



REPORT/RECOVERY MEASURES

MARCH 28, 2018

Recovery Outcome Measures to Advance Recovery Oriented Systems of Care

Submitted to the Texas Mental Health Collaborative Fund (TMHCF)



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ACKNOWLEDGEMENT

We are grateful for the support of the Texas Mental Health Collaborative Fund (TMHCF) to prepare this report. The contents are solely the responsibility of the authors and do not necessarily represent the official views of the TMHCF.

Recommended Citation: Stevens Manser, S., Chubinsky, K., & Kuhn, W. (2018). Recovery Outcome Measures to Advance Recovery Oriented Systems of Care. Texas Institute for Excellence in Mental Health, School of Social Work, University of Texas at Austin.

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Background and Aims

A Definition of Recovery

While recovery has become the central aim for mental health policy in the United States and Texas, there has been less progress toward a recovery orientation in how mental health services are actually delivered or measured (Slade, 2010). Some of this lack of progress is attributed to the lag between disseminating research evidence into practice, but it is also due in part to the difficulty in measuring recovery, which has no single definition. Recovery is multidimensional, process-oriented, and considered an individually defined journey. Keeping with these facets, this report uses a working definition established by the Substance Abuse and Mental Health Services Administration (SAMHSA, 2012):

“Recovery is a process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential (SAMHSA, 2012).”

To operationalize this definition, SAMHSA (2012) describes four dimensions that support a life in recovery (health, home, purpose, and community) and defines 10 guiding principles that may be used to assess recovery at organizational and individual levels. The guiding principles are briefly described in Table 1, with full definitions offered in SAMHSA’s (2012) *Working Definition of Recovery*. Each of these require operationalization and measures of recovery should reflect these dimensions and principles as comprehensively as possible.

Table 1. 10 Guiding Principles of Recovery

Hope	Belief that recovery is real and a better future is possible, with hope being the catalyst of the recovery process.
Person-Driven	Self-determination and self-direction to define personal goals and paths toward recovery.
Many Paths	Recovery is non-linear. Individuals have distinct strengths, preferences, goals, culture, and life experiences that affect and determine their chosen pathways to recovery.
Holistic	Recovery encompasses whole life, including mind, body, spirit, and community.
Peer Support	Recovery is supported by peers through their mutuality and lived experiences.
Relational	The presence and involvement of people who believe in recovery, offer hope and support for strategies and resources that support recovery.
Culture	Services that are culturally grounded, congruent, and personalized support recovery.
Addresses Trauma	Trauma experiences are often precursors to or associated with mental health issues and services and supports should be trauma-informed.
Strengths/Responsibility	Individuals have personal strengths, resources, and personal responsibility for their recovery journeys and should be supported in speaking for themselves.
Respect	Community, system, and societal acceptance – including rights protection and discrimination elimination – are crucial to recovery. A positive and meaningful sense of identity and belief in one’s self are particularly important to recovery.

Why Measures of Recovery?

Although personal recovery has become the guiding vision and central aim for mental health policy in the United States, at the local level, there has been less progress toward a recovery orientation in mental health service delivery or measurement (Slade, 2010; Shanks, et al., 2013). Some of this may be attributed to the slow dissemination of evidence-based practice in general (IOM, 2001) as well as difficulty in measuring the individual-level outcomes of recovery (Slade, 2010). Additionally, although a shift to using contractual outcomes that are more recovery oriented is occurring - such as measuring employment in supported employment programs - there also remains a predominant focus on unidimensional measures such as service activity counts, or reduction in mental illness symptomatology as the criteria for success in the public mental health system. Recovery is multidimensional and efforts to assess this concept will require multidimensional measures.

Example: Consider a service-recipient who stops attending a group or individual therapy because they are newly employed, joined a book club, or signed up for a GED class. If the measure of this person's recovery is narrowly defined as services attended, the outcome that this person has engaged in their community in a meaningful way will be lost in the data. Further, the organization providing that person services will sell themselves short, failing to demonstrate the powerful outcomes of people being served.

Identifying established recovery measures will be useful to funders and organizations as the Texas Health and Human Services Commission (HHSC) implements a cross-agency behavioral health strategic plan for the state, requiring communities to identify private sources of funding to complement state funding for mental health services in matching grant programs (HHSC, 2017). Since it takes an average of 17 years for new research to make its way into routine practice (IOM, 2001), aligning evidence-based measures of recovery to programs and services can help speed the implementation of recovery oriented mental health policy in mental health systems and ensure ongoing development of a service system that is focused on and supports individual recovery.

Report Aims

The overall aim of this report is to identify and briefly describe measures that can be used to examine the recovery outcomes of individuals receiving services and organizational level measures of recovery orientation that support holistic recovery. The report describes:

- Why recovery measures are necessary to move systems to a recovery orientation;
- The methods used to review recovery measures at the individual and organizational level;
- Measures of recovery at the individual and organizational level; and,
- Recommendations for specific individual and organizational recovery measures.

Introduction

Beginning with the roadmap provided in *Mental Health: A Report of the Surgeon General (1999)* and moving to the President's New Freedom Commission on Mental Health, *Achieving the Promise: Transforming Mental Health Care in America (2003)*, it is now widely recognized that recovery from mental health challenges is possible. Recovery, however, is not synonymous with *cure* and is considered an ongoing process that enables individuals to become empowered to manage their illness and take control of their lives. Definitions of recovery do not imply that full functioning is restored nor that medication or other supports are no longer needed. Recovery instead refers to a process or journey that includes a wider, holistic perspective on the restoration of self-identify or personhood and on attaining personally meaningful and individually selected roles in society (Surgeon General's Report, 1999). Recovery is not simply an internal process, but also requires support from family, friends, peers with lived experience, and other stakeholders in the healthcare system, especially from mental health professionals and the supports that are provided through the public mental health system. Such a holistic and person-centered understanding of recovery is the starting point for selecting measures of recovery outcomes, as unaddressed mental health needs affect all aspects of an individual's life including their economic productivity, educational attainment, and their contribution to public health and safety in society (Hogg Foundation for Mental Health, 2016).

The vision of Texas' Statewide Behavioral Health Strategic Plan (HHSC, 2016) is to ensure that "Texas has a unified approach to the delivery of behavioral health services that allows all Texans to have access to care at the right time and place" with a mission to "develop a coordinated statewide approach to providing appropriate and cost effective behavioral health services to Texans." The plan includes several guiding principles, including that the system must "support recovery as an ever-evolving process where Texans with behavioral health challenges are empowered to take control of their lives" and that programs and services delivered in the system must be "person-centered with the strengths and the needs of the person determining the types of services and supports provided" (HHSC 2016). The state's strategic plan also states that the intent is for each objective to be measured for its effectiveness, however because it is a high level plan, it does not provide guidance on what those measures should be or if the measures are aligned with recovery. This report aims to fill that gap.

Effective recovery supports, interventions and evidence-based treatments are recognized as beneficial to the recovery process (Hogg, 2016) and measures to assess the contribution of these services to recovery have been developed or are emerging in the research literature. The last comprehensive reviews of recovery measures that presented both personal recovery and organizational recovery orientation were the *Compendium of Recovery Measures* prepared by the Human Service Research Institute in Cambridge, Massachusetts (HSRI, 2000 & 2005) and the *Review of Recovery Measures* published by the Australian Mental Health Outcomes and Classification Network (Burgess, et al., 2010).

Both include organizational and individual measures of recovery that have demonstrated some validity and reliability but in the years since their publication, new measures have been developed and psychometrics of some measures have been further studied.

New measures for recovery outcomes are emerging quickly and examining recovery outcomes have also begun taking into account the impact of social determinants of mental health such as adverse childhood events, poor education, unemployment/ underemployment, and housing instability to name a few (Compton & Shim, 2015). Researchers and policy makers are also proposing new approaches to service evaluation that consider the attainment of outcomes that include both objectively-valued social roles (employment, educational attainment, housing) and subjective-valued personal goals such as progress toward individually selected life goals (Slade, 2010). The time it takes for these new evaluation approaches to be implemented can be hastened by funders requiring their use.

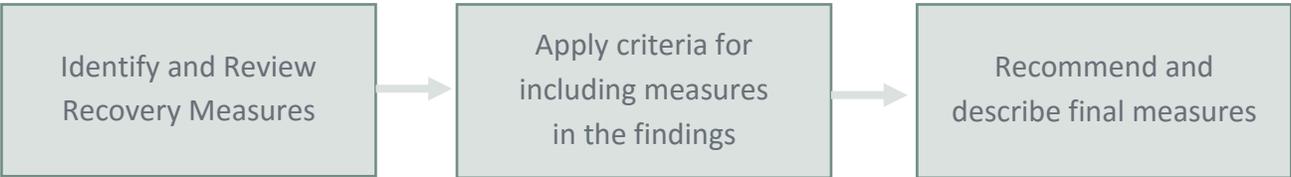
As quality and accountability become central to health care (Institute of Medicine, 2001), the need is increasingly recognized for measures to monitor and improve quality and foster accountability in the delivery of services designed to initiate, sustain and promote mental health recovery (Laudet, 2009). The intent of this report is to help meet that need by reviewing the status of and evidence for recovery measures to support systems that are recovery oriented.

Methods

1. Identifying Measures. Three search strategies were used to identify measures of recovery at the organizational and individual level. First, measures were identified in the two most comprehensive reviews of recovery measures (HRSI, 2000 & 2005; Burgess, et al., 2010). Second, UT-TIEMH researchers added additional measures based on their experience conducting recovery-focused research, evaluation, and literature reviews. Last, a search was completed using the University of Texas at Austin Libraries search engines to locate additional measures and to determine the use and evidence of all measures that had been identified.

The search engines used for the literature review were *EBSCO Academic Search Complete* and *Google Scholar*. *EBSCO* is a comprehensive scholarly, multi-disciplinary full-text database, with more than 8,500 full-text periodicals, including more than 7,300 peer-reviewed journals. In addition to full text, this database offers indexing and abstracts for more than 12,500 journals and a total of more than 13,200 publications including monographs, reports, conference proceedings, etc. *Google Scholar* offered through the university library system offered a way to broadly search for scholarly literature and to access these publications in full text. The Google search engine was used as a follow up method to locate reports or websites where instruments were housed. Search terms used were the specific measure names and abbreviations, [mental health] recovery measures, [mental health] recovery instruments, and [mental health] recovery outcomes.

Figure 1. Process used to identify, include, and recommend recovery measures



2. Criteria for including recovery measures in the report findings. After the initial search was complete, particular criteria were used to select measures that were included in the findings section of this report. The criteria and their descriptions are presented in Table 2. Instruments that had been included as measures of recovery in past reports and literature were excluded from this report if the instrument included a focus on symptom management, medication adherence, criminal justice involvement. These indicators are not recovery-oriented and are typically captured during other aspects of mental health assessment and treatment. In addition, individual recovery measures that relied on a clinician to administer or rate the individual receiving services were also excluded.

Table 2. Review Criteria for Measure Inclusion in the Findings

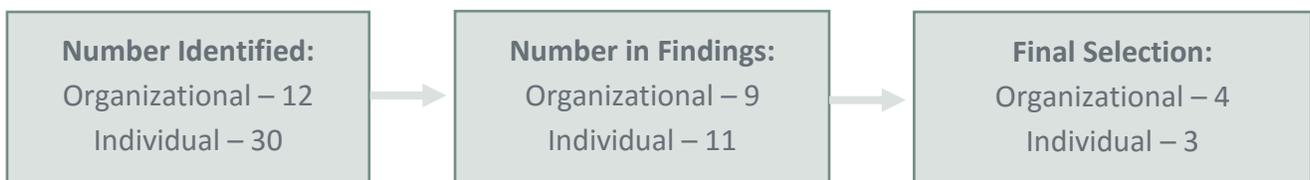
Inclusion Criteria	Description
Holistic Recovery	The measure includes items that covered a holistic view of the definition of recovery (SAMHSA, 2012) and did not focus on illness or symptom reduction.
Person-Centered	The measure includes a focus on self-determination and a view of the person receiving services as equal partners or drivers in planning, developing, and monitoring services to meet their identified needs.
Evidence	The measure was tested in a variety of settings or populations and is supported by scientific evidence to ensure reliability and validity.
Measures Change	The measure can be used to show change over time to the person in services and can be used for quality improvement within organizations and systems.
Accessible	The readability level was acceptable and the measure can be self-administered.

3. Criteria for the final selected measures. The final selected measures included in the recommendations section of this report represent variety in comprehensiveness (i.e., length and breadth of the measure) and focus of the measure (i.e., provider or organization recovery orientation; individual process of recovery or concept of recovery). These selected measures also met the following additional criteria: *the measure is non-proprietary and publicly available; could be self-administered; included the voice of people receiving services in its development; and, used more plain language than clinical terminology or jargon.* In addition, selective judgement of authors was used in the final selection based on their review and application of the criteria to the instruments, past evaluation and research on recovery, and experience using measures of recovery and reporting change over time to organizations.

Findings

The search strategies yielded 42 recovery measures for review, 12 organizational and 30 individual measures. After reviewing these measures with the criteria described in Table 2, 26 recovery measures (9 organizational and 11 individual) were included and described in the findings of this report (Tables 3 and 4). The authors intentions are not to disregard the measures reviewed but not included or recommended in this report, rather, the intent is to present a more parsimonious list of measures that have been reviewed and meet the specific criteria that are described in the methods section.

Figure 2. Recovery measures identified in the report process



Tables (3 and 4) in the findings provide information about the measures including: names and descriptions; whether it is proprietary or non-proprietary; a link to the measure; authors and versions available; psychometric information (i.e., reliability and validity) with most recent references; and the number of citations found in our search which may indicate uptake and use of the measure in the field. The recovery measures are presented in two tables, Table 3. Organizational Recovery Measures and Table 4. Individual Recovery Measures. The measures are listed in alphabetical order in each table.

Of the organizational recovery measures included, the AACP-ROSE, the ROSI, the RSA and ROSA-15 can be completed by providers and people receiving services. The RBPI is completed by staff at the organization while the RPRS is completed by people receiving services with a specific provider in mind. The REE or DREEM is completed by the person receiving services and includes scales that measure organizational as well as individual recovery. Finally, the RPFS and the ROPI are completed by independent assessors.

Of the individual recovery measures, the ARAS, RAFRS, STORI, and PAM-MH are more recovery process oriented. The RAQ and ARAS compare attitudes toward recovery across respondents. The ARC, MARS, MHRM, RAS, and RPI are measures of individual recovery.

Similar to other research (Burgess, 2010; Davidson, 2016), we recommend using both organizational and individual measures of recovery. It is difficult to assess an individual’s progress in their recovery if the organization in which they receive services is not oriented toward supporting that recovery journey.

Organizational Recovery Measures

Table 3. Organizational Recovery Measures

Measure	Description	Authors/Versions	Psychometrics	Search Results
<p>American Association of Community Psychiatrists Recovery Oriented Services Evaluation (AACP-ROSE)</p> <p>Non-proprietary</p> <p>See Appendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Designed as a quality improvement tool to enable organizations to assess progress toward promoting recovery.</p> <p>Includes 46 items, covering four domains: Administration, Treatment, Supports, and Organizational Culture.</p> <p>Scored with a 5-point Likert agreement scale. Yields a total score and four domain scores.</p>	<p>American Association of Community Psychiatrists, 2010.</p> <p>One instrument.</p> <p>Can be completed by person in recovery (people receiving services), administrators, family members, and clinicians.</p>	<p>No published psychometrics found in search.</p> <p>The Human Service Research Institute (HSRI). (September 2005). Measuring the Promise: A Compendium of Recovery Measures, Volume II. The Evaluation Center @ HSRI.</p>	<p>EBSCO – 0</p> <p>Google Scholar – 23</p>
<p>Recovery Based Program Inventory (RBPI)</p> <p>Non-proprietary</p> <p>http://mhavillage.squarespace.com/section6/2011/12/6/a-recovery-based-program-inventory-2004.html</p>	<p>Assesses the recovery orientation of the mental health system.</p> <p>Includes a list of 148 qualitative items to assess the following domains: Recovery Beliefs and Implementation; Recovery Relationship and Leadership; recovery culture; and recovery treatment.</p>	<p>Ragins, M., 2004</p> <p>One instrument completed by staff at the organization.</p>	<p>No published psychometrics found in search.</p> <p>Burgess, P., Pirkis, J., Coombs, T. & Rosen, A. (February 2010). Review of Recovery Measures, Version 1.01. Australian Mental Health Outcomes and Classification Network, an Australian Government Funded Initiative.</p>	<p>EBSCO – 0</p> <p>Google Scholar – 12</p>

Table 3. Organizational Recovery Measures

Measure	Description	Authors/Versions	Psychometrics	Search Results
<p>Recovery Enhancing Environment Measure/Developing Recovery Enhancing Environment Measure (REE/DREEM)</p> <p>Proprietary</p> <p>See Appendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Developed as a tool for organizations to use in strategic planning and organizational change processes to ensure a recovery focus.</p> <p>Includes 166 items but individuals respond to up to 20 fewer items if there are questions in the special needs section that do not apply. Gathers information across eight domains: demographics, stage of recovery, importance ratings on elements of recovery, program performance indicators, special needs, organizational climate, recovery markers, and consumer feedback.</p> <p>Response formats vary across domains, and include closed-ended questions, Likert scales and open-ended questions.</p>	<p>Ridgway, P., 2004</p> <p>One instrument completed by people receiving services.</p> <p>Measures both organizational (4 subscales) and individual recovery (3 subscales: stage of recovery, recovery markers, and special needs).</p>	<p>Face validity.</p> <p>Internal Consistency (Cronbach's alpha for 24 subscales ranged from .72 to .87, Cronbach's alpha for 72 performance indicators was .94 overall).</p> <p>The Human Service Research Institute (HSRI). (September 2005). Measuring the Promise: A Compendium of Recovery Measures, Volume II. The Evaluation Center @ HSRI.</p>	<p>EBSCO – 7</p> <p>Google Scholar – 81</p>
<p>Recovery Promoting Relationships Scale (RPRS)</p> <p>Non-proprietary but seeking author permission is encouraged. A manual with scoring guidance is provided at link below.</p> <p>https://escholarship.umassmed.edu/psych_cmhsr/460/</p>	<p>Measures components of mental health service providers' recovery-promoting professional competencies.</p> <p>24 items assess 2 major indices and three subscales. Each item is rated on a 5-point Likert scale.</p> <p>Provides a total score, scores for two major indices (core relationship and recovery-promoting strategies), and three subscales (Hopefulness, Empowerment, and Self-Acceptance). Guidelines for handling missing data are included.</p>	<p>Russinova Z., Rogers E.S., Ellison, M.L., 2006</p> <p>One instrument completed with a specific mental health service provider in mind.</p>	<p>Internal consistency (.98, .98 and .95 respectively for the total scale and two indices), good test-retest reliability (inter-class correlation coefficients of 0.72, 0.72 and 0.75 for the total scale and two indices). Internal consistency coefficients were .95 for the Hope Subscale, 0.93 for the Empowerment Subscale, and 0.89 for the Self-Acceptance Subscale. Intra-class correlation coefficients for the test-retest reliability of the three subscales were .69 for the Hope Subscale, .72 for the Empowerment Subscale, and .61 for the Acceptance Subscale.</p>	<p>EBSCO – 6</p> <p>Google Scholar – 44</p>

Table 3. Organizational Recovery Measures

Measure	Description	Authors/Versions	Psychometrics	Search Results
<p>Recovery Promotion Fidelity Scale (RPFS)</p> <p>Non-proprietary with protocol available from the authors upon request.</p> <p>See Appendix 17: https://www.mentalhealth.va.gov/communityproviders/docs/review_recovery_measures.pdf</p>	<p>Evaluates the extent to which public mental health services incorporate recovery principles into their practice.</p> <p>12 items assess five domains: collaboration; participation and acceptance; self-determination and peer support; quality improvement; and development. Each item garners 1 to 5 points depending on response choice, with some items including bonus points.</p> <p>Scores can range from 0 to 52, indicating the degree to which recovery principles are implemented in a mental health agency’s services and practices. The scoring system is: 37–52 = fully implemented, 25–36 = moderately implemented, 13–24 = slightly implemented, and 0–12 = not implemented.</p>	<p>Armstrong NP & Steffen JJ, 2009</p> <p>One instrument that guides on-site fidelity assessments. Designed to be administered by trained assessors using multiple data collection methods. A protocol has been developed and is available upon request from the authors.</p>	<p>Face and content validity.</p> <p>Armstrong, N. P., & Steffen, J. J. (2009). The recovery promotion fidelity scale: Assessing the organizational promotion of recovery. <i>Community Mental Health Journal</i>, 45(3), 163-170. 10.1007/s10597-008-9176-1</p>	<p>EBSCO – 6 Google Scholar – 48</p>
<p>Recovery Oriented Practices Index (ROPI)</p> <p>Unknown if non-proprietary but instrument is available in the public domain.</p> <p>See Appendix 16: https://www.mentalhealth.va.gov/communityproviders/docs/review_recovery_measures.pdf</p>	<p>Measures practice in relation to recovery-promoting values.</p> <p>20 items assess eight domains: meeting basic needs; comprehensive services; customization and choice; consumer involvement/participation; network supports/community integration; strengths-based approach; client source of control/self-determination; and recovery focus.</p> <p>Each item is rated on a 5-point behaviorally anchored scale where points are a guide for scoring a program on the principle represented in each item.</p>	<p>Mancini AD & Finnerty MT, 2005</p> <p>Scoring is completed after conducting interviews with managers, practitioners, service users and carers, and carrying out a document review. Can be carried out by one assessor but best conducted by at least two. Feedback is then given with suggestions on any issues identified by the process.</p>	<p>No published psychometrics found in search.</p>	<p>EBSCO – 4 Google Scholar – 49</p>

Table 3. Organizational Recovery Measures

Measure	Description	Authors/Versions	Psychometrics	Search Results
<p>Recovery Oriented Systems Indicators Measure (ROSI)</p> <p>Non-proprietary</p> <p>See Appendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Designed to assess the recovery orientation of a mental health system and examine factors which assist and hinder recovery.</p> <p>Includes two data sources: The Adult Consumer Self-Report Survey (42 items) examines the following domains: person-centered decision-making and choice; invalidated personhood; self-care and wellness; basic life resources; meaningful activities and roles; peer advocacy; staff treatment and knowledge; and, access.</p> <p>The Administrative Data Profile (23 items) profiles the following areas: peer support; choice; staffing ratios; system culture and orientation; consumer inclusion in governance; and coercion.</p> <p>The measure uses a combination of response formats, including closed-ended items, Likert scales, and open-ended questions.</p>	<p>Dumont, J., Ridgway, P., Onken, S., Dornan, D., & Ralph, R., 2005</p> <p>One version with two data sources and four parts. Part 1 is a process form on ROSI data collection, part 2 is completed by the adult receiving services, parts 3 and 4 are an administrative review of the authority and provider characteristics.</p>	<p>Face validity. Internal consistency available for the prototype test (.95).</p> <p>The Human Service Research Institute (HSRI). (September 2005). Measuring the Promise: A Compendium of Recovery Measures, Volume II. The Evaluation Center @ HSRI.</p>	<p>EBSCO – 73</p> <p>Google Scholar – 50</p>
<p>Recovery Self-Assessment (RSA)</p> <p>Non-proprietary with instruments and scoring guidance at link below.</p> <p>https://medicine.yale.edu/psychiatry/prch/tools/rec_selfassessment.aspx</p>	<p>Designed to measure the extent to which recovery-supporting practices are evident in mental health services.</p> <p>36 items assess five domains: life goals; involvement; diversity of treatment options; choice; and individually-tailored services.</p> <p>Each item is rated on a 5-point Likert agreement scale to provide a total score and five domain scores.</p>	<p>O'Connell, M., Tondora, J., Croog, G., Evans, A., & Davidson, L., 2005</p> <p>Four versions: consumer (person in recovery); family members; significant others or advocates; providers; and CEO/Agency Director.</p> <p>The RSA-R is a 32-item version of the original.</p>	<p>Face validity. Internal Consistency (Cronbach's alpha for 5 domains ranged from .76 to .9).</p>	<p>EBSCO – 80</p> <p>Google Scholar – 214</p>

Table 3. Organizational Recovery Measures

Measure	Description	Authors/Versions	Psychometrics	Search Results
<p>Recovery Self-Assessment - Brief (RSA-B)</p> <p>Non-proprietary</p> <p>https://www.researchgate.net/publication/278330600_Validation_of_the_Brief_Version_of_the_Recovery_Self-Assessment_RSA-B_Using_Rasch_Measurement_Theory</p>	<p>Like the original RSA and RSA-R, The RSA-B measures the extent to which recovery-supporting practices are evident in mental health services.</p> <p>12-items rated on a 5-point Likert agreement scale.</p> <p>The RSA-B was developed in response to concerns that the original RSA was too lengthy to complete and required a level of reading that may be challenging for some to complete.</p>	<p>Barbic, S., Kidd, S., Davidson, L., McKenzie, K., & O'Connell, M., 2015</p> <p>One version for person in recovery.</p>	<p>Internal consistency (Cronbach's alpha is .86). Rasch model: adequate fit was observed ($\chi^2 = 112.46$, $df = 90$, $p = .06$). However, Rasch analysis revealed limitations: some items covering only 39% of the targeted theoretical continuum, 2 misfitting items, strong evidence for 5 option response categories not working as intended.</p> <p>Barbic, S., Kidd, S., Davidson, L., McKenzie, K., & O'Connell, M. (2015). Validation of the brief version of the recovery self-assessment (RSA-B) using Rasch measurement theory, <i>Psychiatric Rehabilitation Journal</i>, 38, 349 – 358.</p>	<p>See above.</p>
<p>ROSA-15</p> <p>Non-proprietary</p> <p>http://sites.utexas.edu/mental-health-institute/files/2017/10/CPS-2017-REPORT_updated.pdf, see page 93</p>	<p>Adapted from the original RSA. Measures the extent to which services and practices at an organization are recovery oriented.</p> <p>The ROSA was developed in collaboration with peer providers.</p> <p>15-items rated on a 5-point frequency scale.</p>	<p>Lodge, A., Kuhn, W., Earley, J., & Stevens Manser, S., 2018</p> <p>Two versions: staff and person in services.</p>	<p>Inter-item reliability alpha = .97, split-half reliability alpha = .94 for part 1 and .951 for part 2, correlation between forms = .921, Spearman-Brown coefficient = .959, and Guttman Split-half coefficient = .959</p> <p>Lodge, A., Kuhn, W., Earley, J., & Stevens Manser, S. (2018). Initial Development of the Recovery-Oriented Services Assessment: A Collaboration with Peer Provider Consultants. <i>Psychiatric Rehabilitation Journal</i>, in press.</p>	<p>In press.</p>

Individual Recovery Measures

Table 4. Individual Recovery Measures

Measure Name	Description	Authors/Versions	Psychometrics	Search Results
<p>Agreement with Recovery Attitudes Scale (ARAS)</p> <p>Unknown if non-proprietary</p> <p>See Apendix B: https://www.hsri.org/files/uploads/publications/PN-43_A_Compendium_of_Recovery.pdf</p>	<p>Assesses change in attitudes with respect to movement toward a recovery process.</p> <p>22 items rated on a 5-point Likert scale.</p>	<p>Murnen, S.K. & Smolak, L., 1996</p> <p>One version</p>	<p>Internal consistency alpha = .87 for the 22-item scale.</p> <p>The Human Service Research Institute (HSRI). (June 2000). Measuring the Promise: A Compendium of Recovery Measures, Volume I. The Evaluation Center @ HSRI.</p>	<p>EBSCO – 1</p> <p>Google Scholar – 11</p>
<p>Assessment of Recovery Capital Scale (ARC)</p> <p>Non-proprietary</p> <p>http://www.williamwhitepapers.com/pr/2013%20Assessment%20of%20Recovery%20Capital%20Scale.pdf</p>	<p>Assesses recovery strengths.</p> <p>50 item scale with 10 subscales of five items each. Subscales cover a broad range of domains that are critical to recovery at successive stages of the process and is applicable to ‘recovery paths’ including, but not limited to treatment.</p> <p>A total score and subscale scores are calculated and can be used to assess change over time.</p>	<p>Groshkova, T, Best, D. & White, W., 2013</p> <p>One version</p>	<p>Intraclass correlation coefficient = .61 (ranged from .50 to .72 for domains).</p> <p>Groshkova, T., Best, D., & White, W. (2013). The assessment of recovery capital: Properties and psychometrics of a measure of addiction recovery strengths. <i>Drug and Alcohol Review</i>, 32(2), 187-194.</p>	<p>EBSCO – 29</p> <p>Google Scholar – 89</p>
<p>Maryland Assessment of Recovery (MARS)</p> <p>Non-proprietary but author permission requested</p> <p>https://www.providerexpress.com/content/dam/ope-provexpr/us/pdfs/clinResourcesMain/rrToolkit/rrMARS.pdf</p>	<p>Measures recovery of people living with serious mental illness.</p> <p>25-items represent recovery domains outlined by SAMSHA and include: self-direction or empowerment, holistic, nonlinear, strengths based, responsibility, and hope.</p> <p>Each item is rated on a 5-point Likert scale ranging from 1=strongly disagree to 5=strongly agree.</p>	<p>Drapalski, A. L., Medoff, D., Unick, G. J., Velligan, D. I., Dixon, L. B., & Bellack, A. S., 2016</p> <p>One version.</p>	<p>Internal consistency (chronbach's alpha = .96). Test-retest reliability interclass correlation = .84.</p> <p>Drapalski, A. L., Medoff, D., Dixon, L., & Bellack, A. (2016). The reliability and validity of the Maryland Assessment of Recovery in Serious Mental Illness Scale. <i>Psychiatry research</i>, 239, 259-264.</p>	<p>EBSCO – 5</p> <p>Google Scholar – 64</p>

Table 4. Individual Recovery Measures

Measure Name	Description	Authors/Versions	Psychometrics	Search Results
<p>Mental Health and Recovery Measure (MHRM)</p> <p>Non-proprietary. Author citation and contact information should be retained on the form. Users are encouraged to contact the author for further information on scoring and normative data.</p> <p>See Appendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Assesses the recovery process for people with psychiatric disabilities.</p> <p>41 items assess seven domains: overcoming stuckness; self-empowerment; learning and self-redefinition; basic functioning; overall well-being; new potentials; and advocacy/enrichment.</p> <p>Each item is rated on a 5-point Likert scale of strongly disagree to strongly agree. A total score and subscale scores are calculated.</p>	<p>Young, S. & Bullock, W., 2003</p> <p>One version</p>	<p>High internal consistency (alpha = .91). Cronbach Alphas for the subscales ranged from .55 - .83. Cronbach's alpha = .95.</p> <p>The Human Service Research Institute (HSRI). (June 2000). <i>Measuring the Promise: A Compendium of Recovery Measures, Volume I. The Evaluation Center @ HSRI.</i></p> <p>Chang, Y. C., Ailey, S. H., Heller, T., & Chen, M. D. (2013). Rasch analysis of the mental health recovery measure. <i>American Journal of Occupational Therapy, 67(4), 469-477.</i></p>	<p>EBSCO – 86 Google Scholar – 236</p>
<p>Patient Activation Measure--Mental Health (PAM-MH)</p> <p>Non-proprietary</p> <p>https://link.springer.com/content/pdf/10.1007%2Fs10488-009-0239-6.pdf</p>	<p>Adapted the original 13-item PAM to specifically assess mental-health-related activation.</p> <p>An interval-level, unidimensional measure that contains items measuring self-assessed knowledge about condition, beliefs about illness and care, and self-efficacy for self-care.</p> <p>Items are rated on a Likert scale where 1=strongly disagree to 4=strongly agree with an additional “not applicable” response option.</p>	<p>Green, C. A., Perrin, N. A., Polen, M. R., Leo, M. C., Hibbard, J. H., & Tusler, M., 2010</p> <p>One version</p>	<p>Rasch analysis. Person-item reliability is .84. Item reliability is .97. Test-retest reliability is .74. (Pearson's r).</p> <p>Green, C. A., Perrin, N. A., Polen, M. R., Leo, M. C., Hibbard, J. H., & Tusler, M. (2010). Development of the Patient Activation Measure for mental health. <i>Administration and Policy in Mental Health and Mental Health Services Research, 37(4), 327-333.</i></p>	<p>EBSCO – 4 Google Scholar – 50</p>

Table 4. Individual Recovery Measures

Measure Name	Description	Authors/Versions	Psychometrics	Search Results
<p>Relationships and Activities that Facilitate Recovery (RAFRS)</p> <p>Non-proprietary</p> <p>See Appendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Identifies the influences that individuals consider most significant in their recovery process.</p> <p>Assesses two domains related to recovery: relationships and activities. 18 items rated on a 4-point Likert scale. In addition, it contains two additional open-ended items.</p>	<p>Leavy, R., McGuire, A., Rhoades, C., McCool, R., 2002</p> <p>One version</p>	<p>No published psychometrics found in search.</p> <p>The Human Service Research Institute (HSRI). (September 2005). Measuring the Promise: A Compendium of Recovery Measures, Volume II. The Evaluation Center @ HSRI.</p>	<p>EBSCO – 1 Google Scholar – 9</p>
<p>Recovery Attitudes Questionnaire (RAQ)</p> <p>Non-proprietary</p> <p>http://www.camh.ca/en/hospital/Documents/www.camh.net/Care_Treatment/Resources_clients_families_friends/Family_Guide_CD/pdf/Activity_115_Recovery_attitudes_questionnaire.pdf</p>	<p>Designed to compare attitudes about recovery across different groups, particularly consumers, providers, family members, and members of the general community</p> <p>Items in all versions are rated on a 5-point Likert scale resulting in two factors: recovery is possible and needs faith; and, recovery is difficult and differs among people.</p>	<p>Borkin, J. R., Steffen, J. J., Ensfield, L. B., Krzton, K., Wishnick, H., Wilder, K., & Yangarber, N., 2000</p> <p>Self-administered by consumers, providers, family and carers, and members of the general community.</p> <p>Three versions of varying length: RAQ-7, RAQ-16, and the RAQ-21.</p>	<p>Internal consistency for RAQ-21 alpha = .838 RAQ-7 alpha = .704 RAQ-7 test-retest reliability is .674</p> <p>Jaeger, M., Konrad, A., Rueegg, S., & Rabenschlag, F. (2013). Measuring recovery: Validity of the “Recovery Process Inventory” and the “Recovery Attitudes Questionnaire”. Psychiatry research, 210(1), 363-367.</p>	<p>EBSCO – 44 Google Scholar – 160</p>
<p>Recovery Assessment Scale (RAS)</p> <p>Non-proprietary</p> <p>See Appendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Designed to assess various aspects of recovery from the perspective of the consumer, with a particular emphasis on hope and self-determination.</p> <p>An original 41-item and new 24-item instrument assess five domains: personal confidence and hope; willingness to ask for help; goal and success orientation; reliance on others; and no domination by symptoms. Each item is rated on a 5-point Likert scale.</p>	<p>Giffort, D, Schmook, A., Woody, C., Vollendorf, C., & Gervain, M., 1995</p> <p>Hancock, N., Scanlan, J. N., Honey, A., Bundy, A. C., & O’Shea, K., 2015</p> <p>Two versions. An original 41-item and new 24-item instrument.</p>	<p>Internal Consistency (Cronbach's alpha = .93), Test-Retest Pearson Product Moment Correlation = .88, Relationship to established measures, Regression on 5 RAS factors ranged from .52 to .83</p> <p>Point-measure correlations for all items were positive, ranged from .42 to .70. Participant and item reliability indices were .93 and .98, respectively. Cronbach's alpha = .96.</p>	<p>EBSCO – 320 Google Scholar – 749</p>

Table 4. Individual Recovery Measures

Measure Name	Description	Authors/Versions	Psychometrics	Search Results
			Hancock, N., Scanlan, J. N., Honey, A., Bundy, A. C., & O’Shea, K. (2015). Recovery assessment scale—domains and stages (RAS-DS): its feasibility and outcome measurement capacity. <i>Australian & New Zealand Journal of Psychiatry</i> , 49(7), 624-633.	
<p>Recovery Measurement Tool Version 4.0 (RMT)</p> <p>Non-proprietary</p> <p>See Apendix D: https://www.hsri.org/files/uploads/publications/pn-55.pdf</p>	<p>Measures recovery from the perspective of individuals and based on a model of recovery that incorporates elements such as stages and external influences.</p> <p>91 items rated on a 5-point Likert scale, with an additional not-applicable response option. Scales ranges from “not at all like me” to “very much like me.” Domains and scoring have not been established.</p>	<p>Ralph, R.O., 2003</p> <p>One version</p>	<p>Based on Rasch analysis, only 2 of 8 domains had good person-item reliability: Social Support and Social Relations.</p> <p>Olmos-Gallo, P. A., DeRoche, K., & Richey, C. (2010, May). The Recovery Measurement Tool: Preliminary Analysis of an Instrument to Measure Recovery. Retrieved from https://mhcd.org/resources/recovery-measurement-tool-preliminary-analysis-instrument-measure-recovery/</p>	<p>EBSCO – 1</p> <p>Google Scholar – 35</p>
<p>Recovery Process Inventory (RPI)</p> <p>Unknown if non-proprietary</p> <p>See Apendix 6: https://www.mentalhealth.va.gov/communityproviders/docs/review_recovery_measures.pdf</p>	<p>Measures domains of recovery from the person in service’s perspective.</p> <p>A 22 item scale measures these domains of recovery: anguish; connectedness to others; confidence/purpose; others care/help; living situation; and hopeful/cares for self. Each item is rated on a 5-point Likert scale.</p>	<p>Jerrell JM, Cousins VC, Roberts KM, 2006</p> <p>One version</p>	<p>Internal consistency (alpha = 0.71-0.81) Good concurrent validity Fair-to-moderate test-retest reliability over 2-4 week period (r=.36-.63)</p> <p>Cronbach's alpha =.84.</p> <p>Jaeger, M., Konrad, A., Rueegg, S., & Rabenschlag, F. (2013). Measuring recovery: Validity of the “Recovery Process Inventory” and the “Recovery Attitudes Questionnaire”. <i>Psychiatry research</i>, 210(1), 363-367.</p>	<p>EBSCO – 28</p> <p>Google Scholar – 90</p>

Table 4. Individual Recovery Measures

Measure Name	Description	Authors/Versions	Psychometrics	Search Results
<p>Stages of Recovery Instrument (STORI)</p> <p>Non-proprietary</p> <p>See Appendix 5: https://www.mentalhealth.va.gov/communityproviders/docs/review_recovery_measures.pdf</p>	<p>Assesses stages of recovery from the consumer’s perspective.</p> <p>50 items assess stages of recovery including: moratorium (a time of withdrawal characterized by a profound sense of loss and hopelessness); awareness (realization that all is not lost, and that a fulfilling life is possible); preparation (taking stock of strengths and weaknesses regarding recovery, and starting to work on developing recovery skills); rebuilding (actively working towards a positive identity, setting meaningful goals and taking control of one’s life); and, growth (living a full and meaningful life, characterized by self-management of illness, resilience and a positive sense of self).</p> <p>Each item is rated on a 6-point Likert scale.</p>	<p>Andresen R, Caputi P, & Oades L., 2006</p> <p>One version</p>	<p>Internal Consistency (alpha = .88-.94), however items do not discriminate enough between stages of recovery (3 clusters identified, as opposed to the expected 5). Good concurrent validity.</p> <p>Cronbach's alpha for subscales between .81 and .87.</p> <p>Weeks, G., Slade, M., & Hayward, M. (2011). A UK validation of the Stages of Recovery Instrument. <i>International Journal of Social Psychiatry</i>, 57(5), 446-454.</p>	<p>EBSCO – 48</p> <p>Google Scholar – 312</p>

Discussion and Recommendations

A recovery orientation requires that systems, organizations, clinicians, other providers, and individuals in services think about mental health in new ways, expanding beyond a clinical or symptom focus and partnering with individuals receiving services in what supports their recovery. A primary way that recovery oriented systems can be advanced is by using recovery measures to determine outcomes and to guide ongoing quality improvement efforts. The use of recovery measures is growing yet all of these measures would benefit from further study and validation which can only occur if they are more widely used and tested in mental health settings and in other settings where mental health services are provided.

Although the evidence for recovery measures has increased, similar to other study findings, all of the measures presented in this report need additional psychometric evaluation (Shanks, et al., 2013; Burgess, et al., 2010; HSRI, 2005). This requires further use and study of the measures and utilizing researchers to assist with these studies and to provide useful ongoing data to organizations. Despite the need for further study, the recovery measures presented in the report have demonstrated evidence, and in the future should be used within health systems that provide mental health services and eventually included in electronic health record systems.

Based on our review and using the criteria described in the methods, we selected four final organizational (Table 5) and three final individual (Table 6) recovery measures – all of which are non-proprietary, available publicly, have good published psychometrics, can be self-administered, use less clinical language or jargon, and have a publication record. These measures represent the definition of recovery well and each measure has a specific focus (e.g., organization, provider, comprehensive) that is described in the tables below. Links to these measures (as well as the other measures) are provided in the report findings and in the references.

Selected Organizational Recovery Measures. The RSA, ROSA, ROSI, and RPRS were selected because they met the criteria described in the methods and varied in scope, representing different perspectives of organizational recovery depending on the goals of the project. The RSA and ROSA focus on multiple stakeholder viewpoints of the organization’s recovery practices and vary in survey length. The ROSI includes both person in services and administrative components. The PRPS assesses the recovery promoting competencies of specific providers.

Table 5. Selected organizational recovery measures

Measure	Why Recommended
Recovery Self Assessment (RSA)	The original 36-item RSA has been widely used in a variety of settings and has demonstrated good, published psychometrics. It uses a 5-point Likert agreement scale to assess if recovery oriented practices are provided by the organization. There are RSA versions for the provider, person in recovery, CEO/Director, and family members. It is non-proprietary and available on the Yale website, along with syntax and scoring information. A format for sharing the results with organizations is provided in the book <i>“A practical guide to recovery-oriented practice: Tools for transforming mental health care “</i> where the initial psychometrics are also available. In addition to the original 36-item RSA, a 32-item RSA-revised and a 12-item RSA-Brief are available.
Recovery Oriented Services Assessment (ROSA)	The ROSA is non-proprietary, publicly available, and based on the original RSA. It was developed with peer specialists and can be completed by agency staff and people receiving services. It is a 15-item, one-factor measure that uses a 5-point Likert frequency of occurrence scale to assess recovery-oriented practice in organizations. Change in items over time can be provided in a dashboard or graphic format. Initial psychometrics are available but additional testing is needed.
Recovery Oriented Systems Indicator (ROSI)	The ROSI assesses the recovery orientation of a mental health system and consists of two parts. Part one is the adult consumer self-report, a 42-item survey completed by individuals receiving services. Part two is the 23-item administrative data profile that is completed with the organizations staff and requires data about the system to provide responses. This is a more complicated measure to complete but offers a comprehensive view of the organization’s recovery orientation. The ROSI has originally published psychometrics but no other studies with updated psychometrics were found in the search. It is non-proprietary and in the public domain.
Recovery Promoting Relationships Scale (RPRS)	The RPRS assesses provider recovery promoting competencies. It contains 24 items rated on a 5-point Likert scale and is completed by the person receiving services with a specific provider in mind. In the instructions, responders are asked to think about their relationship with a specific provider. The RPRS is non-proprietary and the University of Massachusetts provides an online manual with scoring and instructions for handling missing data. This measure might be more useful for evaluating specific providers or programs, but responses could be examined across providers to assess the recovery promotion of an organization as a whole.

Selected Individual Recovery Measures. The RAS, MARS, and PAM-MH were similarly selected because they met the criteria described in the methods and varied in scope, can be self-administered and represent different perspectives of individual recovery depending on the goals of the project. The RAS is the most cited individual recovery measure in the literature (according to our search), represents recovery holistically, but does include a subscale on symptom relationship with recovery. The MARS is

brief and was developed specifically using the SAMHSA recovery principles. The PAM-MH is recovery process oriented and can be used to determine changes in activation over time.

Table 6. Selected individual recovery measures

Measure	Why Recommended
Recovery Assessment Scale (RAS)	The RAS is non-proprietary and designed to assess various aspects of recovery from the perspective of the person in services, with a particular emphasis on hope and self-determination. There are two versions, an original 41-item and new 24-item instrument. The measure can be self-administered by the individual receiving services. Each item is rated on a 5-point Likert agreement scale to provide an overall score and subscale scores (personal confidence and hope; willingness to ask for help; goal and success orientation; reliance on others; and no domination by symptoms). These can be assessed over time. The RAS has been widely used and published.
Maryland Assessment of Recovery (MARS)	The MARS was developed using the SAMHSA (2012) guiding principles of recovery (self-direction or empowerment, holistic, nonlinear, strengths based, responsibility, and hope) and is used to measure the recovery of people living with serious mental illness. It is non-propriety and in the public domain but permission from the authors for use is requested. It is a single factor measure with initial published psychometrics but further study is needed since it is such a new measure and has less published evidence. It contains 25-items rated on a 5-point Likert agreement scale and is self-administered by the person receiving services. A total score or individual item scores can be used for assessing recovery over time.
Patient Activation Measure (PAM-MH)	The PAM-MH was developed from the original patient activation measure for physical health. Items are self-administered and ask about the mental health self-care knowledge, beliefs, and self-efficacy of the person receiving services. This measure does not assess recovery per the recovery principles but activation for mental health self-care. Activation has been found to be related to hope and recovery (Green, et al., 2010) and the PAM-MH was strongly related to scores on the RAS. The PAM-MH is non-proprietary and in the public domain. It contains 13-items rated on a 4-point agreement scale with an additional not applicable rating included on the scale. A total score and subscale scores can be used to assess change in mental health activation over time.

It is apparent in the number of measures and in the continued psychometric evaluation of these measures that the development of organizational and individual measures is advancing. Despite this, recovery measures are still not regularly included as outcomes of mental health services. As quality and accountability become central to health care (Institute of Medicine, 2001), there is a recognized need for measures to monitor and improve quality and foster accountability in the delivery of services designed to initiate, sustain and promote mental health recovery (Laudet, 2009). The time it takes for these new evaluation approaches to be implemented can be hastened by funders requiring their use and examining their results. We hope this report will be useful in identifying measures that can be used by funders to assess and advance recovery-oriented systems of care and the holistic recovery of people receiving mental health services.

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The literature cited in the report are presented first. These references are followed by specific citations that contain psychometrics for each recovery measure that is included in the report.

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