Measurement Based Care (MBC)

LORI RANEY MD

STAFF PSYCHIATRIST

MAHEC

DEPARTMENT OF PSYCHIATRY AND MENTAL WELLBEING

- In 1961, when Robert Spitzer developed the Mental Status Schedule, the 1st published structured interview in the United States, the *New York Post* published an article in 1963 that stated “a young doctor at Columbia University’s New York State Psychiatric Institute has developed a tool which may become the psychiatrist’s thermometer and microscope and X-ray machine rolled into one.”

Spitzer RL. Psychiatric diagnosis: are clinicians still necessary? Compr Psychiatry. 1983;24:399–411.

Case example using Psychometrics

Bill is a 46 year old male with a history of MDD referred by PCP for psychiatric evaluation. His intake PHQ9 score is 22 and his PCP started him on escitalopram 10 mg 2 months ago. He has tried sertraline 50 mg for a month in the past and did not feel like it was helpful. On evaluation he has a clear diagnosis of MDD recurrent with symptoms starting in his teens.

- What is your first consideration for treatment adjustment (if any)
- When would you repeat measurement of his symptoms?
- What is your process for knowing when to adjust care?
- What is your target for treatment response?
- Will you share results with patient?

WHY DO MBC?

Research over the past 20 years has shown that MBC improves the quality of patient care, and leaders in the mental health have been calling for the integration of MBC into routine care. Compared to the usual care, MBC has been shown to do the following:

- Improve psychotherapy outcomes
- Monitor symptom reduction in patients with psychiatric disorders, such as anxiety, depression, and bipolar – **MEASUREMENT BASED TREAT TO TARGET**
- Identify patients who are improving and those who are deteriorating
- Improve role functioning, satisfaction with care, quality of care, and quality of life
- Enhance the therapeutic relationship and communication between providers and patients
- Improve collaboration among providers
- Improve the accuracy of clinical judgment
- Close the gap between research and practice, and **move psychiatry into the mainstream of medicine**
- Enhance the clinician's decision-making process
- Enhance individualized treatment. Be transdiagnostic and transtheoretical. Be feasible to implement on a large scale

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USEFULNESS OF MBC FROM THE PROVIDER PERSPECTIVE

1. Know there is value and but how to demonstrate nuanced human impact
2. Feel undervalued in healthcare (sometimes David and Goliath)
3. Concern about missing out on important alternative payment structures because of ability to demonstrate outcomes/value
4. Therapists can experience burnout and hopelessness when they don't see progress
5. Rely on productivity standards in absence of quality metrics
6. Concern about loss of unique individual level in data driven system

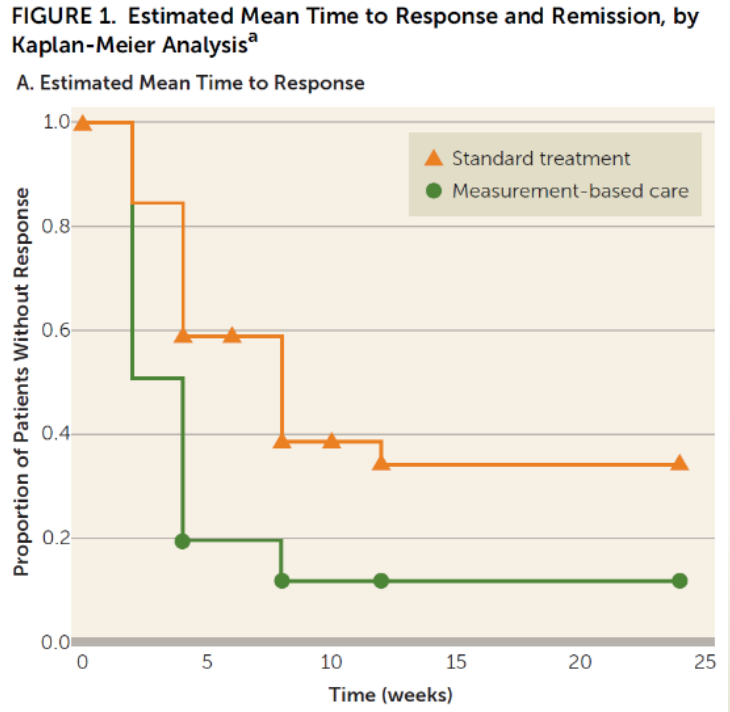
PSYCHIATRISTS: MEASUREMENT BASED CARE

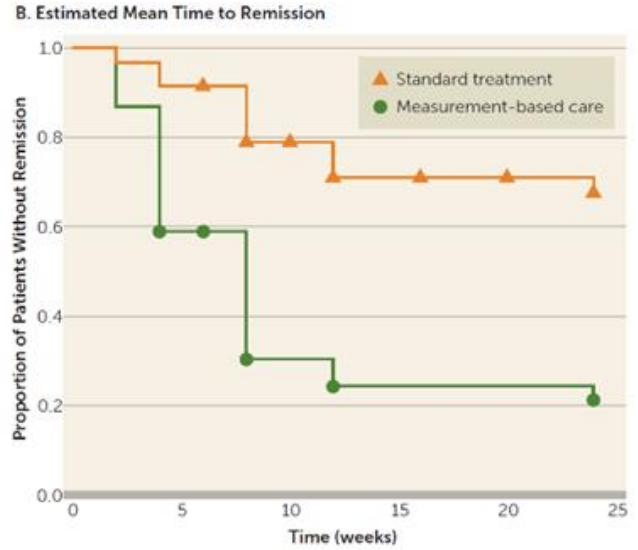
TREAT TO TARGET

Response 62.7% vs 86.9%

Remission 28.8% vs 73.8%

FIGURE 1. Estimated Mean Time to Response and Remission, by Kaplan-Meier Analysis[a]





[a] In panel A, the numbers of patients who achieved treatment response at 2, 4, 8, 12, and 24 weeks, respectively, were 9, 24, 35, 37, and 37 in the standard treatment group and 30, 49, 53, 53, and 53 in the measurement-based care group ($p<0.001$). In panel B, the numbers of patients who achieved remission at 2, 4, 8, 12, and 24 weeks, respectively, were 2, 5, 12, 16, and 17 in the standard treatment group and 8, 25, 41, 44, and 45 in the measurement-based care group ($p<0.001$).

- HAM-D 50% or <8
- Paroxetine and mirtazapine
- Greater response
- Shorter time to response
- More treatment adjustments (44 vs 23)
- Higher doses antidepressants
- Similar drop out, side effects

8.1 vs 4.5 weeks

14.8 vs 8.4 weeks

Quo T, Correll, et al. American Journal of Psychiatry, 172 (10), Oct, 2015

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.

Results: Fifty-one relevant articles were reviewed. There are numerous brief structured symptom rating scales that have strong psychometric properties. Virtually all randomized controlled trials with frequent and timely feedback of patient-reported symptoms to the provider during the medication management and psychotherapy encounters significantly improved outcomes. Ineffective approaches included one-time 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 symptom rating scale data can be used for professional development at the provider level and for quality improvement at the clinic level and to inform payers about the value of mental health services delivered at the health care system level.

Psychiatric Services 2016; 00:1–10; doi: 10.1176/appi.ps.201500439

https://www.thekennedyforum.org/a-national-call-for-measurement-based-care
https://www.thekennedyforum.org/a-supplement-to-our-measurement-based-care-issue-brief

INEFFECTIVE APPROACHES

One-time screening

Assessing symptoms infrequently

Feeding back outcomes outside the context of the clinical encounter

EFFECTIVE

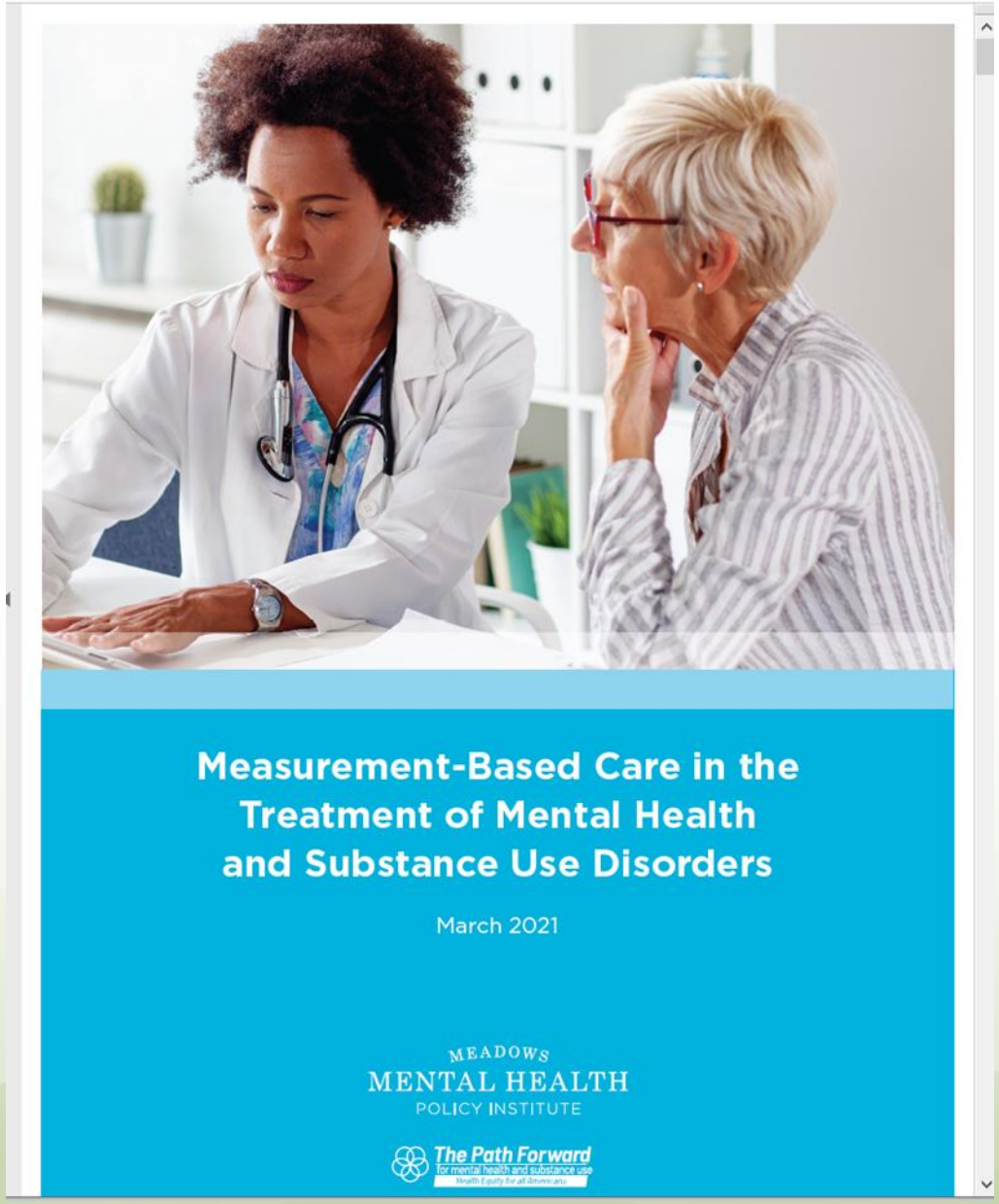
Systematic (define timing) administration of tools

Frequently enough to capture timing of change

Timely so can be used to adjust care without waiting

Available to the provider at the time of the clinical encounter

[Measurement-Based Care in the Treatment of Mental Health & Substance Use Disorders – MMHPI – Meadows Mental Health Policy Institute]



IMPLEMENTATION CONSIDERATIONS

To encourage clinicians to use measures in clinical care decisions, measures should have the following basic properties:

Efficient: Measures should be brief and not time-consuming to the clinician. A rating scale completed by the clinician should take no more than a few minutes to administer

Established as reliable and valid

User-friendly and a reflection of what clinicians do in clinical setting

Brief: Self-rating scales completed by patients should take no more 2–3 minutes to complete and simple Directions should be easy to follow to improve patient willingness to take the test at each follow up visit.

Clinically meaningful and useful, covering the criteria and symptom domains of the disorder

Clinically relevant to decision-making

Easily extractable and not embedded in progress notes

Sensitive to changes induced by medications or psychotherapy

USE VALIDATED TOOLS SCREENING & MEASUREMENT
Attempt to use one for both!

Mood Disorders

- **PHQ-9 Depression**
- **Altman Mania Scale**
- CIDI: Bipolar Disorder
- EPDS: Postnatal Depression

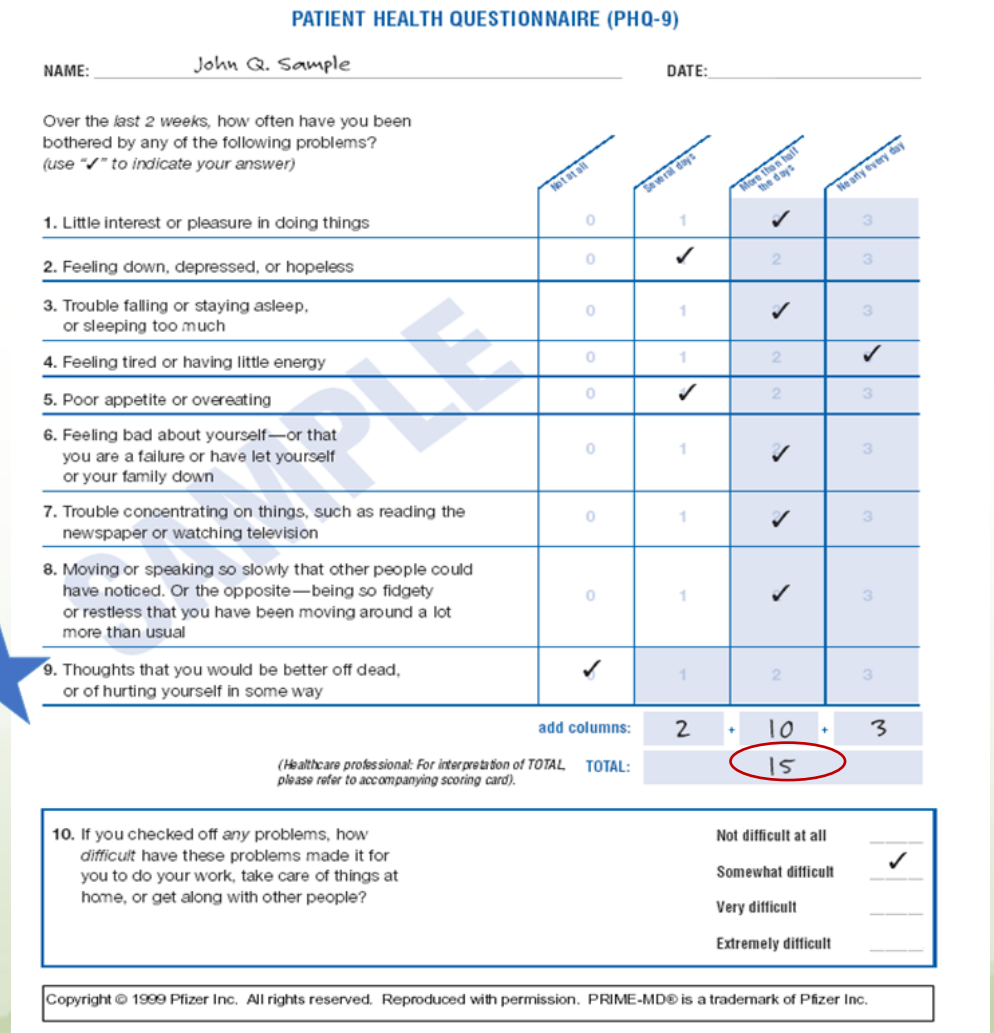
Anxiety Disorders

- **GAD-7: Anxiety**
- **PCL-5: PTSD**
- **SCARED**
- Mini Social Phobia: Social Phobia

Substance Use Disorders

- CAGE-AID
- **AUDIT-C**
- **Brief Addiction Monitor (BAM)**
- CRAFFT
- Alcohol Screening and BI for Youth

VALIDATED SCREENING AND MEASUREMENT TOOLS



PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: John Q. Sample DATE: _____

Over the *last 2 weeks*, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	✓	3
2. Feeling down, depressed, or hopeless	0	✓	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	✓	3
4. Feeling tired or having little energy	0	1	2	✓
5. Poor appetite or overeating	0	✓	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	✓	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	✓	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	✓	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	✓	1	2	3
add columns:		2	+ 10	+ 3
(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:			15	

10. If you checked off *any* problems, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all
- Somewhat difficult ✓
- Very difficult
- Extremely difficult

PHQ 9 > 9

- < 5 – none/remission
- 5 - mild
- 10 - moderate
- 15- moderate severe
- 20 - severe

Brief Addiction Monitor (BAM)

2 Outcomes:

- Consumption ⬇
- Protective Factors ⬆

Brief Addiction Monitor (BAM) With Scoring & Clinical Guidelines
DRAFT 11/02/2009

Participant ID: _____ **Date:** _____
Interviewer ID (Clinician Initials): _____

Method of Administration:
☐ Clinician Interview ☐ Self Report ☐ Phone

Time Started: _____ : _____

Instructions
This is a standard set of questions about several areas of your life such as your health, alcohol and drug use, etc.
The questions generally ask about the past 30 days.
Please consider each question and answer as accurately as possible.

1. **In the past 30 days, would you say your physical health has been?**
   - ○ **Excellent (0)**
   - ○ **Very Good (1)**
   - ○ **Good (2)**
   - ○ **Fair (3)**
   - ○ **Poor (4)**

2. **In the past 30 days, how many nights did you have trouble falling asleep or staying asleep?**
   - ○ **0 (0)**
   - ○ **1-3 (1)**
   - ○ **4-8 (2)**
   - ○ **9-15 (3)**
   - ○ **16-30 (4)**

3. **In the past 30 days, how many days have you felt depressed, anxious, angry or very upset throughout most of the day?**
   - ○ **0 (0)**
   - ○ **1-3 (1)**
   - ○ **4-8 (2)**
   - ○ **9-15 (3)**
   - ○ **16-30 (4)**

4. **In the past 30 days, how many days did you drink ANY alcohol?**
   - ○ **0 (Skip to #6) (0)**
   - ○ **1-3 (1)**
   - ○ **4-8 (2)**
   - ○ **9-15 (3)**
   - ○ **16-30 (4)**

BARRIERS TO IMPLEMENTATION

TABLE 1. Barriers to measurement-based care (MBC)
1. Measures are time consuming (most commonly cited reason by psychiatrists)[55,56,61]
2. Measures are designed for research use and not for clinician use[56,63]
3. Ratings produced by measures might not always be clinically relevant[64,65]
4. Administering rating scales might interfere with establishing rapport with patients[66]
5. The perception that measures are not more useful than clinical assessment[55,66]
6. The perception that MBC is over-systematizing and depersonalizing[4]
7. Some measures, such as standardized diagnostic interviews, can be cumbersome, unwieldy, and complicated[64]
8. Cost and lack of resources to implement MBC[26]
9. Limited formal training (included in top two barriers for residents and faculty)[26,66]
10. Lack of protocols and training manuals[24]
11. Lack of consensus as to which instrument to use for a given disorder[66]
12. Absence of a requirement to use MBC—few work settings require MBC[26,66]
13. Lack of incentives to use MBC
14. Complexity of patients with multiple overlapping comorbidities
15. The perception that measures "restrict the flexibility and creativity" of the interviewer

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Implementation Science

Barriers

- Patient level –
  - time screening and measuring
  - data breech concerns
- Clinician level –
  - belief measures are no better than clinical judgement
  - increase in time/effort
  - concerns could be used in punitively effecting bonuses, etc
- Administrative level –
  - resources for training
  - support, addressing barriers

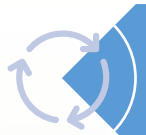
Solutions

- Monitor fidelity to MBC and establish feedback systems
- Develop algorithms for med management and psychotherapy
- Utilize brief, strong measures to use in combinations
- Leverage local champions
- Form learning collaboratives
- Train leadership
- Improve expert consultation with clinical staff
- Generate incentives

JAMA Psychiatry. doi:10.1001/jamapsychiatry.2018.3329

Why do you need a registry?

Treat populations, make sure no one “falls through the cracks”



Track outcomes using evidence-based measurement tools

Prompts treatment-to-target, focus on outcomes

Prioritize patients for case review

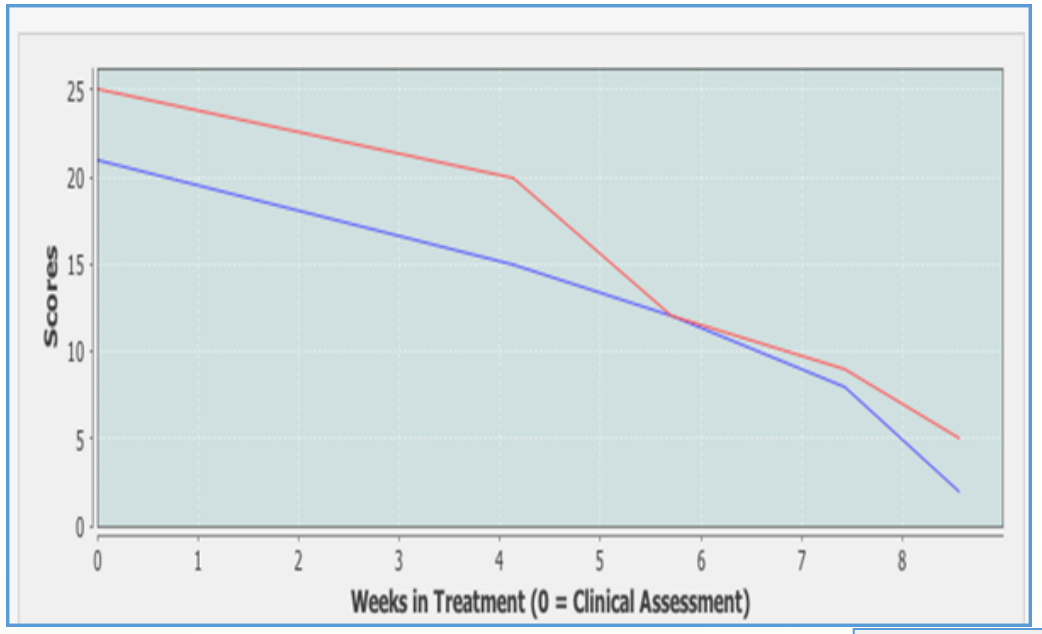
MEASURING CHANGE and RESPONSE TO CARE
MEASUREMENT BASED TREAT TO TARGET

COCM Registry Example

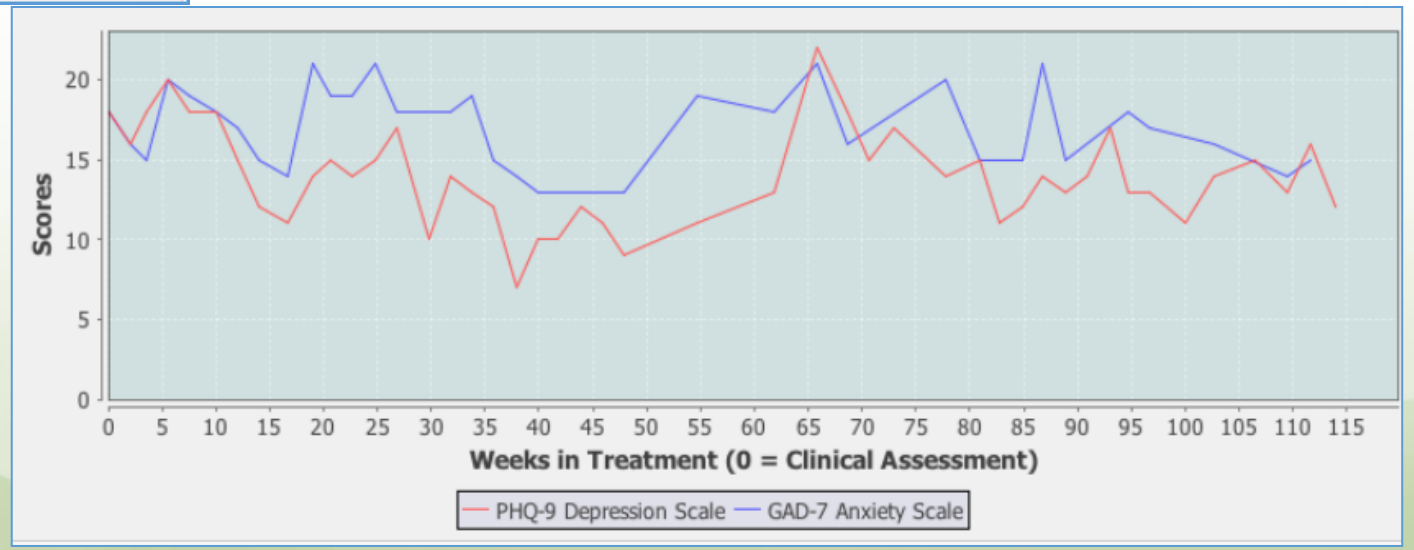
			Behavioral Heatlh													
			Treatment Status					PHQ-9				GAD-7				
MRN	Treatment Status	Name	Date of Initial Assessment	Date of Most Recent Contact	Number of Follow-up Contacts	Weeks in Treatment	Average # Contacts per month	Initial PHQ-9 Score	Last Available PHQ-9 Sco	% Change in PHQ-9 Score	Date of Last PHQ-9	Initial GAD-7 Score	Last Available GAD-7 Sco	% Change in GAD-7 Score	Date of Last GAD-7
[redacted]	Active	[redacted]	2/28/2018	10/1/2018	9	30	1.20	21	9	-57.1%	10/1/2018	10	4	-60.0%	10/1/2018
	Active		3/15/2018	9/30/2018	8	28	1.14	13	17	30.8%	9/30/2018	5	5	0.0%	9/30/2018
	Active		2/7/2018	9/3/2018	9	29	1.24	10	4	-60.0%	9/3/2018	18	14	-22.2%	9/3/2018
	Active		4/22/2018	9/17/2018	9	21	1.71	18	18	0.0%	9/17/2018	19	18	-5.3%	9/17/2018
	Active		4/17/2018	10/1/2018	9	23	1.57	14	8	-42.9%	10/1/2018	16	14	-12.5%	10/1/2018
	Active		2/20/2018	10/2/2018	8	32	1.00	11	4	-63.6%	10/2/2018	19	18	-5.3%	10/2/2018
	Active		2/19/2018	9/17/2018	8	30	1.07	16	8	-50.0%	9/17/2018	10	18	80.0%	9/17/2018
	Active		7/30/2018	9/15/2018	4	6	2.67	17	16	-5.9%	9/15/2018	4	3	-25.0%	9/15/2018
	Active		7/21/2018	10/15/2018	13	12	4.33	22	18	-18.2%	10/15/2018	5	3	-40.0%	10/15/2018
	Active		12/19/2017	10/15/2018	7	42	0.67	14	4	-71.4%	10/15/2018	7	17	142.9%	10/15/2018

Two crucial targets:

- 50% reduction – clinically significant
- remission (PHQ 9 < 5, GAD <5)



SHARE RESULTS WITH PATIENTS AND STAFF



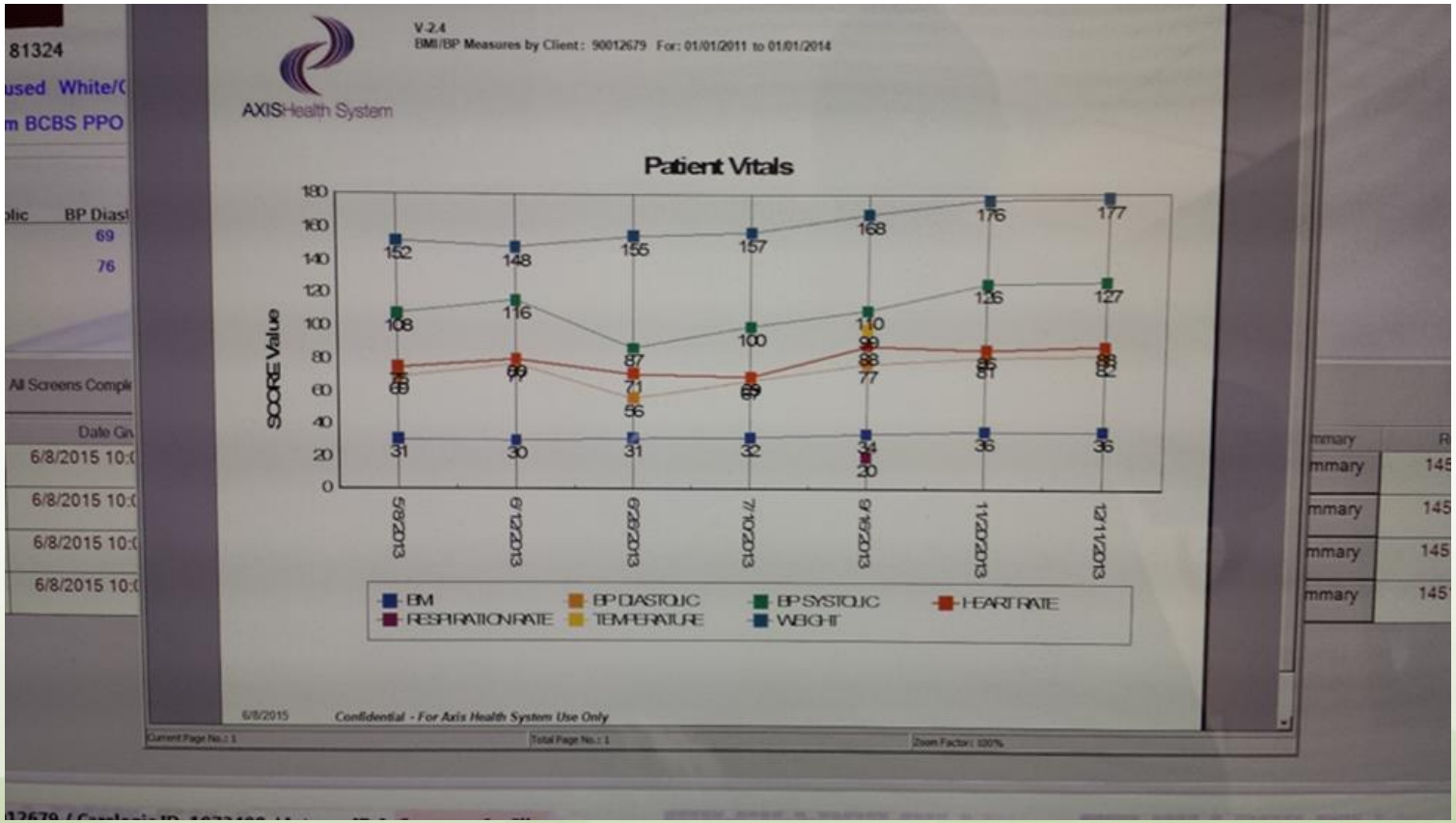
Used with permission UW AIMS

PATIENT EXPERIENCE OF MBC

Great engagement tool

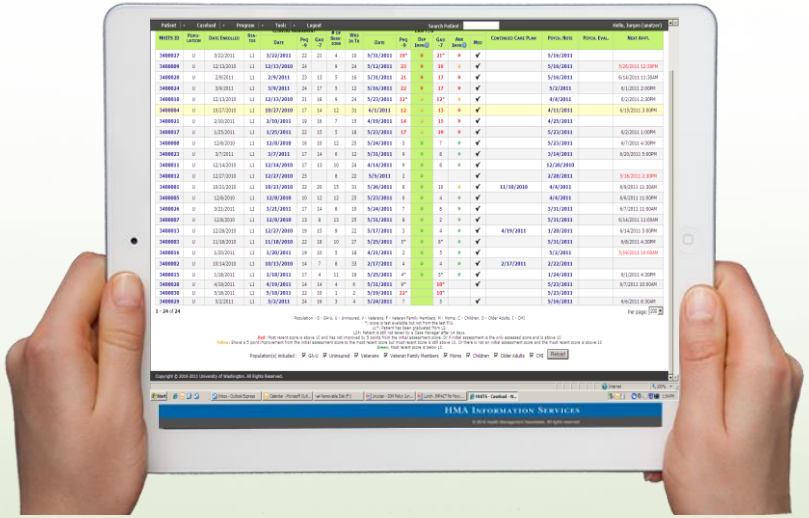
Let's them monitor their progress

Helps them see when change in approach might be needed



AGGREGATE DATA

- Professional development at the provider level – MACRA, MIPS
- Quality improvement at the clinic level
- Inform reimbursement at the payer level



SOURCE: Fortney et al Psych Serv Sept 2016

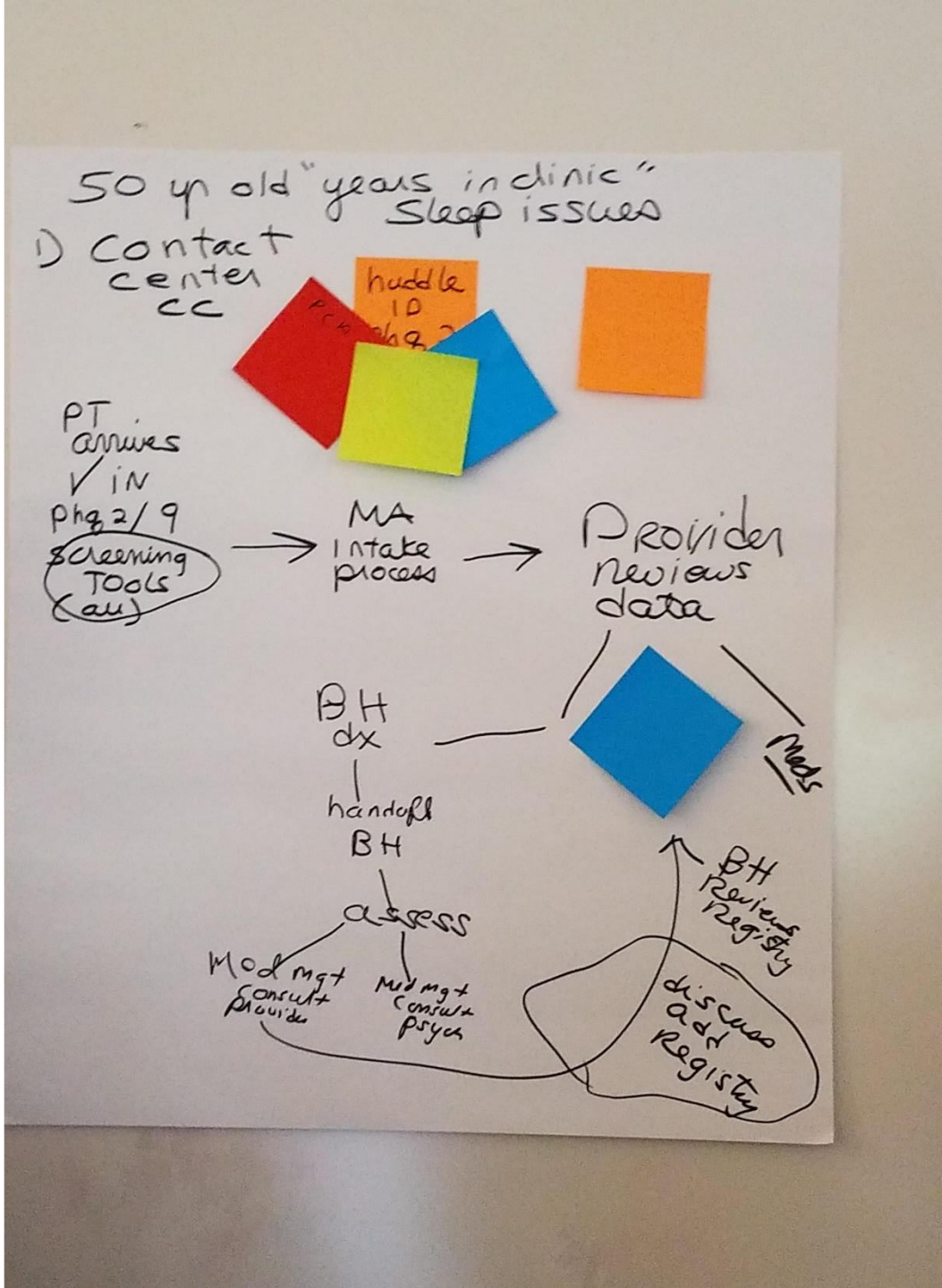
Case example using psychometrics

Bill is a 46 year old male with a history of MDD referred by PCP for psychiatric evaluation. His intake PHQ9 score is 22 and his PCP started him on escitalopram 10 mg 2 months ago. He has tried sertraline 50 mg for a month in the past and did not feel like it was helpful. On evaluation he has a clear diagnosis of MDD recurrent with symptoms starting in his teens.

- What is your first consideration for treatment adjustment (if any)
- When would you repeat measurement of his symptoms?
- What is your process for knowing when to adjust care?
- What is your target for treatment response/remission?
- Will you share psychometrics with patient?

Workflow Considerations

- Who will give initial screen, determine diagnosis
- Frequency of measurement
- Who will enter data
- Who will give repeat measurement tool
- What will the process be if not getting better/reaching desired targets
- How will decide when well and can change frequency



PERFORMANCE MEASURES

- **Process Metrics**
  - Percent of patients screened for depression – NQF 712
  - Percent not improving that received psychiatric case review
- **Outcome Metrics**
  - Percent with **50% reduction PHQ-9 – NQF 184 and 185**
  - Percent reaching **remission (PHQ-9 < 5) – NQF 710 and 711**
- **Satisfaction** – patient and provider
- **Functional** –work, school, homelessness
- **Utilization/Cost**
  - ED visits, 30 day readmits, med/surg/ICU, overall cost

DISCUSSION