Evidence-Based Approaches to Medication Management in Psychiatry: Promises and Pitfalls

Michael Flaum, MD

Department of Psychiatry
University of Iowa Carver College of Medicine
Director, Iowa Consortium for Mental Health

April 8, 2005
Outline

- Introduction
  - Who I am, ICMH activities around EBP’s

- Evidence-based practices
  - definitions and concepts

- Why the push for EBP’s?
  - PORT study

- Using evidence-based approaches in psychoactive prescribing - MedMAP
My Contact Info

- **e-mail:** michael-flaum@uiowa.edu
- **Phone:** 319-353-4340
- **Web site:** www.icmentalhealth.org
Iowa Consortium for Mental Health

- Began in 1994
- Mission: To enhance mutually beneficial collaboration between Iowa’s universities and its public mental health system
- Focus over past several years: Evidence-based practices in mental health
ICMH Technical Assistance Center for Evidence-Based Practices

Supported by:

- Iowa DHS
  - Community Mental Health Block Grant
- Magellan Behavior Health
  - Community Reinvestment
- National Institute of Mental Health
  - Outreach Partners Program
ICMH EBP-TAC Activities

- ICN Series: Evidence-Based Practices in Mental Health: Ready or Not Here They Come
- TA to CMHC’s on EBP’s as per new legislation
  - SF 2288
  - Mandates that all CMH Block Grant money be used for EBP’s
- ACT TAC
- WMR TAC
Evidence-Based Practice in Mental Health:  

Ready or Not, Here They Come

ICN Site

ICN Series, Summer-Fall, 2004
Objectives of Session I: EBP Overview, Definitions and Concepts

- Understand what is meant by the term “evidence based practice(s)”
- Review the main factors driving public mental health systems towards EBP’s
- Describe the concept of “model fidelity” and methods of its evaluation
- Recognize the limitations of the EBP approach in mental health
- Discuss barriers to implementation and strategies to overcome them
Cautionary note

- “As is true with any newly popularized term, the term ‘evidence-based’ has an almost intuitive ring of credibility to it…

- …But this ring may be hollow”.

# Medline Search Results

EBP = “Evidence-Based Practice(s)"
EBM = “Evidence-Based Medicine”

<table>
<thead>
<tr>
<th>Years</th>
<th>EBP</th>
<th>EBM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966-91</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1992-93</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1994-95</td>
<td>14</td>
<td>95</td>
</tr>
<tr>
<td>1996-98</td>
<td>179</td>
<td>2,003</td>
</tr>
<tr>
<td>1999-05*</td>
<td>1,094</td>
<td>14,953</td>
</tr>
</tbody>
</table>

*Last updated March (week 5), 2005*
Selected Definitions

- Best Practice
- Evidence-Based Practice
- Evidence Based Medicine
“Best Practice”: Selected Generic Definitions

- ... policies, principles, standards, guidelines, and procedures that contribute to the highest, most resource-effective performance of a discipline.

- ...a technique or methodology that, through experience and research, has proven to reliably lead to a desired result.
Evidence-Based Practices
Selected Definitions (1)

- Interventions for which there is consistent scientific evidence showing that they improve client outcomes.

Source: Drake RE et al, Psychiatric Services, 52:179-82, 2001
Evidence-Based Practices
Selected Definitions (2)

- Intervention with a body of evidence:
  - rigorous research studies
  - specified target population
  - specified client outcomes

- Specific implementation criteria (e.g., treatment manual)

- A track record showing that the practice can be implemented in different settings

“Evidence-based medicine”
Selected definitions

- "Evidence-based medicine involves evaluating rigorously the effectiveness of healthcare interventions, disseminating the results of evaluation and using those findings to influence clinical practice.

- It can be a complex task, in which the production of evidence, its dissemination to the right audiences, and the implementation of change can all present problems".

Why the push for EBP’s?

- Many advances in understanding and treating mental illnesses over past few decades
- Limited evidence of improved outcomes
- “Science to service” gap

- “A wide variety of effective, community-based services, carefully refined through years of research, exist for even the most severe mental illnesses yet are not being translated into community settings.”

- “Numerous explanations for the gap between what is known from research and what is practiced beg for innovative strategies to bridge it.”

From Ch 8: A vision for the future
Why the push for EBP's?

- Despite extensive evidence and agreement on effective mental health practices for persons with SMI, research shows that routine mental health programs do not provide EBP’s to the great majority of clients with these illnesses.

- This finding was a major conclusion of the surgeon general’s report (1999).

- PORT study – the most extensive demonstration of the problem.

Source: Drake RE et al, Psychiatric Services, 52:179-82, 2001
PORT Study: Patient Outcomes

Research Team

- **Sponsors and Partners**
  - NIMH and AHCPR (Agency for Health Care Policy and Research) 1992
  - Joint effort: Hopkins, University of Maryland

- **2 major components and goals**
  - PORT 1: To develop recommendations for the treatment of persons with schizophrenia, based on a synthesis of the best scientific evidence.
  - PORT 2: To quantify concurrence of actual practice with these recommendations

PORT 1: Generating Recommendations

- Literature review
- Strength of evidence evaluated for a variety of interventions (A – C)
- 30 level A recommendations generated
  - Strong evidence base
PORT – Levels of Evidence Criteria*

- Level A: Good research-based evidence, with some expert opinion to support recommendation
- Level B: Fair research-based evidence, with substantial expert opinion to support recommendation
- Level C: Minimal research-based evidence, primarily based on expert opinion and significant clinical experience to support recommendation

*Adapted from AHCPR Depression Guidelines*
PORT 1 Results: 30 Treatment Recommendations (Level A)

- Somatic Treatments: 21
  - Pharmacotherapy: 18
  - ECT: 3
- Psychological Treatment: 2
- Family Treatment: 3
- Vocational Rehabilitation: 2
- Service Systems: (ACT) 2
PORT 2: Conformance Study

- Survey of a stratified random sample of 719 pts with schizophrenia in 2 states
  - Public, private, VA
  - Inpatient, outpatient
  - Drawn from multiple communities

- Looked at concurrence of practice with 12 PORT treatment recommendations

- Dichotomous ratings (conform vs. not)

## PORT Study: Care for Schizophrenia Lags Behind Science

<table>
<thead>
<tr>
<th>Schizophrenia PORT Treatment Recommendations</th>
<th>Actual Treatment Rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antipsychotic medication for new or relapsed symptoms(^1)</td>
<td>89.2</td>
</tr>
<tr>
<td>Appropriate dose of antipsychotic medication for new or relapsed symptoms(^1)</td>
<td>62.4</td>
</tr>
<tr>
<td>Antipsychotic medication on an ongoing basis(^2)</td>
<td>92.3</td>
</tr>
<tr>
<td>Appropriate dose of ongoing antipsychotic medication</td>
<td>29.1</td>
</tr>
<tr>
<td>Antiparkinsonian medication for side effects</td>
<td>46.1</td>
</tr>
<tr>
<td>Long-lasting injections of antipsychotic medication</td>
<td>35.0</td>
</tr>
</tbody>
</table>

\(^1\)Data from inpatients studied.  
\(^2\)Data for this box and all remaining categories are from outpatients studied.
PORT 2 - Conformance Study:
Sample Findings – Antipsychotic Dosing

- **Acute Phase**: 62.4% receiving appropriate doses
  - 15% on a lower dose (<300 CPZ equiv.)
  - 22.5% on a higher dose (>1000 CPZ equiv.)

- **Maintenance Phase**: 29.1% receiving appropriate doses
  - 39.1% on a lower dose (<300 CPZ equiv.)
  - 31.9% on a higher dose (>600 CPZ equiv.)
PORT 2 - Conformance Study: Sample Findings (2)

- Urban patients more likely than rural to be out of range and to be on high doses
- Minority patients more likely to be on high doses

*No evidence behind either of these trends*
## PORT 2 Study

### Sample Findings - Non-somatic Tx

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Inpt. (%)</th>
<th>Outpt. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Psycho-education</td>
<td>31.6</td>
<td>9.6</td>
</tr>
<tr>
<td>Vocational Rehabilitation</td>
<td>30.4</td>
<td>22.5</td>
</tr>
<tr>
<td>Assertive Community Treatment</td>
<td>8.6</td>
<td>10.1</td>
</tr>
</tbody>
</table>

% of pts with SZ receiving Tx
PORT - Conclusions

- Real world practice is inconsistent with practice as recommended by academics
- “Evidence-based practices” are markedly underutilized
- Reasons for this need to be better understood
- Other strategies necessary to enhance implementation of EBP’s
National Evidence-Based Practices Project: Sponsors

- SAMHSA – Center for Mental Health Services
- Robert Wood Johnson Foundation
- National Alliance for the Mentally Ill
- Several state and local mental health authorities
  - New Hampshire
  - Maryland
  - Ohio
  - Texas
  - North Carolina
National Evidence-Based Practices Project: Phases

- Identification/selection of EBP’s (~ ‘98) for adults with SMI
  - 6 practices selected

- Development of initial training and evaluation materials for each practice – resource kits v.1.0 (‘98 – 99’)
  - Including methods to evaluate fidelity

- Piloting of EBP resource kits in multiple states with fidelity and outcome evaluation (‘99 – 02’)

- Full development of “implementation resource kits” (‘01 – 02’
National EBP Project: 6 Selected Practices

- Assertive Community Treatment
- Co-occurring Disorders: Integrated Treatment
- Family Psycho-education
- Illness Management and Recovery
- Medication Management Approaches in Psychiatry (MedMAP)
- Supported Employment
● 2001 – year long series

● Presented rationale for emphasis on EBP’s

● Formal literature reviews on evidence-based practices in mental health

● Introduced “National EBP project”
  ■ 6 “blessed” practices
Demonstrate that resource kits can be used to facilitate the faithful implementation of EBP’s in routine mental health settings and that this results in improved client outcomes (‘03-‘06)

- Additional 7 state effectiveness study

- Broad dissemination of resource kits
Dangers of EBP’s

- Dogma – top down approach
- “Cookbook” approach
- Over-reliance on diagnostic categories
- Loss of individuality
  - Provider
  - Client
Evidence-Based Practices vs. Evidence-Based Practice

- Top-down vs. bottom up approach to EBP

- “Blessed” practices vs. a commitment to continually use outcome data to drive resource allocation, training, etc.
Bottom up approach to evidence-based practice

- Identifying desired outcomes and target population for a program or intervention
- Developing and implementing processes to assess and track those outcomes in a valid manner
- Developing and implementing feedback processes in which outcome evaluation can and do impact programs/interventions (meaningful QA)
- Can be organizational (e.g., CMHC-wide) or specific to a program
Is there a problem with psychiatric prescribing patterns?

- Inconsistent prescribing across providers
- Polypharmacy is rampant
- Costs are going through the roof
- New drugs are widely used
- Huge influence of advertising/detailing
  - Consumer
  - Clinician
  - Opinion Leaders
Current Practice:
Everyone “Just Doing Their Best”
One Goal of Evidence-based Approach: Aligning the Arrows
Medication Management Approaches in Psychiatry (MedMAP)
What is the goal of MedMAP in the treatment of schizophrenia?

- To improve outcomes through the optimal use of medications through implementation of the following principles:
  - Utilization of a systematic approach to medication management
  - Objective assessment of the symptoms that the medications are supposed to affect
  - Clear, concise documentation of the treatments and their outcomes
  - Efforts to enhance medication adherence through consumer education and involvement in medication decisions.
What are the core components of MedMAP?

- A systematic approach to medication management
  - Guidelines and algorithms
- Standardized documentation
  - Identified target symptoms and quality of life goals
- Outcomes tracked
  - Symptoms and quality of life
- Consumer involvement / education
  - Decision making and symptom/outcome monitoring
Definitions

- **Guidelines**—Options with levels of evidence and principles of treatment. Suggests tactics, yet user develops sequences.

- **Algorithms**—Specifies sequences (stages) with specific options and tactics. Step-by-step flow charts of best practices in medication use. Recommends key decision points.

“Algorithm: A step by step procedure for solving a problem or accomplishing some end.” — Webster’s Dictionary
Guideline/Algorithm Citations for Treatment of Schizophrenia

- **Expert Consensus Guidelines**
  J. Clinical Psychiatry **60** (Supplement 11), 1999

- **Texas Medication Algorithm Project (TMAP)**
  J. Clinical Psychiatry, **65** (4); 500-508, 2004

- **American Psychiatric Association**
  American J. Psychiatry **161** (Supplement), 2004

- **Patient Outcomes Research Team (PORT)**
  Schizophrenia Bulletin **30** (2), 193-217, 2004
Clarification

- Guidelines and algorithms are available for many disorders
  - Tend to be diagnostically driven

- “MedMap” as currently configured is limited to Rx of Schizophrenia

- Principles and processes are applicable across conditions
## Algorithm/Guideline Development

<table>
<thead>
<tr>
<th>Sponsoring Group/Project</th>
<th>Abv.</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Outcome Research Team</td>
<td>PORT</td>
<td>‘94, ‘04</td>
</tr>
<tr>
<td>Texas Medication Algorithm Project</td>
<td>TMAP</td>
<td>‘96, ‘99, ‘04</td>
</tr>
<tr>
<td>American Psychiatric Association</td>
<td>APA</td>
<td>‘97, ‘04</td>
</tr>
<tr>
<td>Department of Veterans Affairs</td>
<td>VA</td>
<td>‘97</td>
</tr>
<tr>
<td>Canadian Psychiatric Association</td>
<td>CPA</td>
<td>‘98</td>
</tr>
</tbody>
</table>
## Parameters of Antipsychotic Management in Selected Guidelines

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of drug</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Effective dose range</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Duration</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Side Effect Management</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Levels, Switching</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Choosing and Antipsychotic by Sequence and Stage

- First episode
- First failure
- Number of failures before clozapine
- Clozapine failure
- Clozapine augmentation
- Combination antipsychotics
Example of Algorithm from Texas Medication Algorithm Project (TMAP)
# Schizophrenia Guideline/Algorithm

## Recommendations: 1st Wave

<table>
<thead>
<tr>
<th></th>
<th>Expert</th>
<th>TMAP</th>
<th>VA</th>
<th>APA</th>
<th>CPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>First episode</td>
<td>A, T</td>
<td>A, T</td>
<td>A, T</td>
<td>A, T</td>
<td>A</td>
</tr>
<tr>
<td>Second choice</td>
<td>A, T</td>
<td>A, T</td>
<td>A, T</td>
<td>A, T</td>
<td>A</td>
</tr>
<tr>
<td>Third choice</td>
<td>C</td>
<td>A</td>
<td>C</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Fourth choice</td>
<td>–</td>
<td>C</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Fifth choice</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Combinations</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Key: A=Atypicals  T=Typicals  C=Clozapine  C+=Clozapine Augmentation  CF=Clozapine Failure
## Schizophrenia Guideline/Algorithm Recommendations: 2\textsuperscript{nd} Wave

<table>
<thead>
<tr>
<th></th>
<th>Expert</th>
<th>TMAP</th>
<th>TMAP</th>
<th>APA</th>
<th>PORT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1999</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First episode</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A,T</td>
</tr>
<tr>
<td>Second choice</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A,T</td>
<td>C</td>
</tr>
<tr>
<td>Third choice</td>
<td>C</td>
<td>A</td>
<td>C(A,T)</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Fourth choice</td>
<td>C+</td>
<td>C</td>
<td>C+</td>
<td>C+</td>
<td>–</td>
</tr>
<tr>
<td>Fifth choice</td>
<td>–</td>
<td>C+</td>
<td>A,T</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Combinations</td>
<td>–</td>
<td>CF</td>
<td>CF</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**Key:**
- A = Atypicals
- T = Typicals
- C = Clozapine
- C+ = Clozapine Augmentation
- CF = Clozapine Failure
The Evidence Pyramid

Systematic Reviews and Meta-analyses

Randomized Controlled Double Blind Studies

Cohort Studies

Case Control Studies

Case Series

Case Reports

Ideas, Editorials, Opinions

Animal research

In vitro ('test tube') research
<table>
<thead>
<tr>
<th>Stage of Illness</th>
<th>Strong Evidence</th>
<th>Moderate Evidence</th>
<th>Weak Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Episode</td>
<td>Treat with antipsychotic</td>
<td>Use newer (atypical) antipsychotic</td>
<td>Choice of specific antipsychotic</td>
</tr>
<tr>
<td>Failure of first antipsychotic</td>
<td>Use another antipsychotic (other than clozapine)</td>
<td>Choice of specific antipsychotic</td>
<td></td>
</tr>
<tr>
<td>Failure of second antipsychotic</td>
<td>Use clozapine</td>
<td></td>
<td>Use another antipsychotic (other than clozapine)</td>
</tr>
<tr>
<td>Failure of third antipsychotic</td>
<td>Use clozapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure of clozapine augmentation</td>
<td>Augment clozapine</td>
<td></td>
<td>Use another antipsychotic or combination of antipsychotics</td>
</tr>
</tbody>
</table>
% of Iowa Medicaid clients on antipsychotics receiving 2 or more atypicals
18-64 yo, eligible August-May

≥ 2 Atypical AP's
Daily Reimbursed Cost of Atypical AP’s FY 2000

*Mean ± SD
**Daily Cost of Antipsychotics: Mono vs. Polytherapy, FY 2000**

- **AP monotherapy**: $10.88
- **any AP polytherapy**: $17.57
- **atypical polytherapy**: $26.32

*Mean ± SD*
Clinical Reasons for Algorithms/Guidelines

- Improve quality of care
- Facilitate clinical decision-making
- Make treatment plans consistent across sites and physicians
- Decrease influence of advertising, commercial detailing, samples etc.
Administrative Reasons for Algorithms/Guidelines

- Consistent documentation and outcomes across sites and providers
- Improve quality monitoring
- Provide a rational process for introducing new treatments
- Improve cost efficiency
  - Define costs related to specific treatments or outcomes
- Make costs more predictable
What Do We Know About Clinical Adherence to Guidelines?

- CME is ineffective*
- CME plus academic detailing is helpful
- Prompts are more effective than audit/feedback
- CME plus audit/feedback is helpful
- Patients influence providers
- Chart reviews reveal low likelihood (<50%) of interpretable information by which to gauge adherence

Components of MedMAP Resource Kit

- Information for Stakeholders
- Implementation Tips for Mental Health Program Leaders
- Implementation Tips for Public Mental Health Authorities
- Fidelity Scale
- Monitoring Client Outcomes
- Manual for Practitioners and Provider Organizations
MedMap Elements

- Guideline for medication treatments, with strategy and tactics
- Systematic documentation of medication-related information
- Measurement of outcomes
- Patient-oriented approach to adherence
Example of Documentation:
Outpatient Clinic Visit from TIMA

TIMA Texas Implementation of Medication Algorithms
Outpatient Clinic Visit
Date: ___________________  Service Activity Code: ___________________
Physician Code: ___________  Start Time: ___________  Stop Time: ___________

Current Diagnoses: __________________________  Current Algs: (check)  ADD-ADHD  ADD-P  BD  MANIA  DEP  SAD  None

Stage: ___________  Weeks in this stage: ___________

Vital Signs: BP ___________  Pulse ___________  Temp ___________  Weight ___________  Height ___________ (if needed)

Most Recent Drug Levels:

<table>
<thead>
<tr>
<th>Medication Name</th>
<th>Date Drawn</th>
<th>Serum Level</th>
<th>WNL</th>
</tr>
</thead>
</table>

Has patient taken medications as prescribed?  ☐ Yes/Mostly  ☐ No/Inadequate

Any other medications taken during the past week?  ☐ No  ☐ Yes (If yes, specify below) ____________________________

Patient Global Self Report (0-10)  0 = No symptoms  5 = moderate  10 = extreme
Symptom Severity: ___________  Side Effects: ___________

<table>
<thead>
<tr>
<th>POS SX</th>
<th>NEG SX</th>
<th>QIDS-SR</th>
<th>QIDS-C</th>
<th>BGS</th>
<th>OTHER</th>
</tr>
</thead>
</table>

Use for all physician's ratings below: (0-10)  0 = No symptoms  5 = moderate  10 = extreme

Core Symptoms:  Mania  Depression  Positive Sx or Psychosis  Negative Sx
Other Symptoms:  Inability  Mood Lability  Agitation  Anxiety
Level of Interest  Appetite  Energy Level  Insomnia
Other (specify):  Overall Side Effect Severity: ___________ (0-10)

Is patient presently suicidal?  ☐ Yes  ☐ No  ☐ No (If yes, specify in progress note)

Are serum levels needed?  ☐ Yes  ☐ No  ☐ No (If yes, specify in progress note)

Medication Response:  ☐ Full  ☐ Partial  ☐ Minimal  ☐ None  ☐ Symptoms Worsening
(Since beginning of stage)

If medication being continued at this visit, include rationale for same (Include current compliance).
☐ Critical Decision Point Indicates Change Necessary  ☐ Insufficient Improvement  ☐ Patient Preference
☐ Side Effects Intolerable  ☐ Symptoms Worsening  ☐ Diagnosis Change  ☐ Other ____________________________

Return to clinic: ___________  Next appointment date: ___________ / ___________ / ___________

Signature/Title: ____________________________  07/23/01
CRFO: cris/F2001F25FT  Page 2 of 2
The patient’s progress as shown in symptoms and side effects are measured with the use of clinical rating scales in accordance with TIMA guidelines. Use of scales includes the following sub-elements that apply to primary and secondary diagnoses:

- Specific algorithm clinical rating scales
- General symptom Likert scales
- Patient rated scales
- Clinician defined Likert scales
- Clinical global scales
## OUTCOMES ASSESSMENTS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom Domain</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
</tr>
<tr>
<td>Specific Measures</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Failure Criteria</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Documentation Forms</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
# Outcome Measures Used Across Sites

<table>
<thead>
<tr>
<th>Measure</th>
<th>TMAP</th>
<th>TIMA</th>
<th>UHS</th>
<th>NMPI</th>
<th>OMAP</th>
<th>DMHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIMS Abnormal Involuntary Movement Scale</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>SAS Simpson Angus Scale</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAF Global Assessment of Functioning Scale</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSE Mental Status Exam</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>POS Positive Symptoms</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>NEG Negative Symptoms</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PANSS Positive and Negative Syndrome Scale</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BNS Brief Negative Scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>IDS-SR Inventory of Depressive Symptomatology self report</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDS-C Inventory of Depressive Symptomatology clinician administered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>BPRS Brief Psychiatric Rating Scale</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ALTMAN</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGI Clinical Global Impression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Overall, how would you rate …</td>
<td>(Circle one choice for each statement)</td>
<td>Should this be on your service plan?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------------</td>
<td>------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The place where you live (your housing).</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The amount of money you have to buy what you need.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your involvement in work, employment.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your level of education.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your access to transportation to get around.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your participation in community activities (leisure, sports, spiritual, volunteer work).</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your ability to have fun and relax.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your physical health.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your level of independence.</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your ability to take care of yourself (staying healthy, eating right, avoiding danger). ETC, ETC</td>
<td>Poor  Fair  Good  Excellent</td>
<td>Yes  No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Patient/Family Education

- Education Promotes
  - Treatment Adherence
  - Partnership/Therapeutic Alliance
  - Better Clinical Decisions
  - Better Self-care
  - Better symptom and relapse recognition

\[\downarrow\]

Better Outcomes
The Evidence Based Cycle

Specify Core Components of Practice

Modify Core Components of Practice

Optimize Priority Outcomes

Review Outcomes Regularly

Quantify Priority Outcomes Regularly
“Fidelity”

- The degree to which the actual implementation of a practice is consistent with the intent of the model

- Must guard against “changing the sign on the door”

- Research on Assertive Community Treatment (ACT) shows that degree of fidelity to the original model is correlated with outcomes

- Much effort now in developing, evaluating and implementing methods to assess fidelity
Fidelity Evaluation: MedMAP Fidelity Scale

2 overall levels of assessment

- Prescriber Level of Assessment
- Organizational Level of Assessment
Prescriber Scale

- 16 items, scored 1-5
- 1 = poor, 3 = satisfactory, 5 = excellent
- Covers multiple aspects of medication management and coordination with other providers and aspects of treatment
Domains of Prescriber Scale

- Adequate information about diagnosis and treatment?
- Measurement and use of outcomes?
- Reduce medication burden and side effects?
- Dosing, monitoring okay?
- Failures identified?
- Patient and family involved in decisions, adherence strategies?
- Coordination with treatment team?
Organization Scale

- 13 items, scored 1-5

- 1 = poor, 3 = satisfactory, 5 = excellent

- Rates organization on administrative support for prescribers, provision of materials to patients and prescribers, monitoring of prescribers
Domains of Organization Scale

- Useful standardized forms?
- Rapid and reliable information access?
- Medications readily available?
- Failures identified?
- Quality control?
- Materials for patient education?
- Materials for guideline implementation?
- Scheduling flexibility?
- Integration of services
- Staff training?
Use of Fidelity Scale in MedMAP

- Baseline measurements of prescribers, organization
- Analyze results, identify strengths and weaknesses
- Design and implement changes
- Re-do fidelity scale assessments
- Analyze results, identify effects of changes
- Re-design implementation strategies
Limitations of Algorithms/Guidelines

- Tend to be diagnostically driven
  - Dx categories likely to be heterogeneous with respect to pathophysiology and treatment response
  - Must adapt to individual patient
- Evolve with new treatments
- Efficacy versus effectiveness
- Science versus clinical wisdom
Resistance to the overall approach

- “Cookbook medicine”
- Unique or different – “more ill, rural, urban, real world vs University, etc”
- Information collected (rating scales) not clinically useful
- Data is collected for research purposes
- Based on University research and has no relevance to the real world
Resistance (cont.)

- Takes more time
- Adds more paperwork
- Costs more money
- Old way is better – “if it ain’t broke, don’t fix it”
- No one else is doing it
- “Fad that will go away eventually”
Leading the Implementation

- MedMAP is more likely to be successfully implemented if a clearly identified person is responsible for leading the initiative.
  - The identified person is most likely to succeed if he or she is a senior administrator or clinician or has the backing of executive level staff and decision-making authority.
  - Clearly, the likelihood of success is greatly enhanced if this person has the respect of the online staff and fully understands the operation of the facility/agency.
Readiness for EBP’s?

- Research
  - Clinical
  - Services
- Administrative
  - Data infrastructure
  - Financing
  - Credentialing
- Clinical
- Educational
  - CME’s
  - Trainees
### Selected Guideline/Algorithm Websites

<table>
<thead>
<tr>
<th>Name</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDMAP-CMHS</td>
<td><a href="http://www.mentalhealth.samhsa.gov/cmhs/communitysupport/toolkits/medication/default.asp">http://www.mentalhealth.samhsa.gov/cmhs/communitysupport/toolkits/medication/default.asp</a></td>
</tr>
<tr>
<td>Texas Medication Algorithm Project</td>
<td><a href="http://www.mhmr.state.tx.us/centraloffice/medicaldirector/TMAP.html">http://www.mhmr.state.tx.us/centraloffice/medicaldirector/TMAP.html</a></td>
</tr>
<tr>
<td>Texas Implementation of Medication Algorithms</td>
<td><a href="http://www.dshs.state.tx.us/mhprograms/TIMA.shtml">http://www.dshs.state.tx.us/mhprograms/TIMA.shtml</a></td>
</tr>
<tr>
<td>Department of Veterans Affairs</td>
<td><a href="http://www.oqp.med.va.gov/cpg/psy/psy_base.htm">http://www.oqp.med.va.gov/cpg/psy/psy_base.htm</a></td>
</tr>
</tbody>
</table>
My Contact Info

- e-mail: michael-flaum@uiowa.edu
- Phone: 319-353-4340
- Web site: www.icmentalhealth.org