinely collecting patient-generated data throughout the course of treatment; (b) sharing timely feedback with the patient about these data (e.g., patient-reported outcome measure scores) and observed or predicted trends over time to engage patients in their treatment; and (c) acting on these data in the context of the provider's clinical judgment and the patient's experiences (i.e., shared decision-making regarding treatment; Lewis et al., 2019; Oslin et al., 2019; Resnick & Hoff, 2020). Included within these core elements is selecting appropriate measure(s), determining the frequency of assessment, and introducing the rationale for MBC (Lewis et al., 2019). Although standardized measures of symptoms or function are most typically used (e.g., Patient Health Questionnaire [PHQ-9], Generalized Anxiety Disorder [GAD-7], Outcome Questionnaire [OQ], Outcome Rating Scale [ORS]; Kelley & Bickman, 2009; Lambert et al., 2018; Miller et al., 2005; Trivedi & Daly, 2007), individualized idiographic measures (e.g., goal attainment scaling), therapy process variables, and mechanisms/stages of change can also be utilized (Boswell & Scharff, 2022; Lutz et al., 2019). Whereas patient self-report is the most frequent assessment method, we often use "patient-generated data" to signal that MBC data need not be restricted to patient self-report and can include data produced from other sources that leverage technology (e.g., data from wearable devices). Additionally, MBC data can include data generated from other sources related to the patient in treatment, such as caregiver reports on standardized measures for youth receiving services (Parikh et al., 2020).

MBC is closely related, though not necessarily identical to, commonly used terms/practices, such as ROM, feedback-informed treatment, progress feedback, and practice-based evidence, which all use patient-generated data to understand the effectiveness of treatment. Though a comprehensive review of terminology is beyond the scope of this manuscript, we offer select distinctions and comparisons to clarify our use of MBC, specifically. First, ROM is the process of regularly measuring patient progress during treatment (Howard et al., 1996). Though ROM can provide clinicians with feedback about progress, ROM may not necessarily be synonymous with MBC as not all documented applications of ROM include *feedback* to those directly involved in care. In these instances, ROM may imply that progress and outcomes are tracked for larger system-level and quality monitoring goals. Conversely, provision of feedback and empowering patient engagement around these data is fundamental to the definition and practice of MBC. In this sense, MBC as a clinical process is indeed consistent with ROM *feedback* and *feedback-informed treatment* in psychotherapy, in which feedback to patients is an understood element of the intervention (Miller et al., 2015). Secondarily, MBC is a clinical process that shares overlapping characteristics with related organizational practices such as *program evaluation*, though it is understood to be conceptually distinct from this application, as the data collected in MBC are specifically intended to make dynamic changes *during* treatment at the individual level (Lewis et al., 2018), as opposed to after treatment at the program level as in program evaluation. MBC does, however, also generate *practice-based evidence* (Castonguay et al., 2021). Clinicians and organizations can use aggregated MBC data to support organizational goals such as quality monitoring and improvement efforts and satisfy accreditation or other accountability standards (Connors et al., 2021; Jensen-Doss et al., 2020). Third, MBC as a descriptor shifts the focus from "outcomes" per se and allows for neutrality and flexibility regarding what factors (e.g., therapy process variables) are being measured and used to inform care decisions. Moreover, MBC as a terminology is used commonly in psychiatry and medicine more broadly to describe the above processes; shared language with these key stakeholders may have important implications regarding reimbursement and parity for psychologists.

It is also important to note that feedback in MBC can take several forms. In some cases, standardized scores have been used. However, most controlled research on psychological treatments has involved data-driven algorithms that generate expected recovery trajectories (ERTs) that signal if a client is on track or not on track for a positive response. In addition, ERTs have been augmented by clinical support tools (CSTs) that provide direction regarding additional assessment and treatment planning (e.g., assess the quality of the working alliance and engage in alliance enhancement strategies if alliance concerns are detected; Lambert, 2010).

Evidence for the Effectiveness of MBC

Howard et al. (1996) advocated the use of standardized measures of patient progress to evaluate and improve treatment outcome by using data-driven feedback. However, controlled research on the effectiveness of MBC did not emerge until the 2000s, with the work of Lambert et al. (2001). Several reviews and meta-analyses have been conducted to investigate its effects relative to treatment as usual. Table 1 highlights 10 key published meta-analyses in this area. Meta-analytic MBC outcome results have ranged from no effect to medium-sized effects, with greater effects seen in subpopulations of cases identified as "not on track" (NOT) for a positive outcome (de Jong et al., 2021). Most recently, de Jong et al. (2021) conducted a multilevel meta-analysis analyzing 110 effect sizes in 21,699 patients and reported a small yet statistically significant effect on symptom reduction across all case types ($d = 0.15$), as well as a small, favorable effect on dropout rates ($OR = 1.19$). Of the studies analyzed by de Jong et al., 38% involved standardized score feedback, 45% included ERTs, and 17% included CSTs. Feedback *type* emerged as a moderator of the feedback effect on outcome for NOT cases, such that studies using CSTs produced a larger effect than studies using ERTs or standardized scores alone; this finding is consistent with other published meta-analyses (see Table 1). Treatment setting has failed to emerge as a consistent moderator of feedback effects on outcome.

Most of the controlled research included in meta-analyses has involved standardized patient self-report measures of symptoms and/or function, and most published studies have involved one of two measurement feedback systems, the OQ-System (Lambert et al., 2004) or the Partners for Change Outcome Management System (PCOMS; Miller et al., 2005). Interestingly, de Jong et al. (2021)

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Table 1
Summary of Findings From Published Measurement Feedback Meta-Analyses

Study (first author, year)	Specific tool(s)	Patient population or setting	Number of studies included	Patient *N* for main outcome	Primary outcome(s) feedback effect	Other notable outcomes(s)	Notable moderators of feedback effect
de Jong et al. (2021)	Mixed: mostly PCOMS and OQ	Mixed: psychotherapy, psychiatry, counseling	$k = 58$	21,699	$d = 0.15$ on symptom reduction	Symptom change effect size larger for NOT cases ($d = 0.17$); associated with reduced dropout rates ($OR = 1.19$)	Studies involving PCOMS had larger effects relative to other tools; in the NOT sample, studies using CSTs had larger effects than studies without CSTs
Pejtersen et al. (2020)	PCOMS	Mixed: psychotherapy, psychiatry, counseling	$k = 14$	1,697	$g = 0.13$ on number of sessions ($k = 12$ included in this analysis)	No statistically significant effect on client well-being (Hedges' $g = .03$)	Not examined
Bergman et al. (2018)	Mixed: CFS, PCOMS, Ohio Scales, Y-OQ − 30, Unspecified	Children and adolescents (11–18 years); Mixed: psychotherapy, psychiatry	$k = 6$	1,097	Not reported (unable to pool results for symptom improvement due to high heterogeneity)	Not reported	Not examined
Lambert et al. (2003)	PCOMS and OQ	Mixed: psychotherapy, psychiatry, counseling	$k = 24$	10,921 (OQ:8,649; PCOMS: 2,272)	$d = .14$ on client outcomes for OQ; $d = .40$ on client outcomes for PCOMS	Outcomes ES larger for NOT cases (weighted ES = .33) for OQ; increased number of improved clients ($OR = 2.11$) for PCOMS	In NOT sample, studies with OQ and CSTs had larger effects ($d = .49$) and improved rates of deteriorating clients ($OR = .37$) and improving clients ($OR = 2.40$) than TAU
Østergård et al. (2018)	PCOMS	Mixed: psychotherapy, psychiatry, counseling	$k = 18$	2,910	$g = 0.27$ on general symptoms	No significant difference in outcomes for PCOMS versus control condition in the NOT sample	Positive effect of PCOMS in counseling settings but no effect in psychiatric settings
Tam and Ronan (2017)	Mixed: CFS, PCOMS, GTF and SRS, Ohio Scales	Youth (10–19 years); psychotherapy	$k = 10$ (unique trials)	3,804 in meta-analysis	$g = 0.28$ on treatment outcomes (aggregated symptoms and function)	$g = 0.20$ on treatment outcomes (average between group); $g = 0.63$ (average within groups)	Not examined
Kendrick et al. (2016)	Mixed: OQ and PCOMS/ORS	Mixed: primary care, psychotherapy, psychiatry	$k = 17$ ($k = 12$ included in meta-analysis)	8,787 (3,696 included in meta-analysis)	No statistically significant effect on symptoms (SMD = −0.07)	No statistically significant effect on number of sessions (MD = −0.02 sessions; $k = 7$ included in this analysis)	Not examined
Shimokawa et al. (2010)	OQ	Mixed: counseling centers, general outpatient settings	$k = 6$	6,151	g on symptom reduction: NOT Fb = −0.28; NOT P/T Fb = −0.36; NOT CST Fb = −0.44	g on symptom reduction: OT Fb = −0.12; OT P/T Fb = −0.18	Not examined

(*table continues*)

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Table 1 (*continued*)

Study (first author, year)	Specific tool(s)	Patient population or setting	Number of studies included	Patient *N* for main outcome	Primary outcome(s) feedback effect	Other notable outcomes(s)	Notable moderators of feedback effect
Knaup et al. (2009)	Mixed: mostly OQ	Mixed: psychotherapy, counseling	$k = 12$	4,540	$d = 0.10$ on short-term symptom reduction (9 weeks); no statistically significant effect ($d = -0.06$) on long-term symptom reduction (3–12 months)	$d = 0.05$ on treatment duration	No statistically significant difference for setting (in-patient vs. outpatient), feedback recipient (therapist/staff and patient vs. therapist/staff only), feedback content (status information vs. progress information), feedback timing (timely vs. delayed), and feedback frequency
Lambert et al. (2018)	OQ	College counseling centers	$k = 3$	2,605	ES = 0.39 on symptom reduction for NOT Fb sample	NOT Fb sample remained in treatment longer than NOT NFb sample (on average 1.5 additional sessions)	

Note. PCOMS = Partners for Change Outcome Management System; ORS = Outcome Rating Scale, SRS = Session Rating Scale (from PCOMS); OQ = Outcome Questionnaire; GTF = Goal Tracking Form; CFS = = Contextualized Feedback Systems; Y-OQ – 30 = Youth Outcome Questionnaire; ES = effect size; SMD = standardized mean difference; MD = mean difference; OT = on track; NOT = not on track; CST = clinical support tool; Fb = feedback, NFb = no feedback; P/T = feedback provided directly to both patients and therapists; TAU = treatment as usual; *OR* = odds ratio.

found that feedback system significantly moderated the observed feedback effect, such that studies involving the PCOMS demonstrated larger feedback effects on outcome relative to studies involving other feedback systems. As one study example, Brattland et al. (2018) investigated MBC effects with the PCOMS over the course of a long-term implementation effort. Adult patients were randomized to treatment as usual or MBC with the PCOMS. They found a significant feedback outcome effect of $d = 0.26$, and the superiority of the feedback effect over treatment as usual increased over the course of the implementation project.

Among other tested moderators of the feedback outcome effect, de Jong et al. (2021) found that the magnitude of the feedback effect was slightly larger in studies conducted in the United States. Although the context of MBC appears to be important, support for MBC is certainly found in studies conducted outside of the United States, and the rigorous cross-national work in this area is notable. For example, in the United Kingdom, Delgadillo et al. (2018) observed a statistically and clinically significant feedback effect relative to treatment as usual in a sample of 2,223 routinely presenting patients. In the Netherlands, Janse et al. (2020) conducted a trial that randomized patients to a cognitive behavioral therapy condition that involved low-intensity feedback (completion of a symptom measure every fifth session) or to a cognitive behavioral therapy condition that involved high-intensity feedback (use of the PCOMS at each session). They found that patients achieved the same amount of symptom reduction in fewer sessions in the high-intensity feedback condition.

The benefits of MBC to psychologists and patients extend beyond symptom outcomes. The use of MBC is associated with improved patient satisfaction with treatment (Knaup et al., 2009). MBC enhances clinical responsiveness to the individual patient (Boswell, Kraus, Castonguay, et al., 2015; Brooks Holliday et al., 2021; Constantino et al., 2013), for example, by adjusting the treatment plan or revisiting expectations and goals. In turn, such collaboration is associated with better treatment outcomes (Tryon et al., 2018). Emerging evidence suggests that MBC is associated with increases in patient-reported working alliance, relative to as usual treatments without MBC (Brattland et al., 2019). MBC is also associated with reduced rates of nonresponse and premature termination (de Jong et al., 2021). Qualitative research has highlighted some of these benefits. For example, Moltu et al. (2018) reported that interviewed clinicians endorsed the belief that MBC is an effective method to promote client awareness and engagement in treatment and has the capacity to keep sessions goal-oriented. Patients in treatments that integrate MBC report experiencing a higher level of engagement, as well as a higher level of respect from treatment providers because it communicates that their perspective is highly valued (Dowrick et al., 2009; Eisen et al., 2000; Moltu et al., 2018). In line with this, cumulatively, consistent high-quality care with individual patients translates to a more successful and ethical practice (Muir et al., 2019). In the absence of MBC, research demonstrates that clinicians struggle to identify the patients who are at a higher risk for nonresponse, or even deterioration in functioning (Walfish et al., 2012).

Despite these positive findings from both the patient and clinician perspective, it is unclear if continued use of MBC translates to better skilled therapists over time. This may be because the feedback provided is most often patient-specific. As such, the

use of MBC may not lead to therapist caseload-level improvement over time. This is borne out in research where the use of ROM feedback alone does not appear to contribute to therapist improvement (Goldberg, Rousmaniere, et al., 2016). However, encouragingly, when MBC is combined with associated professional development strategies, such as training and deliberate practice, this combined MBC training approach is associated with significant improvements within therapists' caseloads over time (Goldberg, Babins-Wagner, et al., 2016).

Barriers to MBC Implementation

The effectiveness of psychological interventions for a range of presenting problems is well supported, yet many patients do not experience a benefit from "gold standard" interventions (Lambert, 2013). Despite the evidence in support of MBC, it has been well documented that MBC is underutilized across settings and provider types (Fortney et al., 2015; Jensen-Doss et al., 2018; Lewis et al., 2019). Significant work has examined barriers to utilization, commonly organizing such barriers thematically into categories of patient level, provider level, and organization/system level (Cuperfain et al., 2021).

At the patient level, commonly identified issues regarding use of MBC include perceived response burden, particularly if the selected measure does not seem relevant to the patient or if they do not receive feedback, including discussion of results and more explicit integration into treatment planning (Lewis et al., 2019). At the provider level, some clinicians endorse concerns regarding the resources (e.g., time, effort, and costs) associated with implementing MBC (Boswell, Kraus, Miller, et al., 2015), negative attitudes regarding the effectiveness of MBC, and concerns about how the data might be used beyond informing individual patient care (Wolpert, 2014). At the organizational level, resource limitations can present significant barriers to implementing a system of MBC. The lack of an electronic health record (EHR) or automated feedback system (e.g., automatic scoring, feedback report generation, and archiving) can make the implementation of MBC resource-intensive, increasing administration time burden on administrative and clinical staff. Likewise, EHRs and automated feedback systems have financial costs associated with them that may impede implementation in some behavioral health settings that do not currently have such systems. Additional administrative barriers may include limited ability to resource MBC training for providers and patients, turnover among staff, lack of support at the leadership levels, and lack of payment incentives for MBC from third-party payors (Steinfeld et al., 2016).

Although many of the key barriers to MBC implementation are well known, the development and testing of research and practice-informed strategies to address such barriers has lagged. Notably, however, there is growing recognition that implementation science methods and principles can begin to address some of these key barriers (see Childs & Connors, 2021; Lewis et al., 2019). While still nascent, the growing field of implementation science and increasing literature on the integration of routine, standardized patient assessment in other specialties offer a starting point for effective implementation planning (Chan et al., 2019; Gerhardt et al., 2018; Nelson et al., 2020; Sisodia et al., 2020). We expect that a PPG will prompt more attention to the dissemination and implementation of MBC, including collaborative efforts to develop strategies to mitigate patient, provider, and system-level barriers.

Demonstrated Need for a MBC PPG

There is growing evidence for the effectiveness of MBC in reducing symptoms, improving retention, and increasing patient satisfaction with care. In the sections that follow, we argue in support of the need for an MBC PPG, based on APA's criteria of addressing public need, professional guidance, and legal or regulatory issues.

Public Benefit

The potential public benefit of increased use of MBC substantiates the need for an MBC PPG. An MBC PPG can support improved service delivery and support delivery of equitable care to diverse patient populations.

Improved Service Delivery

Beyond benefits in symptom reduction, improved retention, and increased patient satisfaction, a wealth of empirical literature provides broad support for MBC to improve service delivery. First, MBC is aligned with psychologists' utilization of evidence-based practice and commitment to patients' rights. Furthermore, the benefits of MBC may be realized at multiple levels, including that of the patient, provider, and organization/system (Connors et al., 2021; de Jong et al., 2021; Fortney et al., 2017; Jensen-Doss et al., 2020; Lewis et al., 2019; Parikh et al., 2020).

Patients' Rights. APA defines evidence-based psychological practice as the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences (APA Presidential Task Force on Evidence-Based Practice, 2006). This implies that clinical decision-making should occur in partnership with the patient, informed by the best research evidence, taking into consideration the available options and the patient's individual circumstances and preferences. Treatment planning, in this manner, should be ongoing, updating, and adjusting care as needed through regular monitoring of patient progress. Based on a consensus statement regarding evidence-based practice supported by 37 professional associations, the Coalition for the Advancement and Application of Psychological Science (CAAPS) describes evidence-based practice from the patient's perspective in its *Mental Healthcare Bill of Rights* (CAAPS, n.d.). This consumer-friendly document conveys patients' rights to active participation in evaluating their options for mental or behavioral health services and to understand how progress and success will be measured. The core components of MBC including measuring progress, sharing that information with patients, and using that information to adjust care, make MBC an important pathway to patient-centered evidence-based psychological practice.

Individual-Level Benefit. Consistent with calls to deliver person-centered, transparent, and collaborative care that empowers patients to be active participants in shaping their treatment (e.g., 21st Century Cures Act; Gopalan et al., 2016), MBC allows for treatment to be tailored to the individual patient according to their specific needs. It also provides a structure that facilitates exchange of information and supports shared decision-making about treatment

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goals and course of care (Scott & Lewis, 2015). MBC can be used to facilitate discussion about points of disagreement between patients and providers on the goals and activities of the treatment (Duncan, 2014; Moltu et al., 2018). Although the mechanisms of action for MBC are actively being examined, researchers (e.g., Jensen-Doss et al., 2020) have posited that previous theory (i.e., therapeutic assessment) undergirds the notion that provision of feedback about assessment and progress data may allow patients to better understand (or create new awareness of) themselves and the problems bringing them to treatment (Finn, 2007; Finn et al., 2012), thus enhancing their overall investment in treatment.

Provider-Level Benefits. In addition to benefits for patients, MBC has positive implications for providers. Importantly, MBC is not intended to undermine or supersede the professional judgment and clinical expertise of psychologists. However, in the absence of objective data, psychologists may be less likely to identify treatment stagnation and/or deterioration (e.g., Hatfield & Ogles, 2007) and overestimate their effectiveness (Walfish et al., 2012). Indeed, effect sizes for MBC are particularly compelling in identification of treatment that is, not progressing on track or is at risk of failure (de Jong et al., 2021; Lambert et al., 2018, 2018; Shimokawa et al., 2010). Additionally, MBC gives providers a tool to increase transparency, creates opportunities for diagnostic clarification, and may reveal opportunities for referral to other services that might be of benefit to the patient (Valenstein et al., 2009). Furthermore, as noted, although the use of MBC alone may not directly translate to better therapist-level caseload outcomes across time, information from MBC can help clinicians identify professional growth areas, which can steer them to personally relevant consultation and training activities.

Organization/System-Level Benefits. Beyond the service delivery improvements for patients and providers, MBC can produce a rich source of important data for behavioral health care organizations and systems. MBC supports data-driven decision-making by providing key patient-centered and clinically relevant data that can be used both at the individual level to inform clinical decision-making and at the aggregated level to inform organizational decision-making and system-level learning, including quality improvement efforts to refine current services, identify programming needs, and shape new service or program developments (Jensen-Doss et al., 2020).

Additionally, MBC can help organizations meet a variety of accountability reporting requirements. For example, in 2018, the Joint Commission updated their standards, requiring behavioral health care organizations to implement MBC (Standard CTS.03.01.09; The Joint Commission, 2017). MBC data provide a core component for value-based care payment models such as the MIPS initiative of the Centers for Medicare and Medicaid Services (2020). Other federal agencies such as the National Quality Forum and Agency for Healthcare Research and Quality encourage use of MBC as the basis for organizational quality improvement programs (Agency for Healthcare Research & Quality, 2014; National Quality Forum, 2018).

MBC, when implemented as intended, directly contributes to transparency in communication between patients and clinicians and can facilitate communication within the larger organization using data to support business functions and quality improvement efforts (Jensen-Doss et al., 2020). Although PPGs are typically aimed at providing guidance to individual practitioners, both organizations and systems potentially benefit from MBC and are instrumental in ensuring individual practitioners have the necessary supports for MBC implementation, such as technology to capture patient-generated data, feedback mechanisms, and synthesis of data for programmatic improvement.

Emerging, Underserved, or Vulnerable Patient Populations

As MBC has been increasingly recognized as an evidence-based practice, greater attention has been paid to factors that can impact successful implementation (Boswell, Kraus, Miller, et al., 2015). With an increasingly diverse workforce and population of patients served, it is critical that MBC measures and their clinical usage are aligned with the cultural values of both providers and their patients. Two recent studies of the use of measures to inform care in U.S. settings found that providers who identified as Latinx or Hispanic reported less positive attitudes toward measures than those who identified as non-Hispanic White (Klein et al., 2021; Rodriguez et al., 2020). Concerns about the use of measures in routine care may be related to practical barriers, such as patient or caregiver literacy levels and the availability (or lack thereof) of measures in multiple languages, both of which can increase the time burden for measure administration (Klein et al., 2021; Lui et al., 2021). Provider attitudes toward MBC may also be influenced by their sense of cultural identity, with those who serve ethnically diverse patients potentially having more awareness of possible misfit of a culturally insensitive measure used in MBC or perceptions of potential harm associated with the act of monitoring (Rodriguez et al., 2020). Interestingly, such language and interpretability concerns were found to be more prevalent among providers who regularly use MBC compared to those with little or no familiarity (Lui et al., 2021).

The development, testing, translation, implementation, and refinement of patient-reported outcome measures will always be ongoing. In addition to research on provider attitudes and perceptions, an important focus of this work is determining the validity of measures (e.g., construct validity and sensitivity to change) and cultural equivalence among different patient populations. Recent years have witnessed increased research attention to tests of psychometric and performance generalizability of commonly used outcome measures across different subpopulations, with most studies finding support for such generalizability (e.g., Borgogna et al., 2021; Löwe et al., 2008; Moreno et al., 2019; Shrestha et al., 2020; Teymoori et al., 2020).

These are complex issues that may negatively impact equitable access to an evidence-based practice that has potential to improve care. For example, Liu et al. (2019) found that providers were acting as gatekeepers in a study of MBC in the psychiatry department of a regional pediatric tertiary care center, where it was found that Medicaid recipients were about half as likely to be given access to an MBC login account and 60% less likely to complete measures when compared with patients who were privately insured. The authors addressed the issue by automating enrollment in the MBC system, a technological solution that eliminated the need for provider input. In addition to practical solutions like automation and administrative support (Li & Childs, 2021; Liu et al., 2019), the development of culturally tailored education interventions around MBC may be a promising approach to addressing any misperceptions about MBC

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(e.g., Sanchez et al., 2017). More user-centered research is needed to better address ways to tailor MBC systems and implementation strategies to better fit diverse populations and settings (e.g., formative assessment methods to assess feasibility and acceptance of MBC in Shanghai, China, in Murphy et al., 2021).

Professional Guidance

Earlier, we summarized the research support for the value of MBC as an evidence-based psychological practice, with established benefits for a diverse range of stakeholders, as well as the evidence that MBC is not being widely implemented in clinical practice (Hatfield et al., 2010; Lewis et al., 2019). A look at underlying theories regarding the use of feedback and subjective perspectives regarding MBC help substantiate the need for development of a PPG to address this discrepancy.

Advances in Theory and Science

Feedback from patient-generated data to psychologists and patients is a core component of MBC. The regular use of outcome measures and feedback to both provider and patient may help to identify early in treatment those who are not progressing as expected and facilitate changes to the treatment plan (Gondek et al., 2016). The most widely viewed theoretical perspective regarding the value of feedback integrates Feedback Intervention Theory (Kluger & De Nisi, 1996) and self-regulation theory (Scheier & Carver, 2003). Moreover, the underlying theories of Therapeutic Assessment and Contextual Feedback Intervention Theory (CFIT) provide more specific theoretical support for the role of MBC in effective mental health care delivery (Finn, 2007; Riemer & Bickman, 2011; Riemer et al., 2005; Sapyta et al., 2005). According to Finn (2007), MBC improves outcomes through increased patient understanding of their problems and better engagement and therapeutic alliance. Riemer and Bickman (2011) and Riemer et al. (2005) CFIT focuses on the therapist's recognition of a discrepancy between the patient's current status and treatment goals, with the accompanying cognitive dissonance contributing to taking action (or not) to address discrepancies. Recent studies suggest some merits to both of these theories of MBC, with improved outcomes associated with mechanisms of action like the alliance (Brattland et al., 2019) and the signaling of patient problems to the therapist (Douglas et al., 2020).

Need for Ongoing Provider Education

Recent work by Cuperfain et al. (2021) explored the variable of subjective perspectives of providers and patients regarding the lack of uptake of MBC among mental health providers. Interestingly, they found that most providers believed that MBC was negatively perceived by patients. However, patient interviews revealed an almost universal positive attitude toward MBC. Shared decision-making was also identified as a critical need. This work underscores the need for ongoing education for providers about the underlying theory and data supporting MBC as an evidence-based clinical practice. A formal MBC PPG should serve to motivate such activities.

Legal and Regulatory Issues

Recent legal and regulatory changes involving measuring outcomes in health care also point to a need for a PPG. Over the past decade, new reimbursement models, including value-based programs, which provide either incentive payments or reimbursement penalties based on the quality of care provided, have been slowly but steadily gaining traction as a means of reducing U.S. health care spending (Teisberg et al., 2020). For example, in 2015, the Medicare Access and CHIP Reauthorization Act established new value-based payment models for Medicare providers that require providers to report quality performance measures on each of their patients or face future reimbursement penalties (Centers for Medicare & Medicaid Services, 2015). Additional regulators and policy-makers, such as the Joint Commission (2017) and the National Alliance of Healthcare Purchaser Coalitions (2021), have also advocated for the importance of measuring care.

These significant changes in health care reimbursement models will likely serve as a lever to increasing adoption of measuring care in psychological practice, which can contribute to increasing the efficiency of care, improving the quality of psychological services, and demonstrating accountability for services appropriately rendered. However, if the measures used to quantify health care quality are misaligned with what providers and patients view as the goals of care, these reimbursement models will incentivize cost containment without improving care quality. Establishing best practices in MBC in the form of PPGs would begin to address two critical concerns. First, broader utilization of MBC will increase knowledge about what measures, at what times, for what patients, and in what context are patients' outcomes improved. Ideally, the measures used by insurers to evaluate quality of care are based on measures that providers are already using with patients to monitor treatment progress. As many quality measures are developed with technical expert panels or committees like our own, increasing the number of clinicians with experience in using measures to inform care creates a broader pool of experts with deeper understanding of how to best quantify and monitor progress. Second, implementation of *quality measurement* shares many of the same barriers as implementation of MBC. As noted, a PPG for MBC would begin to motivate solutions to these barriers for providers and systems now. Systems can then be adapted for quality measurement and reporting thereby reducing the burden on patients, providers, and systems to adapt existing practices to meet these standards to about effective implementation.

Preliminary MBC Guideline Statement

We contend that there is a clearly demonstrated need for an MBC PPG based on the criteria outlined by APA (2015). In this section, we propose draft language that could provide the initial basis for PPG development. It is important to note that PPGs tend to be relatively brief, aspirational in tone and language (rather than highly prescriptive), and focused on the level of the practicing psychologist. Should APA concur that development of such a PPG is warranted, APA will form a committee to fully develop the complete draft PPG, followed by a process to integrate public comments, and eventual approval as official APA policy.

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Potential Guideline Statement

Psychologists aim to routinely assess treatment process and outcomes and integrate that information in ongoing collaboration with their patients.

Rationale/Justification

Routine monitoring of patient outcomes is an important component of evidence-based psychological practice (APA, 2021b), yet there is both direct and indirect evidence suggesting the benefits of routine outcomes monitoring expand when the process of MBC is fully realized (Lewis et al., 2019; Prescott et al., 2017). It is important to explicitly attend to and use routine feedback to guide collaborative treatment decisions with patients. For example, therapists who more frequently assess and provide feedback to patients demonstrate improved outcomes compared to therapists who assess and provide feedback less frequently (Bickman et al., 2014; Janse et al., 2020). In addition, patients report a greater sense of engagement when feedback is more explicitly integrated in their care (Brooks Holliday et al., 2021; Eisen et al., 2000; Solstad et al., 2019). The explicit integration of feedback with patients also provides opportunities for collaborative and shared decision-making, which is also associated with increased engagement, reduced dropout, and better treatment outcomes (Barry & Edgman-Levitan, 2012; Stacey et al., 2017; Tryon et al., 2018). MBC, especially early in treatment, is particularly important for detecting and responding to patients who are at risk of a negative outcome (Lambert, 2010). Such demonstrated benefit to diverse stakeholders, including more equitable service delivery, as well as recent legal and regulatory changes involving MBC in health care point to a need for an MBC PPG.

Application

Several resources exist to support the optimal implementation of MBC that go beyond the initial step of selecting what to assess and through what method (e.g., an appropriate patient-reported outcome measure; e.g., Duncan, 2014; Lambert, 2010; Prescott et al., 2017; Scott & Lewis, 2015). Solstad et al. (2019) conducted a systematic review of qualitative studies on patients' experience with ROM and feedback systems. Among the identified themes, patients emphasized the importance of clearly communicating a rationale for the purpose and use of measurement data. Another theme involved the importance of empowering patients in the assessment process (e.g., engage clients in the planning of the assessment protocol). The importance of collaboration extended to another identified theme—patients noted that completing routine assessments led them to feel more engaged in their treatments.

Brooks Holliday et al. (2021) conducted a series of semi-structured interviews with clinician–patient dyads to examine how clinicians discuss MBC with patients and how MBC-generated data are used to inform treatment decisions. In addition, participants provided a treatment session recording in which MBC data were discussed. They identified dyad subtypes that varied based on whether one or both members of the dyad valued MBC. In dyads for whom both the clinician and patient valued MBC, the clinician provided clear and repeated rationales for MBC, discussed data with patients at every administration, and connected observed scores to patient skills or strategies (see Duncan, 2014). Consistent with Solstad et al. (2019), best practice implications included providing a clear rationale for MBC, discussing results frequently, actively engaging patients in discussions of MBC data, and using graphs to visualize progress.

Consequently, when introducing MBC with new patients and integrating subsequent monitoring-derived data within sessions, it is recommended that psychologists adopt a collaborative stance and provide a clear rationale for MBC (Boswell & Scharff, 2022; Duncan, 2014; Lambert, 2010; Prescott et al., 2017). A collaborative stance might also begin with a discussion of potential measures and the timing and frequency of assessment if such flexibility exists within a given setting. The PCOMS, for example, involves the *in-session completion* of two brief forms, an outcome-focused and an alliance-focused measure (Duncan, 2014; Miller et al., 2005). An alternative approach is to ask patients to arrive for their appointment 5–10 min early to complete an assessment in a waiting area. In addition, web-based assessment allows for the completion of measures on private devices or in the privacy of one's own home (Boswell, Kraus, Castonguay, et al., 2015). In such cases, patients might be prompted to complete an assessment within 24 hr of an appointment or at multiple points between appointments. When assessments are conducted outside of the immediate care context, it is important to remember to explicitly integrate the measurement feedback in session with patients. The relatively larger effects for the PCOMS (de Jong et al., 2021) underscores the importance of consistently integrating feedback into sessions with patients and maintaining a collaborative approach.

For various reasons, clinicians and settings may be limited to paper-and-pencil assessments and the use of standardized scores and clinical cutoffs. We believe there is still value in such an approach; however, digital or computerized assessments can address some of the key barriers of MBC adoption and implementation (e.g., automatic scoring and storage), as well as optimize feedback effects. Feedback effects are enhanced when the feedback involves easy-to-interpret ERT information (de Jong et al., 2021; Lambert, 2010). Among the recommendations made by Lambert (2010) is the importance of making feedback "cognitively simple" (e.g., use of graphical feedback and visualization so support quick and easy interpretation). Additional best practice recommendations include making feedback immediate (as close to the time of the assessment as possible), frequent (at least weekly), systematic, and unambiguous (a clear rationale is provided that the patient understands), and supplementing routine assessment and feedback with CSTs (Lambert, 2010).

It is important to acknowledge that MBC is a tool or method to enhance clinical responsiveness, rather than a rigid algorithm that is, expected to replace clinical judgment. Such rigidity is inconsistent with the goal of collaboration and engagement. The ability to adapt treatment to the needs of the individual patient is a cross-cutting feature of evidence-based psychological practice, and MBC provides a marker or signal for the need to adapt (or not) and the foundation for collaborative discussions regarding the nature of the potential adaptation(s). In addition, research is just beginning to identify the contexts in which feedback may be associated with negative effects (e.g., Errázuriz & Zilcha-Mano, 2018).

These recommendations focus on broad principles for optimizing MBC implementation in routine practice. We have intentionally not reviewed or recommended specific MBC tools or systems. For more

information on existing tools and their focus and features, we encourage readers to review the 2015 Special Series in *Psychotherapy*, Volume 52, Issue 4, as well as a review by Lyon et al. (2016).

Additional Current and Future Directions

The publishing of an MBC PPG does not obviate additional work in this area. Additional research is needed to identify (a) the critical components or context needed for MBC to be most beneficial to diverse patient populations, (b) what concepts should be measured, when, and how, and (c) how to adapt and evaluate mental and behavioral telehealth. In addition, we touch on some limitations of MBC and offer some words of caution regarding implementation and potential implications.

Critical Components and Context

Whereas effect sizes for treatment outcomes are generally small for MBC (de Jong et al., 2021), there appears to be a stronger effect in MBC approaches that also include clinical support (particularly for patients at risk for a negative outcome), or direction on how the clinician can think about and/or act on interpreted measure data. Clinical support is often available in more advanced MBC technologies (Krägeloh et al., 2015) and can include clinical problem-solving tools, additional outcome and process measures, and/or elements of the feedback report itself that highlight information of clinical importance (Harmon et al., 2007; Lutz et al., 2019, Probst et al., 2013; Simon et al., 2012; Slade et al., 2008). The expanded capabilities of technology platforms is one of the strengths of MBC approaches and has tremendous potential as an area for further research. For example, user-centered methods to address measure administration and scoring can increase the ease of use and acceptability for both patients and clinicians (Bickman et al., 2012). Further, displays of outcome data over time should integrate elements favored by both patients and psychologists, such as the inclusion of interpretive ranges indicating symptom severity (e.g., mild, moderate; Hepner et al., 2019). Recent advancements in technology include machine learning, which is expanding the focus and capabilities of routine MBC in interesting new directions, such as rating in-session empathy in real time and giving immediate feedback to clinicians after treatment sessions (e.g., Goldberg et al., 2020; Imel et al., 2019), and dynamic prediction of treatment outcomes (e.g., Bone et al., 2021).

Concepts to Measures

Standardized symptom and function measures are typical in MBC approaches, yet patients may find alternative outcome measures more relevant to their lived experience, such as idiographic measures (e.g., goal attainment scaling), well-being, and work or school functioning (Jensen-Doss et al., 2020; Metz et al., 2019; Wolpert et al., 2017). What appears to be most important is how such measures are used to guide clinical decision-making either by comparing patient scores to a standard, such as a clinical cutoff score, or to provide individualized progress and predicted outcome information (e.g., viewing that patient's change over time; Lyon et al., 2017). Bickman et al. (2016) suggest a precision mental health approach to MBC measurement, which includes assessment of sociodemographic data, aims and risks, strengths, service preferences, treatment and patient outcomes data, process variables (e.g., therapeutic alliance), and contextual data.

Consistent with Bickman et al. (2016), MBC approaches that integrate measures of therapy process (e.g., therapeutic alliance and treatment motivation) may be associated with larger effects on patient outcomes than MBC approaches that do not include this type of assessment (de Jong et al., 2021; Shimokawa et al., 2010). A recent study of the use of MBC in intensive inpatient treatment showed a differential predictive relationship between patient-reported application of treatment skills and measures of well-being and symptoms (Camacho et al., 2021). The authors found addressing patient feedback on increased use of skills in treatment contributed to an increase in well-being and a decrease in symptoms. Assessment of factors that impact therapy process may also be beneficial. For example, Probst et al. (2015) found that patient-reported measures of social support and life events were associated with poorer outcomes and thus may be useful to gather for the prevention of treatment failure. Such findings suggest that the routine assessment of factors that predict treatment outcomes provide "actionable feedback" (Cannon & Witherspoon, 2005), such as helping psychologists target potential problems in the therapeutic alliance or uptake of treatment skills to improve the likelihood of treatment response. Given the recommendation that MBC should be used to guide treatment adaptations and provide individualized care, especially in response to factors that emerge over the course of treatment (Georgiadis et al., 2020; Page et al., 2019), further research on multidimensional approaches to MBC that include therapy processes is needed.

Relatedly, the what, when, and how of MBC are rapidly expanding. As health-related user-generated data become more integrated across device types such as phones, watches, rings, etc., the gap between MBC and real-world evidence will shrink. Digital technologies such as smartphones and wearables (and digitally delivered patient-generated data such as ecological momentary assessment) can provide meaningful and accurate patient-related data that can be incorporated into the broader MBC paradigm. These advances offer opportunities to augment active patient-reported outcome assessment with domain-specific passive data capture and high-frequency active data capture. Regarding the former, digital technologies can increasingly provide information on domain-specific areas such as sleep, mood, and cognitive functioning (Berryhill et al., 2020). Regarding the latter, digital technologies can provide efficient, repeated measurement of specific patient-reported data across measurement of mood, well-being, and quality of life, to name just a few areas (Dagum, 2018).

An ongoing challenge regarding the use of these novel technologies is how the growing number and types of data can be consolidated and utilized by clinicians efficiently and effectively to enhance MBC, and ultimately, patient outcomes (Torous & Hsin, 2018). The need for psychological services far exceeds the capacity of the current workforce. Although increasing the number of clinicians remains an important effort, additional strategies to maximize available clinical resources while simultaneously enhancing access and availability of services is paramount. The incorporation of novel technologies for active and passive mental health data represents an important component of an overall strategy to support a supply-constrained field of mental health practitioners—a mature MBC ecosystem (Torous et al., 2021). Nevertheless, the consolidation and visualization of these data to

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clinicians and patients remains a significant barrier for the growing amount of MBC data to become actionable. Several commercial ventures focus on this problem, utilizing a combination of EHR data, data analytics and visualizations, and automation to aid clinicians and "extend" their reach beyond the in-person or virtual session. For example, MBC data on anxiety may "trigger" an alert to a provider or patient and recommend a particular intervention such as mindfulness or a breathing exercise through a device. Another challenge within this space is the variability in validation of these technologies. Many commercial ventures have developed technologies that claim to digitally measure health-related variables, but the validation of these tool remains limited, and caution is warranted by clinicians and patients when deciding to utilize these technologies.

Telehealth

Telehealth is an ecologically valid setting for technology-enabled MBC and holds promise for learning more about tailoring implementation for different contexts (Douglas et al., 2015). The rapid pivot to and expansion of telehealth, made possible by key changes to payment and policy due to the COVID-19 pandemic, raises a host of new questions, including how to measure quality mental and behavioral care occurring in a virtual environment in order to demonstrate its effectiveness. Further, payers from across the spectrum have expressed concerns of the potential for increased waste, abuse, and fraud in telehealth service expansion (Bittinger et al., 2021). Although not the main role of MBC, the aggregated data can be used to fulfill accountability requirements demonstrating care quality and patient outcomes at the organizational level (Connors et al., 2021). MBC data can also be used to help evaluate the equivalence in outcomes when comparing service provided by telehealth versus in-person care, and to gauge patient engagement through MBC measure completion and usage in patients receiving telehealth compared with in-person services (Li & Childs, 2021).

Limits and Caveats

Despite existing evidence and its promise to improve the quality of mental health care services and decision-making, MBC has its limits. There is the potential for misuse (or misinterpretation) and caveats are warranted. For example, information from a given measure offers only a snapshot or partial picture of a patient's overall functioning. It is critically important to view MBC methods as tools for enhancing clinical decision-making and ultimately patient outcomes. These methods are far from perfect and are not intended to replace clinical judgment or to supplant other valid sources of information about patient functioning, progress, or preferences.

As MBC methods become more sophisticated (and more opaque to most non-researchers), there is a danger of overestimating validity, utility, and generalizability to other domains of service delivery. The potential for overconfidence in MBC-derived information might be seen in initiatives to tie clinician reimbursement to measured outcomes, including so-called "pay-for-performance" programs. Such performance-based incentives are intended to reward high performers as well as motivate improvement in lower performers, ultimately contributing to better patient outcomes. Although these approaches possess some merits, extreme caution is warranted. For example, drawing valid conclusions about *therapist*-level performance requires certain statistical methodologies and it is not always clear if and how these are being applied (Boswell, 2020). In addition, performance incentives appear to be a better predictor of *quantity* of performance or level of productivity, rather than *quality* of performance (Cerasoli et al., 2014). To date, there is inconclusive evidence that pay-for-performance interventions reliably improve patient outcomes in mental health care (Bugatti et al., 2016). Granted, these system-level interventions are extremely difficult to study. Nevertheless, it will be important for psychologists to be involved in the design and implementation of any such initiative to harness MBC-derived data in mental health care.

In conclusion, we strongly support efforts that advocate for psychologists to monitor treatment process and clinical outcomes routinely and integrate this information in the support of collaborative and responsive care. Approximately 18 years after Lambert et al. (2018) wondered aloud if it was time for clinicians to track patient outcomes, we believe it is time for a PPG to support the full realization of MBC in psychological practice. Although additional research is needed in the previously noted areas, a PPG would provide psychologists with an impetus to integrate MBC into routine clinical practice. A growing body of literature supports MBC as an evidence-based psychological practice and demonstrates a need for a PPG in three key areas outlined by APA: enhancing public benefit through improved service delivery, and supporting delivery of equitable care to diverse patient populations; providing professional guidance due to advances in the theory and science of feedback; and supporting evolving regulatory and administrative systems changes involving measuring outcomes in health care. Just as PPGs are intended to be guiding and aspirational, rather than rigidly prescriptive, we look forward to continued discussions regarding the complexities of and best practices for implementing MBC.

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