Improving the Management of Depression Using Measurement-Based Care

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CANMAT

APEC

Disclosure Statement 2019-2021

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Stocks/Options	None
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Book Royalties	American Psychiatric Press, Cambridge University Press, Informa Press, Oxford University Press.

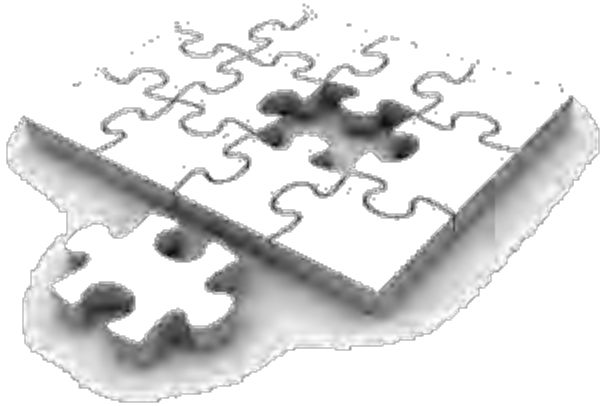
www.DrRaymondLam.ca

Objectives

At the end of this presentation, participants will be able to:

- Describe the rationale and principles of measurement-based care (MBC).
- Identify barriers and facilitators to using MBC.
- Describe the EMBED project in Shanghai.

www.WorkingWithDepression.psychiatry.ubc.ca



Depression is a major medical problem in China

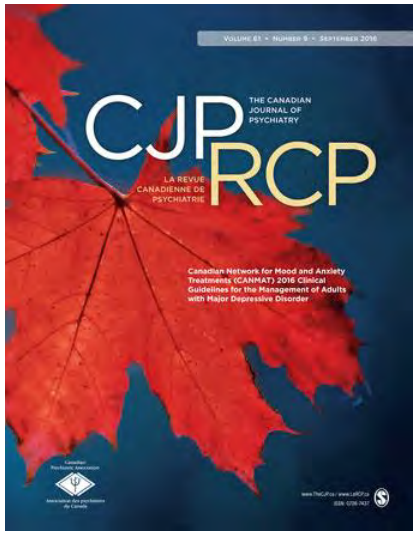
China

- **47+ million** people with depression (2.3% to 3.6% 12-month prevalence)
- **9+ million years** of years lived with disability
- **7.3% of ALL** medical years lived with disability
- Depression costs **130 billion RMB** in lost productivity

Overall, only 54% to 62% of patients with depression improve after treatment with antidepressants or psychotherapy.

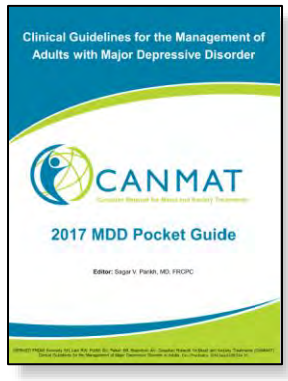
Source: World Health Organization, http://www.who.int/en/

CANMAT Depression Guidelines 2016



Available at www.canmat.org

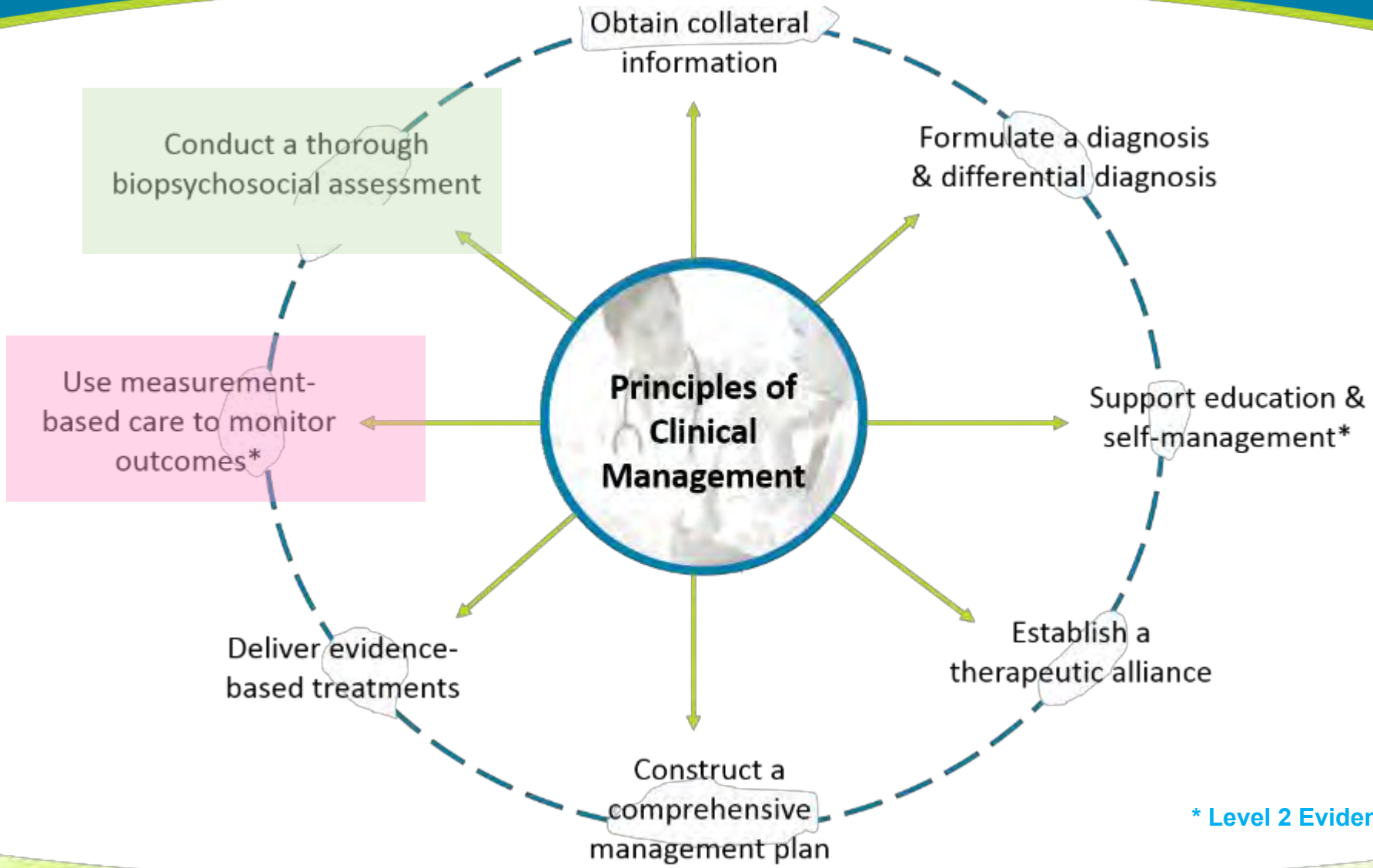
- Evidence-based major update of 2009 CANMAT guidelines
  1. Burden and principles of care
  2. Psychological treatments
  3. Pharmacological treatments
  4. Neurostimulation treatments
  5. Complementary and alternative medicine treatments
  6. Special populations (youth, women, elderly)
- For specialists; Question-Answer format; Pocket Guide soon available
- No external/pharma funding
- Published as theme issue in Canadian Journal of Psychiatry, September 2016



Available Now!

Lam RW, Kennedy SH et al. Can J Psychiatry 2016;61:506-9.

Principles of Clinical Management



* Level 2 Evidence

CANMAT

Lam RW et al. Can J Psychiatry 2016;61:510-23.

Medical Care is Measurement-Based Care

- Can you treat hypertension without measuring blood pressure?
- Can you treat diabetes without measuring HbA1c?

- What makes us think we can treat depression without measuring it?

Measurement-Based Care for Depression

What is measurement-based care (MBC)?

- Routine assessment with scales integrated into clinical care.
  - Symptoms, side effects, functioning, quality of life.
- Discussion of scores with patients
- Timely adjustments of medication and counselling
- Timely changes in treatments depending on outcomes.

Hong RH et al. Neuropsychiatr Dis Treat 2021;17:79-90.

Examples of Validated Outcome Scales

Outcome	Clinician-Rated	Patient-Rated
Symptoms	• Hamilton Depression Rating Scale (HAM-D, HAM-7) • Montgomery-Asberg Depression Rating Scale (MADRS) • Inventory for Depressive Symptomatology (IDS)	• Patient Health Questionnaire (PHQ-9) • Quick Inventory for Depressive Symptomatology, Self-Rated (QIDS-SR) • Clinically Useful Depression Outcome Scale (CUDOS)
Functioning	• Multidimensional Scale of Independent Functioning (MSIF) • WHO Disability Assessment Scale (WHO-DAS) • Social and Occupational Functioning Assessment Scale (SOFAS)	• Sheehan Disability Scale (SDS) • WHO-DAS, self-rated • Lam Employment Absence and Productivity Scale (LEAPS)
Side effects	• UKU Side Effect Rating Scale	• Frequency, Intensity and Burden of Side Effects Rating (FIBSER)
Quality of life	• Quality of Life Interview (QOLI)	• Quality of Life, Enjoyment and Satisfaction Questionnaire (QLESQ) • EuroQoL-5D (EQ-5D)

Lam RW et al. Can J Psychiatry 2016;61:510-23.

Patient Health Questionnaire (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all (0)	Several days (1)	More than half the days (2)	Nearly every day (3)
1. Little interest or pleasure in doing things.	☐	☐	☐	☐
2. Feeling down, depressed, or hopeless.	☐	☐	☐	☐
3. Trouble falling/staying asleep, sleeping too much.	☐	☐	☐	☐
4. Feeling tired or having little energy.	☐	☐	☐	☐
5. Poor appetite or overeating.	☐	☐	☐	☐
6. Feeling bad about yourself, or that you are a failure, or have let yourself or your family down.	☐	☐	☐	☐
7. Trouble concentrating on things, such as reading the newspaper or watching TV.	☐	☐	☐	☐
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 more than usual.	☐	☐	☐	☐
9. Thoughts that you would be better off dead or of hurting yourself in some way.	☐	☐	☐	☐

A score of 10 or higher (in China, 7 or higher) indicates significant depression.

TOTAL SCORE	Scoring Criteria
0-4	None or minimal
5-9	Mild
10-14	Moderate
15-19	Moderately severe
≥20	Severe

Treatment Phases, Goals and Activities for MDD

Treatment Phase	Duration	Goals	Activities
Acute **"How do you get patients well?"**	8-12 weeks	• Remission of symptoms • Restore functioning	• Establish therapeutic alliance • Educate • Select and use treatment(s) • Monitor progress
Maintenance **"How do you keep them well?"**	6-24 months or longer	• Return to full functioning and quality of life • Prevention of recurrence	• Educate • Rehabilitate • Treat comorbidities • Monitor for recurrence

Lam RW et al. Can J Psychiatry 2016;61:510-23.

Does Measurement-based Care Improve Outcomes?

THE AMERICAN JOURNAL OF PSYCHIATRY

Measurement-Based Care Versus Standard Care for Major Depression: A Randomized Controlled Trial With Blind Raters

Tong Guo, M.D., Yu-Tao Xiang, M.D., Ph.D., Le Xiao, M.D., Chang-Qing Hu, M.D., Helen F.K. Chiu, F.R.C.Psych., Gabor S. Ungvari, M.D., Ph.D., Christoph U. Correll, M.D., Kelly Y.C. Lai, M.R.C.Psych., Lei Feng, M.D., Ph.D., Ying Geng, M.D., M.Phil., Yuan Feng, M.D., Gang Wang, M.D., Ph.D.

- Randomized 24-week trial in hospital outpatient clinic
- Open-label treatment (paroxetine & mirtazpine); blind raters
- MBC = QIDS-SR and FIBSER scores every 2weeks
- N = 61 MBC, 59 Standard Care

Guo T, et al. Am J Psychiatry 2015;172:1004-13.

Does Measurement-based Care Improve Outcomes?

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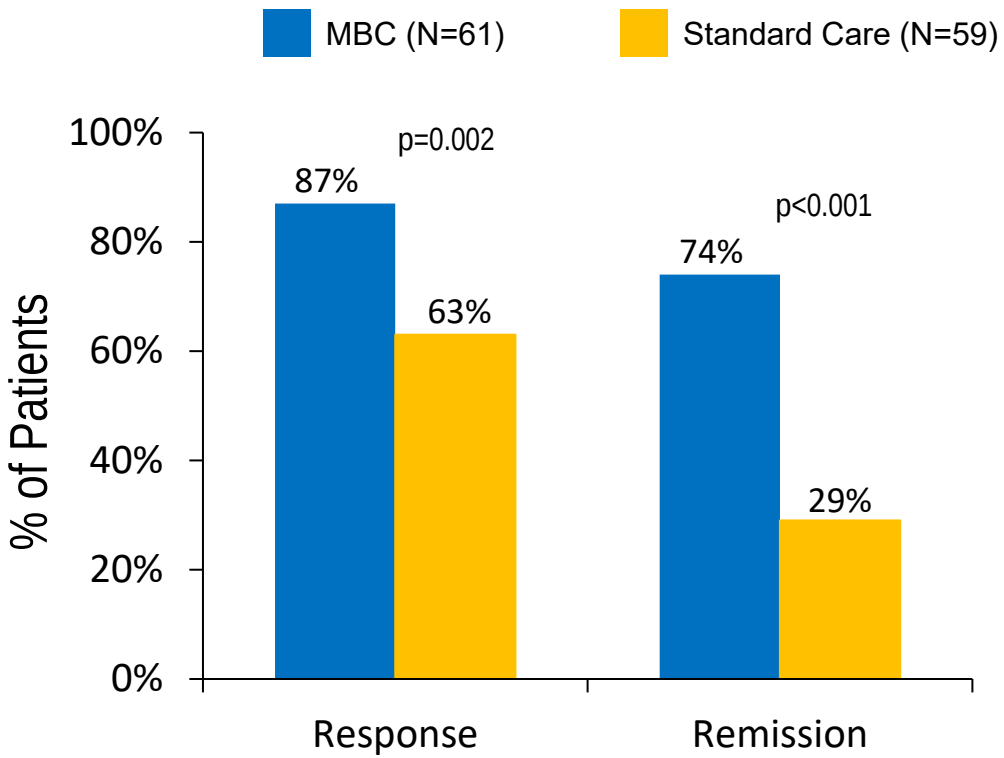


Response and remission rates were significantly improved when physicians used Measurement-Based Care

Guo T, et al. Am J Psychiatry 2015;172:1004-13.

Measurement-Based Care for Depression: Systematic Review & Meta-Analysis of Randomized Controlled Trials

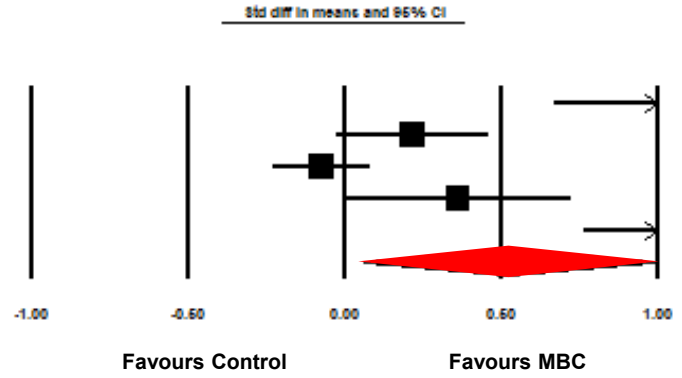
- PRISMA methodology
- Literature search of databases to July 1, 2020
- Comprehensive search terms
- 7 studies identified (5 in English literature, 2 in Chinese)

First Author	Sample	Size	MBC Scale	MBC Algorithm	Comparator	Treatment
Guo T, 2015 (Beijing)	Clinic outpatients	120	QIDS-SR & FIBSER	Simple algorithm	Standard treatment	Mirtazapine or paroxetine
Wikberg C, 2017 (Sweden)	Primary care outpatients	258	MADRS-S monthly	No algorithm	Treatment as usual	Any antidepressant
Yeung A, 2012 (USA)	Primary care outpatients	915	PHQ-9 monthly	No algorithm	Treatment as usual	Any antidepressant
Adli M, 2017 (Germany)	Inpatients	429	PHQ-9 monthly	Four detailed algorithms	Treatment as usual	Any antidepressant but specified augmentation
Bauer M, 2009 (Germany)	Inpatients	148	HAM-D every 2 weeks	Stepwise detailed algorithm	Treatment as usual	Any antidepressant but specified augmentation
Zhao S, 2016 (Shaoxing)	First-episode outpatients	120	PHQ-9 weekly	No algorithm	Standard treatment	SSRI or SNRI antidepressant
Chen P, 2016 (Xinjiang)	Clinic outpatients	108	PHQ-9	No algorithm	Standard treatment	Tricyclic antidepressants

Zhu M et al, J Clin Psychiatry 2021.

Endpoint Depression Scores, SMD (5 studies)

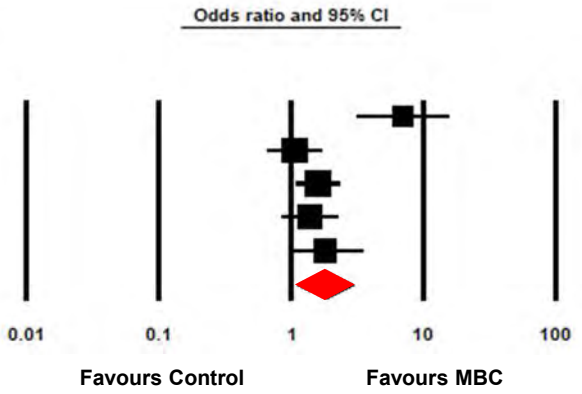
Model	Study name	Std diff in means	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value	MBC	CTL
	Guo 2015	1.056	0.195	0.038	0.674	1.438	5.416	0.000	61	59
	Wikberg 2017	0.219	0.125	0.016	-0.026	0.464	1.754	0.079	125	133
	Yeung 2012	-0.073	0.080	0.006	-0.229	0.083	-0.920	0.358	364	278
	Zhao 2016	0.362	0.184	0.034	0.001	0.723	1.966	0.049	60	60
	Chen 2016	1.176	0.208	0.043	0.768	1.585	5.642	0.000	54	54
Random		0.525	0.236	0.056	0.063	0.987	2.227	0.026		



SMD=0.53, p=0.026

Remission, Odds Ratios (5 studies)

Model		Odds ratio	Lower limit	Upper limit	Z-Value	p-Value	MBC	CTL
	Guo 2015	6.949	3.117	15.492	4.739	0.000	45 / 61	17 / 59
	Wikberg 2017	1.059	0.650	1.726	0.230	0.818	61 / 125	63 / 133
	Yeung 2012	1.590	1.068	2.366	2.286	0.022		
	Adli 2017	1.375	0.841	2.249	1.268	0.205	154 / 266	42 / 84
	Bauer 2009	1.826	0.950	3.509	1.806	0.071	40 / 74	29 / 74
Random		1.826	1.123	2.968	2.429	0.015		



OR=1.83, p=0.015

MBC improved depression symptoms (SMD=0.53, p=0.026) **and increased the odds of remission** (OR=1.83, p=0.015)

Zhu M et al, J Clin Psychiatry 2021.

The many benefits of MBC

For Doctors

- Saves time for busy doctors
- Aids in diagnostic assessment and treatment planning
- Facilitates outcome tracking for any treatment
- Enables coordinated care in clinic

For Patients

- Educates about depression symptoms
- Engages patients in their care

For healthcare systems

- Facilitates aggregation of data for quality assurance
- Enables data sharing for research, innovation, best practices, etc
- Potential economic benefits in efficiency, better care

Hong RH et al. Neuropsychiatr Dis Treat 2021.

Enhanced Measurement-Based care Effectiveness in Depression

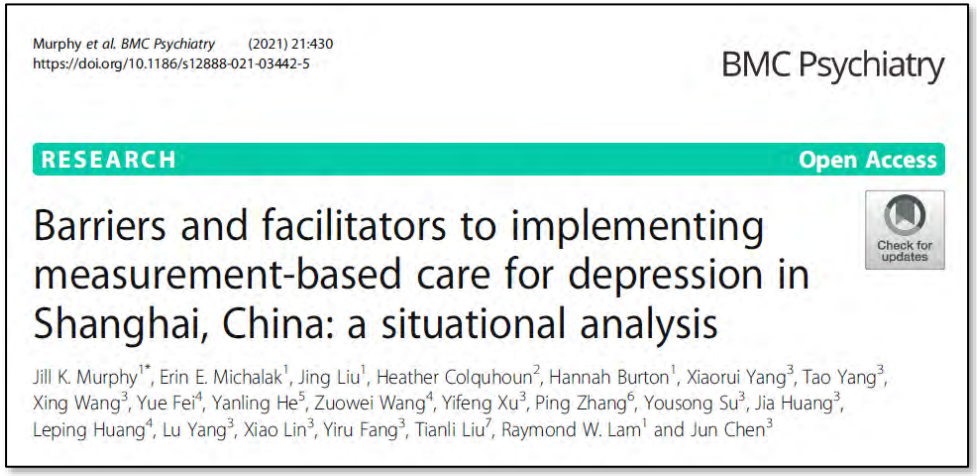
EMBED: A Canada-China Implementation Project

Dr. Raymond Lam & Dr. Jun Chen

University of BC and Shanghai Mental Health Centre

Study Aims

- Identify barriers and facilitators to measurement-based care (MBC) in China
- Adapt a Canadian enhanced MBC (eMBC) program for the Chinese health care setting via WeChat
- Compare the effectiveness of eMBC vs. standard MBC implementation
- Build knowledge and capacity for scale up in China and beyond



Murphy *et al. BMC Psychiatry* (2021) 21:430
https://doi.org/10.1186/s12888-021-03442-5

BMC Psychiatry

RESEARCH Open Access

Barriers and facilitators to implementing measurement-based care for depression in Shanghai, China: a situational analysis

Jill K. Murphy[1*], Erin E. Michalak[1], Jing Liu[1], Heather Colquhoun[2], Hannah Burton[1], Xiaorui Yang[3], Tao Yang[3], Xing Wang[3], Yue Fei[4], Yanling He[5], Zuowei Wang[4], Yifeng Xu[3], Ping Zhang[6], Yousong Su[3], Jia Huang[3], Leping Huang[4], Lu Yang[3], Xiao Lin[3], Yiru Fang[3], Tianli Liu[7], Raymond W. Lam[1] and Jun Chen[3]

MBC: Barriers and Facilitators

Situational Analysis conducted in Shanghai (survey and interviews)

Barriers	Facilitators
Healthcare System level • Cost of MBC • Continuity of doctors • Variability of EMRs • Current use of psychometrists	**Healthcare System level** • Champions • Availability of computers • Validated scales in Chinese • Anti-stigma approach
Doctor level • Time and workload • Training • Clinical relevance of MBC • Loss of trust in expert	**Doctor level** • Positive attitudes about MBC • Beliefs about patient empowerment • Desire for training
Patient level • Time taken from doctor • Read and understand the scales • Cognitive deficits and low motivation	**Patient level** • Improve knowledge • Improve adherence • Reduce stigma

Murphy J et al. 2020; Manuscript under review.

Features of EMBED MBC Implementation

For Doctors


Scales package


Monitoring form for chart


Medication algorithm


MBC training

For Patients


Patient information


WeChat mood tracking


WeChat "Feeling Better"

For Hospital


Workflow training


Champions


Expert consultation

Icons by DinosoftLabs

Measurement-Based Care for Depression

Features of EMBED MBC Implementation

Neuropsychiatric Disease and Treatment
Dovepress
open access to scientific and medical research
Open Access Full Text Article
REVIEW

Implementing Measurement-Based Care for Depression: Practical Solutions for Psychiatrists and Primary Care Physicians

This article was published in the following Dove Press journal:
Neuropsychiatric Disease and Treatment

Ran Ha Hong[1]
Jill K Murphy[1]
Erin E Michalak[1]
Trisha Chakrabarty[1]
Zuowei Wang[2]
Sagar V Parikh[3]
Larry Culpepper[4]
Lakshmi N Yatham[1]
Raymond W Lam[1,*]
Jun Chen[5,*]

Abstract: Measurement-based care (MBC) can be defined as the clinical practice in which care providers collect patient data through validated outcome scales and use the results to guide their decision-making processes. Despite growing evidence supporting the effectiveness of MBC for depression and other mental health conditions, many physicians and mental health clinicians have yet to adopt MBC practice. In part, this is due to individual and organizational barriers to implementing MBC in busy clinical settings. In this paper, we briefly review the evidence for the efficacy of MBC focusing on pharmacological management of depression and provide example clinical scenarios to illustrate its potential clinical utility in psychiatric settings. We discuss the barriers and challenges for MBC adoption and then address these by suggesting simple solutions to implement MBC for depression care, including recommended outcome scales, monitoring tools, and technology solutions such as

THE JOURNAL OF CLINICAL PSYCHIATRY
Depression (MDD)

JCP CME: META-ANALYSIS

The Efficacy of Measurement-Based Care for Depressive Disorders: Systematic Review and Meta-Analysis of Randomized Controlled Trials

Maria Zhu, MSc[a]; Ran Ha Hong, BSc[a]; Tao Yang, MD, PhD[b]; Xiaorui Yang, MD[b]; Xing Wang, MD[b]; Jing Liu, MHA[a]; Jill K. Murphy, PhD[a]; Erin E. Michalak, PhD[a]; Zuowei Wang, MD, PhD[c]; Lakshmi N. Yatham, MBBS, MBA(Exec)[a]; Jun Chen, MD, PhD[b]; and Raymond W. Lam, MD[a,*]

EMBED 轻松治郁 “Easy to Recover from Depression” WeChat Mini-Program

- Mood tracking feature, **心境测试**

- Self-management feature, **重振旗鼓**
- Lay coaching via WeChat audio/video/chat

Measurement-Based Care: Summary

- Measurement-based care (MBC) improves depression outcomes.
- Simple solutions can overcome the system, doctor, and patient barriers to successfully implement MBC in China.
- We can use technology like MoodFx app and WeChat mini-programs to support measurement-based care.

MOOD FX
www.moodfx.ca

EMBED