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Psychiatry & Behavioral Sciences

The Evidence Base for Measurement-Based Care

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And

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VA Puget Sound Health Care System

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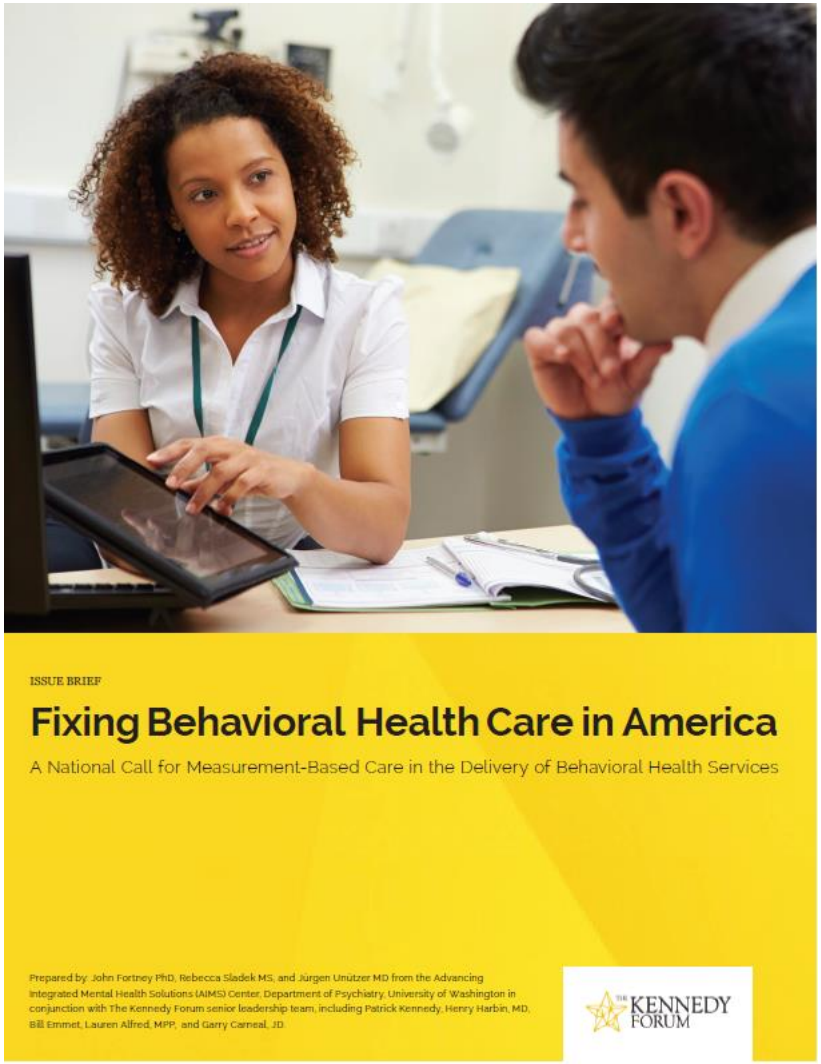
- Funding was provided by **The Kennedy Forum**.

- Thanks to experts assembled by The Kennedy Forum at a focus group in Washington DC, March 2-3, 2015.



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A Tipping Point for Measurement-Based Care

John C. Fortney, Ph.D., Jürgen Unützer, M.D., M.P.H., Glenda Wrenn, M.D., M.S.H.P., Jeffrey M. Pyne, M.D., G. Richard Smith, M.D., Michael Schoenbaum, Ph.D., Henry T. Harbin, M.D.

Objective: Measurement-based care involves the systematic administration of symptom rating scales and use of the results to drive clinical decision making at the level of the individual patient. This literature review examined the theoretical and empirical support for measurement-based care.

Methods: Articles were identified through search strategies in PubMed and Google Scholar. Additional citations in the references of retrieved articles were identified, and experts assembled for a focus group conducted by the Kennedy Forum were consulted.

screening, assessing symptoms infrequently, and feeding back outcomes to providers outside the context of the clinical encounter. In addition to the empirical evidence about efficacy, there is mounting evidence from large-scale pragmatic trials and clinical demonstration projects that measurement-based care is feasible to implement on a large scale and is highly acceptable to patients and providers.

Conclusions: In addition to the primary gains of measurement-based care for individual patients, there are also potential secondary and tertiary gains to be made when individual patient data are aggregated. Specifically, aggregated symp-

Psychiatric Services. 68(2):179-188, 2017

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Background

- **Definition** – Measurement Based Care *entails the systematic administration of symptom rating scales and uses the results to drive clinical decision making at the level of the individual patient*
  - Not intended to be a substitute for clinical judgment
  - Used as a starting point in the clinical evaluation
- Maximize the likelihood that nonresponse to treatment is detected by the provider
  - Mental health providers detect deterioration for only 21.4% of their patients who experience increased symptom severity[1]
- The failure to detect patients who are not responding to treatment contributes to *clinical inertia*
  - **Clinical Inertia** - Not changing the treatment plan despite a lack of substantial improvement in symptom severity.
- For the past 30 years, leaders in the field of mental health have been calling for the implementation of MBC into routine care

1. Hatfield D, et al. *Clinical psychology & psychotherapy,* 2010

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Psychiatric Rating Scales

- Symptom rating scales are structured instruments that patients use to report their perceptions about psychiatric symptoms
  - Patient-reported symptom rating scales are equivalent to clinician administered rating scales in their ability to identify treatment responders and remitters[1]
- Optimizes the *efficiency*, *accuracy* and *consistency* of symptom assessment
- Brief diagnostic-specific symptom rating scales have been empirically validated to assess the severity and change in severity of most psychiatric disorders:
  - Depression
  - Bipolar disorder
  - Anxiety disorders
  - Posttraumatic stress disorder
  - Schizophrenia
  - Substance abuse

1) Rush AJ, et. al., *Psychiatric Services*, 2006

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Narrative Review Methods

- Purpose: To review the theoretical and empirical support for Measurement-Based Care (MBC)
- Methods: Articles were identified through search strategies in PubMed and GoogleScholar
  - Additional citations in the references of retrieved articles were identified
  - Consulted with experts assembled for a focus group conducted by The Kennedy Forum
  - N=51 relevant articles were reviewed

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Approaches That DON'T Work

- Screening
  - Patients with depression randomized to screening did not have better outcomes than patients randomized to no screening[1]
  - Alerting clinicians to positive screening results and providing them with guideline-concordant treatment recommendations is no more effective than UC[2]

1. Gilbody S, et. al. *Canadian Medical Association*, 2008
2. Rollman BL, et al. *JGIM*, 2002

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More Approaches That DON'T Work

- Infrequent Assessment
  - Patients seeking treatment at an eating disorder clinic randomized to an intervention that fed back self-reported symptoms to their provider mid-way through treatment (i.e., counseling session 5 out of 10) did not have better outcomes than patients randomized to UC[1]
- Assessment not Concurrent with Clinical Encounter
  - Specialty mental health patients randomized to an intervention that fed back self-reported symptoms to their provider every three months (but not timed to coincide with a clinical encounter) had similar outcomes as those randomized to UC[2]
  - Primary care patients randomized to an intervention that assessed symptoms at 0, 3, 6 and 18 months and fed back self-reported symptoms to their provider at every encounter had similar outcomes as those randomized to UC[3]

1. Schmidt U et. al. *The British Journal of Clinical Psychology*, 2006
2. Slade M, *The British Journal of Psychiatry*, 2006
3. Fihn SD, *Am J Med*, 2004

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Symptom Severity Feedback Must Be *Clinically Actionable*

- The symptom rating scale data must be perceived by providers to have a direct benefit to patients
  - Symptom rating scale data must also be:
    - Current
    - Interpretable
    - Readily available during the clinical encounter
  - The scales must be
    - reliable (i.e., consistent across repeated measurements when there is no actual change in severity)
    - sensitive to change (i.e., able to detect clinically meaningful changes in actual severity)

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RCTS of Measurement Based Care

- 14 of 15 RCTs of MBC have demonstrated that it improves outcomes compared to UC
- These findings are robust and are consistent across
  - Patient groups:
    - Disorders
    - Age
  - Provider types
    - Psychotherapists
    - Psychiatrists
    - Primary Care Providers

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Lambert and Colleagues (BYU)

- Meta-analysis of 6 studies (n=300 therapists, 6,000 patients) found that those randomized to MBC had significantly and substantially better outcomes than patients randomized to UC
  - Medium (Hedges' g=-.28) for all patients[1]
  - Only effective for patients who deteriorated or did NOT respond to treatment intially[2]

1. Lambert MJ, et. al., *Clinical Psychol Sci Prac*, 2003
2. Lambert MJ, *Clinical Psychology & Psychotherapy*, 2002

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Other Meta Analyses

- Knaup Meta Analysis (12 trials)
  - MBC had a small, but significant effect (Hedge's g = .10) on outcomes compared to UC
- Krägeloh Meta Analysis (27 trials)
  - Administration of symptom severity scales with no feedback
  - Administration of symptoms severity scales with feedback to the provider VS provider and patient
  - Administration of symptom severity scales with unstructured feedback VS structured feedback and treatment guidelines

1. Knaup C, et. al., *The British Journal of Psychiatry,* 2009
2. Krageloh CU, et. al. *Psychiatric Services*, 2015

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Other Notable Studies

- Couples Therapy (n=906 couples)
  - Couples randomized to MBC had significantly better outcomes than couples randomized to UC, with a moderate effect size (Cohen's d=.5)[1]
- Youth (n=28 clinics, n=144 providers, n=340 youth)
  - Youths randomized to MBC had significantly ($p<.01$) greater improvements in symptoms than those randomized to UC, with a small effect size (Cohen's d = .18)[2]
- Specialty Mental Healthcare Outpatient (n=1,374 adults with depression)
  - Adults randomized to MBC had significantly ($p=.04$) and substantially (28%) greater improvement in depression symptoms than the UC group[3]
- Specialty Mental Healthcare Outpatient (n=120 adults with depression)
  - Adults randomized to MBC from a psychiatrist had more treatment adjustments and higher remission rates compared to patients randomized to UC (73.8% versus 28.8%, $p=.001$)[4]

1. Anker MG, et. al., *J Consult Clin Psychol*, 2009
2. Bickman L, et al., *Psychiatric Services*, 2011
3. Brodey BB, et. al., *The American Journal of Managed Care*, 2005
4. Guo T, et. al., *Am J Psychiatry*, 2015

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Research

Original Investigation

A Telephone-Based Program to Provide Symptom Monitoring Alone vs Symptom Monitoring Plus Care Management for Late-Life Depression and Anxiety

A Randomized Clinical Trial

Shahrzad Mavandadi, PhD; Amy Benson, MSEd, MPhilEd; Suzanne DiFilippo, RN; Joel E. Streim, MD; David Oslin, MD

IMPORTANCE Mental health (MH) conditions are undertreated in late life. It is important to identify treatment strategies that address variability in treatment content and delivery and take individual-specific symptoms into account, particularly among low-income, community-dwelling older adults.

OBJECTIVE To evaluate program feasibility and MH outcomes among community-dwelling older adults randomized to 1 of 2 treatment arms of varying intensity of evidence-based, collaborative MH care management services (ie, the Supporting Seniors Receiving Treatment and Intervention [SUSTAIN] program) that provide standardized, measurement-based, software-aided MH assessment and symptom monitoring and connection to community resources via telephone.

DESIGN, SETTING, AND PARTICIPANTS Trial participants were 1018 older, community-dwelling, low-income adults prescribed an antidepressant or anxiolytic by a primary care or non-MH

Supplemental content at jamapsychiatry.com

JAMA Psychiatry. 2015 Dec 72(12):1211-8

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Why Does MBC Improve Outcomes? - Provider Behavior

- Helps overcome clinical inertia
  - Triggers a change in the treatment plan
  - Prompts for a consultation or referral
- Facilitates the use of algorithms
  - Symptom improvement can be quantified and operationalized into the decision points
- Facilitates the detection of residual symptoms
  - Prompts clinicians to intensify the treatment plan until the patient's symptoms have completely remitted
  - Treatment to target
- Focuses collaboration and coordination across providers

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Why Does MBC Improve Outcomes? - Patient Behavior

- More knowledgeable about their disorders
  - Leading to a more informed and activated patient
  - Prepared to participate meaningfully in shared decision making
- Attune to their symptoms
  - Aware of symptom fluxuation over time
  - Cognizant of the warning signs of relapse or reoccurrence
- Recognize improvement early in the course of treatment
  - Help patients feel more optimistic and hopeful
  - Maintain better adherence to the treatment
- Validates feelings
  - Mitigates the self-blame that patients sometimes experience
- Empowers patients
  - Helps them communicate more effectively with their providers
  - Enhanced therapeutic relationship

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Evidence about Feasibility of MBC for Providers

- MBC was the cornerstone of STAR*D
  - Implemented MBC for 2,876 patients with depression in 23 specialty mental health and 18 primary care clinics[1]
  - Replication (n=17 clinics, n=1,763 patients) found that psychiatrists found MBC helpful:[2]
    - Monitoring response to treatment (100%)
    - Assessing severity (94%)
    - Making treatment decisions (93%)
    - Tailoring treatment (82%)
    - Monitoring suicide risk (71%)
    - Treatment changed in 40% of the patient encounters
- MBC was the cornerstone of STEP-BD
  - Implemented MBC for 3,158 patients with bipolar disorder treated in 22 specialty mental health clinics[3]

1. Trivedi MH, et. al., *Am J of Psychiatry*, 2006
2. Katzelnick DJ, et. al., *Psychiatric Services*, 2011
3. Sachs GS, et. al., *Biological Psychiatry*, 2003

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Provider *Concerns* About MBC

- Practical factors are the most common reason providers report for not implementing MBC[1]:
  - Paperwork burden
  - Takes too much time
  - Lack of personnel resources
- Provider acceptability is lower when symptom severity scores are collected and fed back by an outside organization[2]
  - 47% of the providers thought that the symptom data collected and fed back by a managed care organization was helpful
  - Providers felt that the managed care organization was intruding on the patient-provider relationship

1. Hatfield DR, et. al., *Administration and Policy in Mental Health*, 2007
2. Brodey BB, et. al., *The American Journal of Managed Care*, 2005

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Evidence about Acceptability of MBC to Patients

- Patients with depression perceived scales to be[1]:
  - Efficient
  - Complementary of their provider's clinical judgment
  - Evidence that their provider was taking their mental health problems seriously
  - Helped them to better understand their illness
  - Helped them express themselves to their provider

1. Dowrick C, et. al., *BMJ*, 2009

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Benefits of MBC to Practices & Purchasers

- Patient reported outcomes data can be aggregated across patients to benefit providers, practices and purchasers
  - Providers
    - Professional development
  - Practices
    - Aggregated outcomes data can be used for Continuous Quality Improvement
    - Aggregated outcomes data can be used to demonstrate value to purchasers
  - Purchasers
    - Aggregated outcomes data can be used to identify the most effective clinics and health systems
    - Aggregated outcomes data can be used to create and evaluate financial incentives to improve outcomes

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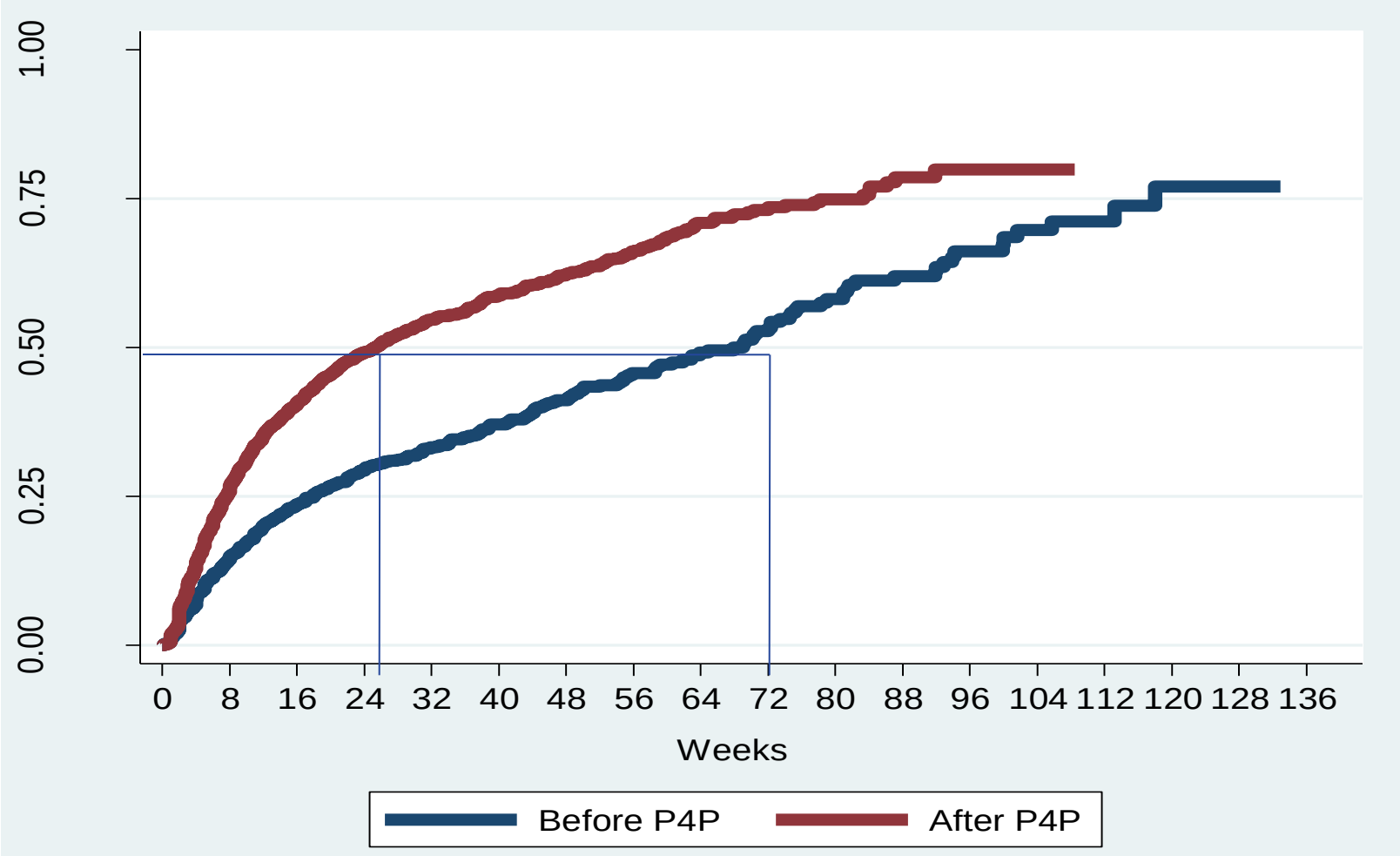
WA Mental Health Integration Program - Pay for Performance initiative



Unutzer J et al, *American Journal of Public Health*, 2012.

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Summary

- Numerous brief structured symptom rating scales have been validated in diverse patient populations
- Technological innovations have increased the efficiency of routinely collecting symptom severity data from patients and feeding it back to providers *during* the clinical encounter
- Evidence from RCTs - patients randomized to MBC have better outcomes than patients randomized to UC
- Evidence from large pragmatic trials and clinical demonstration projects - MBC is acceptable to both patients and providers
- Secondary (and Tertiary) gains include the potential to use aggregated symptom rating scale data to enhance:
  - Professional development
  - Facilitate practice level quality improvement
  - Demonstrate the value of the mental health services to purchasers
  - Positively influence reimbursement policies

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Future Directions - *Remote* Measurement Based Care

- ***Encounterless*** **Utilization**
  - Asynchronous digital patient-to-provider communication
- **Improves *Provider Capacity***
  - Smarter encounter scheduling
- **Improves *Population Health***
  - Improved *Access*
  - Improved *Capacity*

} Greater *Reach*

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Questions and Comments

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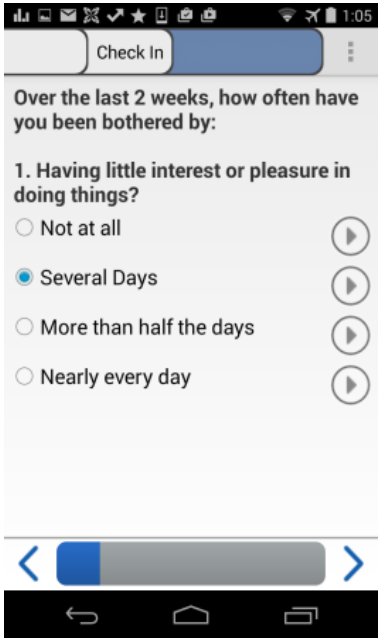
Rating Scale Administration

- **Administration of Symptom Rating Scales**
  - Paper and pencil
  - Kiosks
  - Handheld Devices
  - Secure Messaging
  - EHR Patient Portal
  - Smartphone Apps
    - Self Report
    - Passive Data
      - Call frequency/duration
      - Vocal prosody
      - Time-Space Activity



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ISSUE BRIEF

A Core Set of Outcome Measures for Behavioral Health Across Service Settings

Supplement to Fixing Behavioral Health Care in America: A National Call for Measurement-Based Care in the Delivery of Behavioral Health Services

Prepared by: Glenda Wrenn, MD, MSHP, with the Kennedy Center for Mental Health Policy and Research, Satcher Health Leadership Institute(SHLI), Morehouse School of Medicine and John Fortney PhD, with the Advancing Integrated Mental Health Solutions (AIMS) Center, Department of Psychiatry, University of Washington in conjunction with The Kennedy Forum/SHLI/AIMS editorial review team, including Patrick Kennedy, Henry Harbin, MD, and Garry Carneal, JD, Steve Daviss, MD, Harry J. Heiman, MD, MPH, Kevin Simon, MD, Rebecca Sladek MS, and Jürgen Unützer MD, and Sarah Vinson, MD.

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Table 1: Adult Symptom Rating Scales for Core Outcome Measures

MEASURE	DOMAIN	# OF ITEMS
PHQ-9	Depression	9
Altman Scale	Mania	5
GAD-7	Anxiety	7
PCL	PTSD	20
PDSS_SR	Panic attacks	7
Audit-C	Alcohol	3
DAST-10	Drug abuse	10
PHQ-15	Somatization	15

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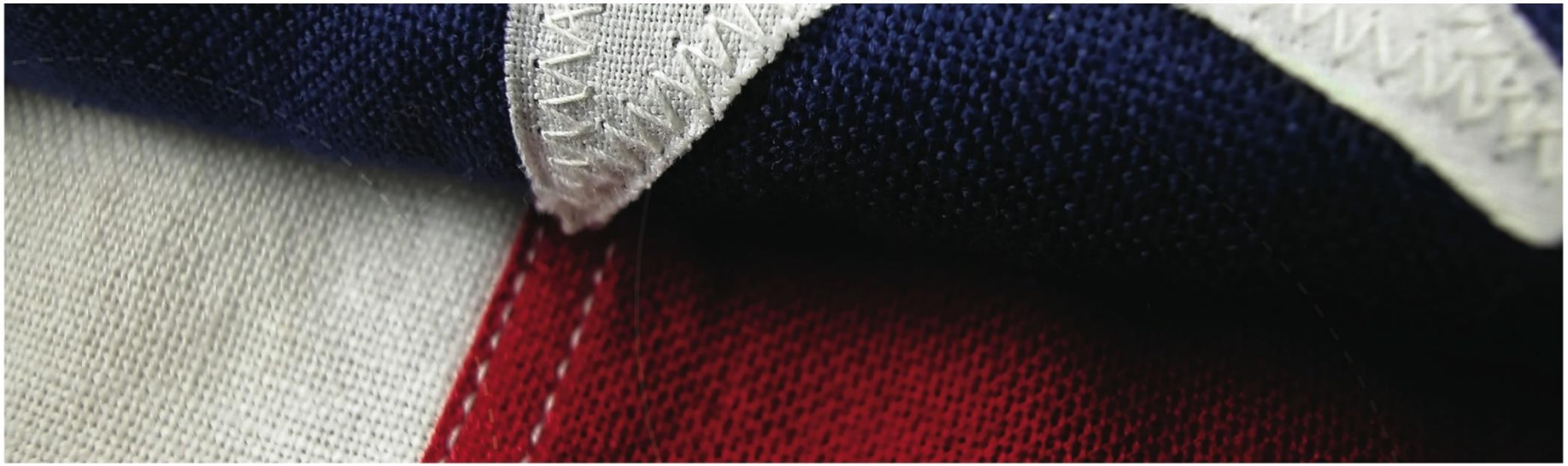

Application of Measurement Based Care in a PTSD Clinic

Erin Romero, PhD
Trauma Recovery Program Manager

VA HEALTH CARE | Defining EXCELLENCE in the 21st Century

What does MBC look like?

- First step is knowing the treatment goal.
- In the PTSD Clinic, general goals are:
  - Reduce PTSD symptoms
  - Increase functioning in life domains

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Selecting the measures

- **Symptom Improvements**

  Examples: PCL5, PHQ-9, BDI-II, State-trait Anger Expression inventory (STAXI), CAPS-5, Trauma Related Guilt Inventory (TRGI), AUDIT-C, Brief Addiction Monitor (BAM)

- **Functional Improvements**

  Examples: OQ45; WHO quality of life measure -Brief, Quality of Life Enjoyment and Satisfaction-Short Form. WHO Disability Assessment Schedule

- **Recovery Goals**

  Examples: more individualized to the patient, e.g. " I want to be able to attend ball games with my children", "I want to be able to attend a family gathering without leaving early."

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Symptom Improvement Measures in Public Domain

PTSD symptoms:

CAPS5 and PCL
http://www.ptsd.va.gov/professional/assessment/all_measures.asp

Depressive symptoms:

PHQ9 *http://www.integration.samhsa.gov/images/res/PHQ%20-%20Questions.pdf*

Substance Use:

AUDIT-C:

http://www.csam-asam.org/sites/default/files/pdf/12_cage_audit_dast.pdf

Brief Addiction Monitor (BAM):
http://www.mentalhealth.va.gov/communityproviders/docs/BAM_Overview_01-28-2014.pdf

Quality of Life Enjoyment and Satisfaction-Short Form:
https://www.outcometracker.org/library/Q-LES-Q-SF.pdf

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History MBC in the clinic

- We have been tracking at a minimum PCL and BDI-II scores for program evaluation since 2011.
- Recent additions:
  - Adding functional improvement measure
  - Adding clinics involved in MBC
  - Standardize Veteran education on measurement-based care Y:\Patient Brochures\Pamphlet on MBC for Veterans.docx
  - Enhancing clinical discussions on the use of MBC
  - Plan to use tablets to capture the data

VA HEALTH CARE Defining EXCELLENCE in the 21st Century

What does it mean to use MBC?

- Patient collaboration and education on Measurement Based Care
  - Using patient brochure to standardize this process
- Routine administrative and review of measures with patient
  - Check-in and review whether symptom measures are changing. Similar to a blood pressure check in primary care.
- Use measures to assist in treatment planning
- Seeking feedback from patients in the clinic on MBC

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Use Data to Directly Inform Treatment Decisions

- Can utilize data to understand when a patient is ready for discharge from the program.
  - Let's us know when patients **HAVE** improved and are ready to discharge, keeps us from holding patients too long in treatment.
  - Provides information on symptoms that need further attention.
  - Allows us to understand when a patient has received maximum benefit from a treatment and allows for an objective way to move patients through the continuum of care.

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(866) 948-7880 or PTSDconsult@va.gov

Please enter your questions in the Q&A box and be sure to include your email address.

The lines are muted to avoid background noise.

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CEU Process for users of VHA TRAIN (non-VA)

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Register in TRAIN.

Listen to the lecture.

Return to TRAIN for evaluation.

Follow the directions to print certificate.

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Certificate

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UPCOMING TOPICS

SAVE THE DATE: Third Wednesday of the Month from 2-3PM (ET)

July 19	Assessment and Treatment of PTSD in Individuals with Co-occurring Psychotic Disorders	Stephanie Sacks, PhD
August 16	PTSD and Substance Use Disorders	Sonya Norman, PhD *and* Karen Drexler, MD
Later this year	Update on the Revision of the VA/DoD Clinical Practice Guideline (CPG) for PTSD	