

Measuring the Well-Being of the Whole Person in Clinical Care, Health Research, and Population Health Evaluation

Findings and Recommendations From the XVIII Veterans Health Administration State of the Art Meeting

Dawne Vogt, PhD,*† Benjamin Kligler, MD, MPH,‡§ Kathleen Darchuk, PhD, ABPP,||
Eric Elbogen, PhD,¶# Justin M. List, MD, MCAR, MSc,**†† Tara McMullen, PhD, MPH,‡‡
Jennifer L. Murphy, PhD,§§ and Barbara Bokhour, PhD||¶¶

Objectives: In 2023, the U.S. Veterans Health Administration convened a State of the Art meeting to evaluate the existing evidence and make recommendations for measuring the well-being of the whole person in clinical care, health research, and population health evaluation. In this article, we describe findings and recommendations concerning each of these health care system functions, as well as key takeaways from the meeting as a whole.

Background: There has been a growing call for health care organizations to expand their focus beyond disease-based concepts to consider both positive aspects of health and indicators of well-being that extend beyond the health domain. Yet, knowledge remains limited regarding how best to integrate these types of measurements in clinical care, health research, and population health evaluation efforts.

Method: State of the Art activities were organized into 3 workstreams, each focused on a core health care system function (clinical care, health research, and population health evaluation). Drawing from existing literature on the measurement of the well-being of the whole person in the assigned health care function,

workgroups evaluated the existing state of knowledge and made recommendations for future work on well-being measurement in the health care setting.

Results: Cross-cutting themes included: (1) difficulty evaluating the current state of knowledge due to varied use of terminology in this literature; (2) appreciation for the value of well-being measurement in each health care function; (3) need for additional research on the use and benefits of well-being measures, including their role as predictors and moderators of health and health care outcomes; (4) importance of ensuring that measures are applicable for diverse patient groups and adequately reflect the “patient voice;” and (5) need for additional leadership investment and resource allocation to support use of these measures in the health care setting.

Conclusions: Knowledge from this meeting can be applied to enhance the use and application of measurement of well-being to improve patients’ health and health care outcomes.

Key Words: health care, measurement, review, well-being
(*Med Care* 2024;62:S4–S12)

From the *Division of Women’s Health Sciences, National Center for PTSD, Department of Veterans Affairs (VA), Boston Healthcare System, Boston, MA; †Division of Psychiatry, School of Medicine, Boston University, Boston, MA; ‡US Department of Veterans Affairs, Office of Patient-Centered Care and Cultural Transformation, Washington, DC; §Department of Family and Community Medicine, Icahn School of Medicine at Mount Sinai, New York, NY; ||US Department of Veterans Affairs, Office of Mental Health and Suicide Prevention, Washington, DC; ¶National Veterans Financial Resource Center, Rocky Mountain MIRECC for Veteran Suicide Prevention, VA Eastern Colorado Health Care System, Aurora, CO; #Department of Psychiatry and Behavioral Sciences, School of Medicine, Duke University, Durham, NC; **US Department of Veterans Affairs, Office of Health Equity, Washington, DC; ††Department of Internal Medicine, Yale School of Medicine, New Haven, CT; ‡‡US Department of Veterans Affairs, Pain Management, Opioid Safety, and PDMP Program, Specialty Care Program Office, Washington, DC; §§US Department of Veterans Affairs, Pain Management, Opioid Safety, and PDMP Program, Specialty Care Program Office, Washington, DC; |||VA Center for Evaluating Patient-Centered Care in VA, Center for Healthcare Organization and Implementation Research, VA Bedford Healthcare System, Bedford, MA; and ¶¶Department of Population and Quantitative Health Sciences,

University of Massachusetts Chan Medical School, Worcester, MA. This material is based upon work supported by the Veterans Health Administration Health Systems Research (HSR) Service and VHA Office of Patient-Centered Care and Cultural Transformation. K.D., E.E., J.M.L., T.M., and J.L.M. contributed equally to this article. The views in this paper are those of the authors and do not represent the views of the Department of Veterans Affairs or the United States Government.

The authors declare no conflict of interest.

Correspondence to: Dawne Vogt, PhD, Division of Women’s Health Sciences, NCPTSD, VA Boston Healthcare System, 150 South Huntington Avenue, Boston, MA 02130. E-mail: dawne.vogt@va.gov.

Supplemental Digital Content is available for this article. Direct URL citations are provided in the HTML and PDF versions of this article on the journal’s website, www.lww-medicalcare.com.

Written work prepared by employees of the Federal Government as part of their official duties is, under the U.S. Copyright Act, a “work of the United States Government” for which copyright protection under Title 17 of the United States Code is not available. As such, copyright does not extend to the contributions of employees of the Federal Government.

DOI: 10.1097/MLR.0000000000002084

In recent years, many health care systems have expanded the types of programs and services they offer beyond primarily disease-based treatments and interventions to improve the broader well-being of the patients they serve. This shift is evident within the Veterans Health Administration's (VHA) Whole Health initiative,¹ which aims to transform VHA from a disease-focused health care delivery model to a person-centered model that supports patients' ability to live the lives they want.² As part of that effort, VHA now provides a variety of services that extend beyond disease-based treatments, including health coaching, complementary and integrative health offerings, and general well-being promotion programs. VHA patients also have the opportunity to develop personal health plans reflecting their broader mission, aspiration, and purpose in life, which providers are encouraged to consider in the provision of care.

Given that VHA is the largest integrated health care system in the United States, and that many other health care systems have also begun to move to whole health care models,³ the focus on improving patients' well-being in addition to the treatment of disease marks a substantial shift in how health care is delivered within the United States. Yet, measurements in VHA and other health care settings continue to mainly focus on disease-based concepts rather than assessments of the well-being of the whole person,³⁻⁸ which provide novel information that is not captured by disease-based measurements.⁹ This represents a major gap and a lost opportunity, as research demonstrates that patients' broader well-being has substantial implications for patients' experiences of disease, as well as their ability to engage in and benefit from health care.^{3,10-13} In addition, research suggests that improved well-being is often the ultimate goal of treatment-seeking, as many patients seek care not only to reduce symptoms and treat disease but also to improve their ability to engage in valued roles and activities in their everyday lives.^{4,14}

Based on this literature and knowledge generated from a field-based meeting on well-being measurement,¹⁵ the VHA Health Systems Research (HSR) Service and the Office of Patient-Centered Care and Cultural Transformation (OPCC&CT) sponsored a State of the Art (SOTA) meeting to evaluate the existing evidence-base and develop recommendations regarding the measurement of the "well-being of the whole person" in 3 key health care functions: (1) clinical care, (2) health research, and (3) population health evaluation.¹⁶ The terminology of the "well-being of the whole person" was selected for this article to convey the meeting's focus on concepts that extend beyond disease-based factors, including positive aspects of health (eg, sense of purpose, self-compassion, and physical resilience), as well as strengths-based concepts that are relevant to other important domains of patients' lives besides health (eg, social, vocational, and financial well-being). Throughout the remainder of this article this terminology is abbreviated to "well-being" in some places to enhance readability.

PREPARATORY ACTIVITIES

Co-Chairs for this meeting collaborated with HSR leadership on 3 primary activities to prepare for this SOTA: (1) developing aims for the SOTA; (2) convening a planning committee of clinicians, researchers, and other key stakeholders to aid in finalizing the scope and focus of the meeting; and (3) identifying additional invitees for SOTA (see Supplemental Table 1, <http://links.lww.com/MLR/C928>¹⁷⁻¹⁹ for a full list of the planning committee and meeting attendees). These activities were organized into 3 workstreams, each focused on a core health care system function (clinical care, health research, and population health evaluation). Two workgroup leads were identified for each workstream. Leads were responsible for: (1) refining questions for discussion at the meeting; (2) reviewing existing literature on the measurement of the well-being of the whole person in the assigned health care function; and (3) selecting relevant background readings for meeting attendees to review before the meeting. Evaluation of the existing state of knowledge for this SOTA was informed by literature provided by the VA's Evidence Synthesis Program (ESP)²⁰ and supplemented by additional literature review conducted by workgroup members as relevant. Of note, this review encompassed articles that used a broad range of terminology to capture concepts relative to the well-being of the whole person, including patient-reported outcomes (PROs), quality of life, and flourishing as examples. Given the frequent incorporation of well-being measures in broader examinations of the use of PROs in the health care setting, and the relevance of lessons learned on the use of PROs to well-being measurement, many of the articles reviewed focused on this broader category of outcomes. Meeting coordination was provided by HSR's Center for Information Dissemination and Education (CIDER).

Meeting Activities

During the first day of the meeting, the 3 workgroups convened to review relevant literature, consider questions that were developed to guide the discussion, and generate recommendations for measuring the well-being of the whole person in each health care function. For each workgroup, this process included an initial brainstorming session to generate draft recommendations, followed by a rereview of initially generated recommendations to identify those that had the greatest consensus. Workgroup leads presented consensus-based conclusions and recommendations to all meeting attendees the next day, after which the larger group had a broader discussion of key themes from the presentations. A summary of the literature that informed the efforts of each workgroup, along with key conclusions and recommendations that emerged from each workgroup, is described below, followed by a description of key themes that emerged across workgroups and during discussion with all SOTA attendees.

USE OF WELL-BEING MEASUREMENTS IN CLINICAL CARE

Literature Review

The clinical workgroup was interested in how measures of the well-being of the whole person can be used in

clinical care settings. The literature review for the clinical workgroup focused on evaluating knowledge regarding: (1) How frequently these types of measures are used in clinical care and when used, what evidence exists for their impacts on clinical care (eg, provider decision-making, patient satisfaction, and clinical outcomes); (2) What are the most common barriers and facilitators to the use of these kinds of measures in clinical care settings; (3) What are the common attributes of measures successfully shown to provide valuable, meaningful, and/or actionable information related to clinical care; and (4) What evidence is available regarding how to best incorporate the patient and/or care partner voice in the development, selection, and implementation of these types of measures.

The results of an ESP compendium of literature on the use of patient-reported measures of overall health, health-related quality of life, and global well-being in routine clinical care revealed several findings relevant to clinical question #1 (frequency of use and impact on clinical care).²¹ First, the primary focus of these articles was on the use of PROs more generally rather than well-being measures specifically and focused primarily on how to develop measures that can be administered with minimal patient burden and maximum relevance and informativeness, how to best integrate these assessments in clinical data collection systems, and how to establish clinical pathways that enable these results to be delivered to providers efficiently and in an actionable form. Second, findings revealed considerable variability in the types of outcomes addressed, as well as the clinical contexts and populations in which PROs are used. Finally, this review highlighted the need for future research to determine relevant measures, best data collection methods, and optimal ways of utilizing assessment results.

A Cochrane review of research on use of PRO measurements in clinical practice²² provided insight regarding the potential benefit well-being measurement might offer for clinical care, although like the ESP compendium the majority of research focused on self-reported health concepts rather than well-being measures specifically. Based on 116 randomized controlled trials, the authors concluded that the use of PROs likely produces moderate improvements in provider-patient communication as well as in diagnosis and notation (ie, providers record more diagnoses and take more notes), disease control, and small improvements in quality of life, a concept that is closely related to well-being. Importantly, the impact appeared to depend at least in part on the patient and/or clinician's willingness or ability to act on the information, the acceptance of and adherence to treatment changes, and the effects of treatment.

Findings were limited regarding barriers and facilitators to the use of well-being measures in clinical settings (clinical question #2). Several articles discussed barriers to PROs in general, addressing the perceived burden of using these kinds of measures when provider and patient time is limited.^{21,23} One article examined the national implementation of measurement-based care in VHA, including the administration of PROs to guide care delivery.¹⁹ The most significant barrier observed in this

research was technology (ie, lack of access to optimal software platforms for electronic administration), while positive provider attitudes and a receptive organizational climate were identified as potential facilitators. Provider engagement and experience with the use of PROs were also identified as facilitators in other research,²⁴ supporting the perspective that finding "user-friendly" ways to administer measures is essential. Finally, the use of PRO measures was acknowledged across articles as a complex practice that necessitates engagement at the health care systems level, which can be challenging.

Evidence regarding attributes of those measures that provide valuable, actionable information for clinical treatment (Clinical Question #3) was scarce. Most of the relevant articles focused on tracking the use of measures but not their impact on decision-making and care planning. Finally, this literature was most limited for clinical question #4 (incorporation of patient and/or care partner voice in the development and implementation of measures in clinical care). The workgroup noted this as a significant gap warranting additional research attention.

Recommendations

Based on their review of the literature, the clinical workgroup identified gaps, priorities, and strategies for enhancing the value of well-being measurement in clinical care. As detailed in Table 1, the workgroup identified the need for additional information regarding which aspects of well-being are most important to patients and how these measurements can be applied to enhance clinical care. Based on consideration of gaps in knowledge, the clinical workgroup identified several priorities and strategies for the use of well-being measures in clinical care, which are also detailed in Table 1. A key take-home from this discussion was that well-being measurement should be prioritized in clinical care, but additional resources, infrastructure, and buy-in from key leaders within the health care organization are needed to support routine well-being measurement in this setting.

USE OF WELL-BEING MEASUREMENTS IN RESEARCH

Literature Review

The literature review for the research workgroup focused on evaluating: (1) how widespread the use of well-being measurements is in health and health care research; (2) the extent to which well-being measures can inform health care delivery above and beyond disease-based measures; and (3) existing evidence regarding barriers and facilitators to the use of well-being measures in health and health care research.

ESP produced an inventory of articles to inform this review. Articles included English-language indexed human subjects research (primarily systematic reviews) published since 2000 and organized by clinical field (eg, primary care, oncology, etc). Because of the broad range of terminology used in this literature, ESP included articles that used alternative terms to well-being, including quality of life,

functioning, flourishing, and PROs. A review of ESP-identified studies revealed that the majority of articles focused on measures that predominantly address functional impairment (eg, SF-12/36)^{25,26} rather than the positive end of the functional continuum (ie, well-being measurements). Due in part to limited search teams, the articles identified in this review were mainly measurement-focused reviews or evaluations of the use of these measures as outcomes (as opposed to as predictors or moderators). In addition, research on domain-specific well-being measures (eg, social well-being) was largely excluded from this review. Given these limitations, workgroup members conducted a supplemental review to identify additional articles of relevance.

Within the available literature, several conclusions emerged related to research question #1 (how frequently these measures are used). First, as noted previously, most measurements of patients' broader life circumstances focused on functional impairment rather than well-being. Moreover, as recently discussed with regard to the post-traumatic stress disorder literature,¹³ when used in treatment-outcome studies these types of measures are typically treated as secondary outcomes and given little attention in the interpretation of treatment effectiveness. The use of, and attention to, well-being measures also appears to vary across research topics, with more robust literature in conditions in which quality of life is typically given more consideration (eg, oncology research). The review also revealed greater use of condition-specific measures (eg, cancer-related quality of life) than general measures of well-being (eg, overall quality of life), a conclusion that has also been noted elsewhere.²⁷ Finally, there was little research on patient perspectives on the use of these types of measures in health and health care research, including especially those with diverse backgrounds and identities.

Findings were also limited with respect to the added value that these measures offer (beyond the use of disease-focused measurements) in informing interventions and treatments (research question 2), although several articles highlighted the unique contribution that well-being promotion may offer in improving health outcomes. The first, a meta-analysis of oncology studies, demonstrated that health-related quality of life measures contributed to the prediction of cancer survival above and beyond disease-based measurements.²⁸ The second, an investigation of the contribution of patients' broader well-being to their experiences of suicidal ideation found that patients' vocational, financial, and social well-being each had unique impacts on this important health outcome, highlighting the potential value of well-being promotion for reducing suicide risk.¹⁸

Although few studies specifically addressed barriers/facilitators to the use of well-being measures in health and health care research (research question 3), articles described their use in the literature pointed to possible reasons for their limited use.^{27,29} Among the most frequent potential barriers were: (1) measurement challenges, including difficulty identifying "best" measures, as well as a general preference on the part of researchers for "objective" rather than "subjective" measures; (2) implementation challenges, including concern that respondents may view well-being

measures as irrelevant to their health and health care and that measures may not add unique information above and beyond disease-based measures; and (3) interpretation challenges, including concerns about the lack of comparative data and cutoff values to guide interpretation for some measures, as well as concern regarding the ability of well-being measures to capture treatment-related changes, particularly for general (disease-agnostic) measures. Importantly, some of these barriers may reflect a lack of knowledge rather than actual limitations of these measures (eg, lack of awareness regarding the value that these measures can offer).

Recommendations

As presented in Table 2, the research workgroup noted numerous priorities for research on well-being measurement in health and health care research based on its review of the existing literature, including the need for a formal evidence-synthesis of the use, added benefit, and barriers and facilitators to implementation of these types of measures in health and health care research. Workgroup participants also recommended additional research on a number of understudied topics related to well-being measurements' relevance to health and health care, including, for example, the evaluation of well-being promotion strategies that can be best implemented in the health care setting. In terms of strategies for promoting additional use of well-being measures in health and health care research, the research workgroup noted the need for additional evaluation of measures that are most relevant to the health care context, as well as prioritization of funding on the relevance of well-being measurements to patients' experiences of disease and their health care. Among principles to guide the use of well-being measurements in health and health care research, the importance of taking a theory-based approach to select measures, focusing on aspects of well-being that are most relevant to patients' health and health care, and using validated measures were identified as particularly important, along other key principles detailed in Table 2.

USE OF WELL-BEING MEASUREMENTS IN POPULATION HEALTH EVALUATIONS

Literature Review

The focus of the population health evaluation workgroup was on the use of well-being measures in population-based data collections aimed at evaluating the needs and concerns of patient populations (eg, facility-sponsored surveys of patients). Two broad questions informed the work of this workgroup: (1) what does it mean to measure the well-being of the whole person at the population level; and (2) how might measuring well-being at the population level influence and impact policy and health care system design and delivery of health services. To guide this work, ESP generated an evidence inventory of primary studies, organizational reports, and narrative or systematic reviews relevant to this focus area.²⁰ Both peer-reviewed publication databases and grey literature (ie, reports and white

TABLE 1. Recommendations on Measuring the Well-Being of the Whole Person in Health and Health Care Research**Knowledge gaps and solutions**

- Gap 1: Lack of patient voice in the process of developing and implementing these kinds of measures
Solution: Determine what veterans want and value in well-being measurements
- Gap 2: Lack of information regarding how to implement these measures across the system given the needs of diverse populations and settings
Solution: Identify considerations for implementing measures across various clinical populations and settings
- Gap 3: Lack of optimal translation and application of information gleaned from measurement into clinical care
Solution: Identify strategies at both the patient/provider level to enhance integration of these types of measures in communication and plan of care

Priorities for measuring well-being

- 1) Incorporating measures of the well-being of the whole person should be valued, prioritized, and incentivized by the VA system, allowing time for patient-centered, individualized, high-quality care
- 2) The measurement and promotion of well-being outcomes is the shared responsibility of the entire enterprise
- 3) It is important to capture the voice of the veteran and their care partners at every stage of the measurement process to ensure that what is being assessed is truly meaningful to veterans
- 4) Substantial energy and efforts must be invested in the implementation and infrastructure to support this kind of measurement.

Strategies for using well-being measures in clinical care

- 1) Both veterans and providers need to understand why a given measure is being used and what the value is in a clinical setting
- 2) It is important to evaluate the balance of what is being valued/incentivized in clinical care to support clinicians' use of these types of measures
- 3) Stakeholders and partners across the health care system must be engaged to support the measurement of well-being
- 4) It is critical to invest in human, technology, and financial resources to support the implementation of well-being measurement

papers, often by organizations, such as non-profits and governments, that do not undergo a traditional academic peer review process) were included in the search, which was limited to English-language papers published between the year 2000 and early 2023. The Evidence Inventory provided a list of 62 studies (and no grey literature) sorted by clinical field (eg, primary care, oncology, etc).

The results of this Evidence Inventory corroborated the hypothesis of the population health evaluation workgroup that there would be a paucity of literature on population-level measurements of well-being concepts. Among the 62 publications identified through the search strategy, the majority focused on patient-reported health outcomes and experience measures, disease-based metrics, health-related self-efficacy measurement, and patient quality-of-life assessments. While some of these measures are relevant to the larger conversation around measuring population well-being (particularly quality of life assessments), few studies specifically addressed the well-being of the whole person.

Recommended Research and Strategies

Questions for discussion in the population health workgroup focused on how best to identify well-being measures to include in population health evaluations

(including strategies to ensure health equity in measurement and validity considerations), what potential impacts well-being measurement might provide at the organizational level on policies, health care delivery, and other services and benefits, and what is the evidence for these impacts.

Based on discussion of these questions, this workgroup identified 3 key priorities for population health evaluation, along with research and strategies that can be implemented to support these priorities. As summarized in Table 3, these priorities centered on the importance of considering the patient voice in developing measures of well-being, applying a framework and/or logic model to underpin the measurement of well-being, and ensuring that social determinants of health are incorporated in population-level well-being measurements.

Many other issues also emerged in discussion with the workgroup, including: (1) the importance of addressing patients' social connection, purpose, and sense of belonging; (2) the need to crosswalk any new data collection with clinical-population health measures to avoid duplication and support harmonization; (3) the necessity of giving further attention to how value-based payment and incentives for well-being measurements might be best structured within health care systems, including within the VA; and (4) being mindful of potential unintended consequences of generalizations extrapolated from measures.

CROSS-CUTTING THEMES AND RECOMMENDATIONS

A number of themes emerged across workgroups and in the larger SOTA discussion, which are discussed below.

Challenges with Terminology

A key point of discussion for the SOTA meeting and the planning committee meetings that preceded it was the best terminology to describe the focus of this effort. The complexity of identifying appropriate terminology was underscored by the fact that much of the relevant research on this topic is embedded within broader examinations of the use and relevance of "PROs," which have predominantly focused on traditional health concepts to date. The planning committee began by using the terminology of "whole person outcomes," which has the benefit of aligning well with "whole health" terminology being used in VA and other health care settings.³ However, during discussions before and during the meeting, some concern was raised about this terminology. One concern was that the terminology of "whole person measures" might be perceived as limited to measurements that capture the experience of the whole person in a single measure, rather than sets of measures that together contribute to a more complete picture of the whole person.

There was also some concern that the terminology of "whole person outcomes" might not fully convey the focus on measurements that capture the positive end of the functional continuum (strength-based concepts), rather than the severity of disease or associated impairments. As a result, some participants advocated for the terminology of "well-being outcomes," which has historically been

TABLE 2. Recommendations on Measuring the Well-Being of the Whole Person in Health and Health Care Research

Priorities for future research

- 1) Formal evidence-synthesis of the use, added benefit, and barriers and facilitators to the implementation of these types of measures in health and health care research
- 2) Research on the patient experience with completing well-being measures, especially among minoritized and at-risk patient populations
- 3) Evaluation of interventions that can be used to improve well-being outcomes in the health care setting
- 4) Examination of well-being measures as predictors of disease-based outcomes and moderators of the impact of treatments/interventions on disease-based measures
- 5) Evaluation of the ability of well-being measures to capture meaningful changes over time
- 6) Research examining the temporal relationship between well-being and disease-based measures

Strategies to encourage use of well-being measures

- 1) Development of a repository of information on well-being measures designed for use in health and health care research, including information on their psychometric quality
- 2) Funding of a well-being measurement center that can provide consultation on the use of well-being measures in health and health care research
- 3) RFAs that prioritize well-being measurement in health and health care
- 4) Enhanced focus on the importance of measuring well-being in VA and other health care research training programs

Principles for selecting well-being measures

- 1) Application of theory and prior research to guide the selection of measures
- 2) Application of a whole-person measurement strategy that addresses well-being across multiple life domains
- 3) Inclusion of measures that capture what matters most to the population under study
- 4) Use of validated measures rather than modified or ad hoc measures
- 5) Attention to benchmarks of meaningful change on well-being measures to facilitate evaluation of clinical significance
- 6) Pairing of disease-based measures with well-being measurements to enhance knowledge of the unique contribution of well-being to health and health care outcomes

RFA indicates requests for application.

used in the broader literature to capture both strengths-based health concepts that are sometimes referred to as indicators of “positive mental health,” such as overall sense of purpose, self-compassion,⁶ as well as measurements of the extent to which individuals are doing well in key life roles and activities that extend beyond traditional health concepts (eg, vocational, financial, and social well-being).^{30,31} For this article, we combined these 2 terminologies (“well-being of the whole person”) to encompass the focus on both the positive end of the functional continuum, as well as aspects of well-being that extend beyond traditionally considered health concepts.

Appreciation for the Value of Measuring the Well-Being of the Whole Person

A key theme that emerged across workgroups and during broader SOTA discussions was an appreciation, and some initial empirical evidence, for the value of measuring the well-being of the whole person in the health

care setting. Based on both theoretical consideration of the value of well-being measurements in clinical care, as well as findings from research examining the impact of PRO measurements on clinical outcomes, the Clinical Workgroup concluded that measures of well-being should be valued, prioritized, and incentivized. The Research Workgroup identified several studies demonstrating the added value that incorporating well-being measurement in health research can offer in suggesting novel intervention targets. Based on their review of existing practices, the population health evaluation workgroup recommended moving away from a target-driven medical approach to capturing information about the health of patient populations to a more holistic measurement approach that prioritizes the assessment of social determinants of health.

Need for Additional Research on the Use and Benefit of Well-Being Measures

Despite some evidence for the value of measuring well-being within the existing literature, each workgroup identified the need for additional research on the use and benefits of well-being measurement. Both the clinical care and population health evaluation workgroups noted that much of the existing literature has evaluated the benefit of using PROs rather than well-being measures specifically. The Research Workgroup noted that most research identified for their workgroup focused on measures of the negative end of the functioning continuum (functional impairment) rather than the extent to which people are doing well. In addition, none of the workgroups had access to a formal evidence synthesis to guide their efforts. These limitations point to the need for formal systematic reviews on the use of well-being measures in these contexts, as well as more focused evaluations of the use of measures that address the positive end of the functional continuum and outcomes with regard to life roles and activities that extend beyond the health domain.

Although the literature on barriers to the use of well-being measures was limited, an examination of factors that stand in the way of PRO use, as well as theoretical considerations related to the use of well-being measures, suggested the relevance of the following barriers to broader use of these measures: (1) measure selection challenges (eg, difficulty identifying “best” measures), (2) implementation challenges (eg, perceived burden on clinician or patient time, lack of appreciation for the novel information provided in these measures, lack of access to software platforms for electronic administration), and (3) interpretation challenge (eg, concern about the ability of these measures to capture treatment-related changes). Given limited knowledge of barriers and facilitators to the use of well-being measures, as well as strategies to overcome barriers, future research on factors that impact their use is a key direction for future work.

Need for Focus on Well-Being Measures as Predictors and Moderators

One direction for future research that was raised in the research workgroup, and reinforced through the larger SOTA discussion, was the need for more attention to the

relevance of well-being measures as predictors of the need for and use of health care, as well as moderators of the impact of health care treatments on health outcomes. Although the focus for the SOTA meeting was on the use of well-being measures as outcomes (eg, in treatment-outcome studies) and the literature review completed by ESP focused on “outcomes research,” patients’ well-being may influence both whether they need and seek health care. It may also affect how they respond to treatment, as demonstrated in a recent study that found that patients benefited more from treatment—in this case, posttraumatic stress disorder treatment—when they had higher levels of emotional, psychological, and social well-being at the start of treatment.¹² These findings highlight the importance of further exploration of well-being’s role as a predictor and moderator of the impact of health care on health outcomes. Likewise, although a growing body of research has begun to examine the contribution of socioeconomic circumstances identified as “social determinants of health” (eg, unemployment and food insecurity) to disease-based outcomes, the finding that patients’ functioning in and satisfaction with key life roles and activities also influences disease-based outcomes suggests the need for additional attention to these aspects of well-being as well.^{18,31}

Ensuring that Measures Are Applicable for Diverse Patient Groups and Reflect the “Patient Voice”

All 3 workgroups, as well as participants at the larger SOTA meeting, discussed the importance of ensuring that well-being measures are relevant for multiple patient populations, especially for those with minoritized backgrounds and identities. In addition, the value of considering the “patient voice” in identifying measures for use was raised as an important consideration. Yet literature describing consultation of patients in the development of well-being measures (and PROs in general) as well as their applicability for different patient subgroups was limited, suggesting that this is a key area for further development. Future work in this area might benefit from the application of “codesign” and human-centered, participatory methods wherein patients are engaged as partners in developing and identifying measures for use in clinical care, research, and population health evaluations. This is particularly critical for the inclusion of perspectives from minoritized populations whose viewpoints may differ from the majority voice. As noted in a recent article on these approaches, a key barrier to PRO data collection in underserved groups is the lack of measures that have been developed in or that are salient to these populations.³² This issue was also addressed in an article that described how the content validity of measures can be enhanced by incorporating consultation with members of focal populations in the measurement development process.³³

Need for Increased Leadership Investment and Resources to Support Well-Being Measurement

A final theme that emerged across workgroups and within the larger SOTA meeting discussion was the im-

TABLE 3. Recommendations on the Use of Measures of the Well-Being of the Whole Person in Population Health Evaluations

Recommendations for research and policy

- 1) Incorporate patient voice into the development of measures for well-being and whole health outcomes
 - a) Need to consider intersectional representations, including demographic diversity of voices (eg, race/ethnicity, gender, sexual orientation, geography, and military era served) in the development and selection of measures
 - b) The patient voice should be central to measure design (they should be in alpha and beta testing of measures for wording and comprehension)
 - c) Patients should know why these data are being collected and how it will be used to help them
2. Identify a framework and/or logic model to underpin the measurement of well-being
 - a) Determine what domains of well-being are most meaningful to Veterans
 - b) Identify population-level well-being measures that are sensitive to change and function equally well for all members of population
 - c) Evaluate whether feasible to create a composite measure of well-being based on existing data sources and use this measure to drive performance/meaningful change through incentives and by reporting data to benchmark improvements and supporting shared decision-making
 - d) Compare the VA patient population with other health care system populations to test and align measurements
 - e) Move away from a target-driven medical approach of data collection to a more holistic measurement approach
 - f) Take into consideration the lifecycle of measure development and implementation, as evidence for the psychometric quality of these measures is needed before implementation
3. Ensure that social determinants of health are included in well-being measurements
 - a) Identify whether social determinants are an outcome or intermediate process and whether best used to adjust or stratify data
 - b) Enhance understanding of the contribution of social drivers in population health and examine well-being outcomes as moderators of the impact of health care on health outcomes
 - c) Focus population health evaluations on data elements that are known to be collected by federal partners such as housing, transportation, food, insecurity, utility difficulty, and intimate partner violence
 - d) Collect these data elements across health care settings within the organization
 - e) Draw from external data sources to supplement current data collection when available (eg, CDC data sources)
 - f) Implement incentives to support population-level data collection and reporting

portance of enhanced leadership investment and resource allocation to facilitate increased use of well-being measures in clinical care, research, and population health evaluations. Recommendations included offering incentives to facilitate the use of these types of measures in clinical care, encouraging research on the relevance of well-being to health and health care through requests for applications dedicated to this topic, and leadership advocacy for expanding assessments beyond disease-based factors to also incorporate well-being measurements. In terms of specific resources to support well-being measurements, recommendations include standing up a Well-Being Measurement Center (within the VA health care

setting) that can provide health care staff with assistance in selecting, using, and interpreting findings based on the use of well-being measures, as well as investing in technology that can support routine assessments of well-being in the health care setting.

Relatedly, although each of the workgroups discussed the potential benefit that measuring patients' well-being can offer the health care setting, a key focus of conversation at the SOTA (and in the broader literature) concerned how best to ensure that measurements of patients' well-being are effectively leveraged to improve patients' health and health care outcomes. Although health care leaders feel a strong moral imperative to capture the "patients' voice" in health care delivery,³⁴ questions remain regarding how to best apply the knowledge generated from these types of measurements to improve outcomes in the health care setting. Moreover, not all well-being concepts are equally suited for use in the health care setting. For example, measurements of aspects of well-being that are more personality-based or that do not align with available programs, services, and supports are likely to be less useful in this setting than measures that address aspects of well-being that are known to be more responsive to intervention and that lend themselves to the provision of specific well-being promotion supports. As such, key recommendations for future work include identifying well-being measures that are most actionable for the health care setting and evaluating strategies to effectively translate knowledge gained from well-being measurements into improved outcomes.

ENHANCING MEASUREMENT OF WELL-BEING IN VA

In response to lessons learned from this meeting as well as a previously conducted field-based meeting on this topic, a number of steps have already been taken to enhance the measurement of the well-being of the whole person in VA. These include the development of a well-being measurement strategy for this setting (currently underway), incorporation of well-being outcomes in some requests for research, enhanced measurement of well-being outcomes in military-to-veteran transition programming, the roll-out of a brief measure of psychosocial well-being (well-being signs) for use in both the clinical care setting and population health surveillance,^{35,36} and additional investment in well-being promotion efforts, including the development of tools that can be used to screen for and connect patients with well-being supports.^{17,37}

CONCLUSIONS

The VHA 2023 SOTA Meeting on the Measurement of the Well-being of the Whole Person in Clinical Care, Research, and Population Health Evaluation convened health care leaders, clinicians, researchers, and members of the VA's patient population (veterans) to develop evidence-based recommendations to enhance the measurement of well-being outcomes in the health care setting. These recommendations spanned 3 key health care system functions:

clinical care, research, and population health evaluation. Knowledge from this meeting can be applied to enhance the use and application of measurement of well-being to improve patients' health and health care outcomes.

ACKNOWLEDGMENTS

The authors would like to acknowledge all SOTA participants, including members of the planning committee (who are denoted by asterisks in Table S1 for their contributions to this effort).

REFERENCES

1. U.S. Department of Veterans Affairs. Whole Health. Updated December 6, 2023. Accessed December 7, 2023. <https://www.va.gov/wholehealth/>
2. Kligler B, Hyde J, Gantt C, et al. The whole health transformation at the Veterans Health Administration: moving from "what's the matter with you?" to "what matters to you?" *Med Care*. 2022;60:387–391.
3. National Academies of Sciences, Engineering, and Medicine. *Achieving Whole Health: A New Approach for Veterans and the National*. Washington, DC: The National Academies Press; 2023.
4. Benfer N, Litz BT. Assessing and addressing functioning and quality of life in PTSD. *Curr Treat Options Psychiatry*. 2023;10:1–20.
5. Gallagher MW, Phillips CA, D'Souza J, et al. Trajectories of change in well-being during cognitive behavioral therapies for anxiety disorders: quantifying the impact and covariation with improvements in anxiety. *Psychotherapy*. 2020;57:379–390.
6. Rottenberg J, Kashdan TB. Well-being after psychopathology: a transformational research agenda. *Curr Dir Psychol Sci*. 2022;31:280–287.
7. Vogt D, Merker VL, Borowski S, et al. Beyond disease and dysfunction: asking patients about their psychosocial well-being. *Health Affairs Forefront*. 2022a. doi:10.1377/forefront.20220906.158672
8. Vogt D, Borowski S, Maguen S, et al. Strengths and vulnerabilities: comparing post-9/11 U.S. veterans' and non-veterans' perceptions of health and broader well-being. *SSM Popul Health*. 2022b;19:101201.
9. Bech P, Olsen LR, Kjoller M, et al. Measuring well-being rather than the absence of distress symptoms: a comparison of the SF-36 Mental Health subscale and the WHO-Five Well-Being Scale. *Int J Methods Psychiatr Res*. 2006;12:85–91.
10. Holder N, Mehlman H, Delgado AK, et al. The importance of context: using social determinants of health to improve research and treatment of posttraumatic stress disorder. *Curr Treat Options Psychiatry*. 2022;9:363–375.
11. Hood CM, Gennuso KP, Swain GR, et al. County health rankings: relationships between determinant factors and health outcomes. *Am J Prev Med*. 2016;50:129–135.
12. Radstaak M, Hüning L, Lamers S, et al. Examining well-being in posttraumatic stress disorder treatment: an explorative study. *J Trauma Stress*. 2022;35:914–925.
13. Vogt D, Kumar SA, Lee LO. Examining functioning and well-being outcomes in PTSD treatment outcomes research. *PTSD Res Q Newsletter*. 2023;34:1–9.
14. McKnight PE, Kashdan TB. The importance of functional impairment to mental health outcomes: a case for reassessing our goals in depression treatment research. *Clin Psychol Rev*. 2009;29:243–259.
15. Office of Patient-Centered Care and Cultural Transformation. *Enhancing Well-Being Measurement in Health Research, Clinical Care, and Population Health Promotion*. 2021. Accessed December 7, 2023. <https://files.nccih.nih.gov/enhancing-well-being-measurement-meeting-june-2021-final-report.pdf>
16. U.S. Department of Veterans Affairs. Health Services Research and Development: State of the Art (SOTA) Conferences. 2023. Accessed December 7, 2023: <https://www.hsrd.research.va.gov/meetings/sota/#18>
17. List JM, Russell LE, Hausmann LRM, et al. Addressing veteran health-related social needs: how joint commission standards

- accelerated integration and expansion of tools and services in the Veterans Health Administration. *Jt Comm J Qual Patient Saf*. 2024; 50:34–40.
18. Hoffmire CA, Borowski S, Vogt D. Contribution of veterans' initial post-separation vocational, financial, and social experiences to their suicidal ideation trajectories following military service. *Suicide and Life Threat Behav*. 2023;53:443–456.
 19. Resnick SG, Hoff RA. Observations from the national implementation of measurement-based care in mental health in the Department of Veterans Affairs. *Psychol Serv*. 2020;17:238–246.
 20. Evidence Inventory: Health Systems Research on Measurement and Use of Whole Person Outcomes. Washington, DC: Evidence Synthesis Program, Health Services Research and Development Service, Office of Research and Development, Department of Veterans Affairs. VA ESP Project #09-199; 2023. Accessed December 7, 2023. <https://www.hsrd.research.va.gov/publications/esp/reports.cfm>
 21. Parr NJ, Young S. Evidence Compendium: Assessing Overall Health, Health-related Quality of Life, and Global Well-being During Routine Clinical Care. *Evidence Synthesis Program, Health Services Research and Development Service, Office of Research and Development*. Washington, DC: Department of Veterans Affairs; 2022. VA ESP Project #09-199.
 22. Gibbons C, Porter I, Gonçalves-Bradley DC, et al. Routine provision of feedback from patient-reported outcome measurements to health-care providers and patients in clinical practice. *Cochrane Database Syst Rev*. 2021;10:CD011589.
 23. Coles TM, Wilson SM, Kim B, et al. From obligation to opportunity: future of patient-reported outcome measures at the Veterans Health Administration. *Transl Behav Med*. 2019;9:1157–1162.
 24. Sisodia RC, Dankers C, Orav J, et al. Factors associated with increased collection of patient-reported outcomes within a large healthcare system. *JAMA Network Open*. 2020;3:e202764.
 25. Ware J Jr, Kosinski M, Keller SD. A 12-Item short-form health survey: construction of scales and preliminary tests of reliability and validity. *Med Care*. 1996;34:220–233.
 26. Ware JE Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. *Med Care*. 1992;30:473–483.
 27. Mark DB. Assessing quality-of-life outcomes in cardiovascular clinical research. *Nat Rev Cardiology*. 2016;13:286–308.
 28. Quinten C, Coens C, Mauer M, et al. Baseline quality of life as a prognostic indicator of survival: a meta-analysis of individual patient data from EORTC clinical trials. *Lancet Oncol*. 2009;10: 865–871.
 29. Gladis MM, Gosch EA, Dishuk NM, et al. Quality of life: expanding the scope of clinical significance. *J Consult Clin Psychol*. 1999;67: 320–331.
 30. Thompson JM, Vogt D, Pedlar D. Success in life after service: a perspective on conceptualizing the well-being of military veterans. *J Mil Veteran Fam Health*. 2022;8:129–139.
 31. Vogt D, Taverna E, Nillni YI, et al. Development and validation of a tool to assess military veterans' status, functioning, and satisfaction with key aspects of their lives. *Appl Psychol Health Well Being*. 2019; 11:328–349.
 32. Calvert MJ, Cruz Rivera S, Retzer A, et al. Patient-reported outcome assessment must be inclusive and equitable. *Nat Med*. 2022;28: 1120–1124.
 33. Vogt D, King D, King L. Focus groups in psychological assessment: enhancing content validity by consulting members of the target population. *Psychol Assess*. 2004;16:231–243.
 34. Mou D, Mjaset C, Sokas CM, et al. Impetus of US hospital leaders to invest in patient-reported outcome measures (PROMs): a qualitative study. *BMJ Open*. 2022;12:e061761.
 35. Prepared by Trilogy Federal, LLC for the Office of Strategic Planning and Analysis (OSPA), VHA Chief Strategy Office, Veterans Health Administration (VHA), Department of Veterans Affairs (VA). 2023. Survey of Veteran Enrollees' Health and Use of Health Care.
 36. Vogt D, Borowski S, Etingen B, et al. Using well-being measurement to enhance clinical practice: why and how to ask patients about their broader well-being. *Medical Care* (in press).
 37. Vogt DS. Measurement-Based Transition Assistance (MBTA): Evaluating the promise of a web-based approach to promote veterans' support seeking. [I01HX003443-01]. 2022. Accessed December 7, 2023. [https://www.hsrd.research.va.gov/Research/abstracts.cfm?Project_ID=2141709047075-HSRStudy\(va.gov\)](https://www.hsrd.research.va.gov/Research/abstracts.cfm?Project_ID=2141709047075-HSRStudy(va.gov))