Evidence-Based Practices in Mental Health:

Ready or Not, Here They Come

Michael Flaum

Iowa Psychiatric Society Annual Meeting

October 10, 2003
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>1966-88</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1989-92</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1993-95</td>
<td>14</td>
<td>95</td>
</tr>
<tr>
<td>1996-03</td>
<td>913</td>
<td>12,298</td>
</tr>
</tbody>
</table>
Task 1: Clarification of Terms and Concepts

- “Best practice”?
- “Promising practice”?
- “Evidence-based practice”?
- “Evidence-based medicine”?
- How do we evaluate levels of evidence?
Best Practice: 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.
Best Practices – Business definition

- A group of tasks that optimizes the efficiency (cost/risk) or effectiveness (service level) of the business discipline or process to which it contributes.

- It is a standard benchmark for world-class operations that is replicable, transferable and adaptable across industries.
What are Evidence-Based Practices?

- 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
What is an evidence-based practice?

- 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

Source: Bond et al
What is evidence-based medicine?

- A set of strategies derived from developments in information technology and clinical epidemiology designed to assist the clinician in keeping up to date with the best available evidence.
  
  Source: Geddes, 2000

- Evidence-based medicine is a mixture of clinical research, expert consensus and practitioner experience.
  
  Source: MedMAP toolkit
What is Evidence-Based Medicine?

- "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".

Evidence-Based Medicine

- It recognizes that health care is individualized and ever changing and involves uncertainties and probabilities.

- Ultimately EBP is the formalization of the care process that the best clinicians have practiced for generations".

The Evidence Pyramid

Randomized Controlled Double Blind Studies

Cohort Studies

Case Control Studies

Case Series

Case Reports

Ideas, Editorials, Opinions

Animal research

In vitro ('test tube') research

Systematic Reviews and Meta-analyses
Levels of Evidence: Example - PORT 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
Levels of Evidence
Example: CSAP Typology

- **Types 1 – 2:** “Promising Practices”
- **Types 3 – 5:** “Best Practices”

- **Type 1:** The program/principle has been identified or recognized publicly, and has received awards, honors, or mentions.
- **Type 2:** The program/principle has appeared in a non-refereed professional publication or journal.
Levels of Evidence

Example CSAP Typology (cont.)

- **Type 3:** The program’s source documents have undergone thorough scrutiny in an expert/peer consensus process for the quality of implementation and evaluation methods, or a paper has appeared in a peer-reviewed journal.

- **Type 4:** The programs/principles have undergone either a quantitative meta-analysis or an expert/peer consensus process in the form of a qualitative meta-analysis.

- **Type 5:** Replications of program/principle have appeared in several refereed professional journals.
“Best” and “Promising” vs. “Evidence-based” Practice

- Evidence-based – practices that have been shown in multiple well controlled studies to have fidelity to the original model, and to improve the stated outcomes in the target population.

- Best practices – treatment models for which there is some scientific evidence that it enhances outcomes, but for which the evidence base has not yet been adequately established.

- Promising practices – innovative practices with good anecdotal reports, but not yet subjected to systematic study.
  - Candidates for rigorous effectiveness studies.
Fidelity

- The degree to which the implementation of a practice is consistent with the intent of the model
- “changing the sign on the door”
- Research on ACT shows that degree of fidelity is highly correlated with outcomes
- Much effort now in developing and evaluating methods to assess fidelity
Clarity of Construct

- Is there a model that can be:
  - Taught?
  - Reliably administered?
  - Evaluated for fidelity?
- Manualized?
- Consistency across providers / sites
- 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

- 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
EBP's: Why? Many practices commonly used for which there is evidence of Ineffectiveness

- Many of the services provided to delinquent juveniles have little or no evidence base.
- Including institutional care (RCF’s, group homes)
  - Benefits achieved are not maintained in community

Youth Violence: A Report of the Surgeon General
EBP's: Why?

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

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

- PORT – Patient Outcomes Research Team
- Sponsors: NIMH and AHC!PR (Agency for Health Care Policy and Research) 1992
- Joint effort: Hopkins, University of Maryland
- Goal 1: to develop recommendations for the treatment of persons with schizophrenia, based on a synthesis of the best scientific evidence.

PORT 1 Results: 30 Treatment Recommendations

- 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 Conformance Study: Findings re: Acute Rx of Schizophrenia

- 62.4% receiving appropriate doses of antipsychotics (300-1000 CPZ equiv.) during acute phase;
  - 15% on a lower dose
  - 22.5% on a higher dose
- Minority patients more likely to be on high doses
PORT Conformance Study: Findings re: Maintenance Rx

- 29.1% receiving appropriate doses of antipsychotics (300-600 CPZ equiv.) during maintenance phase
  - 39.1% on a lower dose
  - 31.9% on a higher dose
- Urban patients more likely than rural to be out of range and to be on high doses
### Use of Adjunctive Medications (among those who need* them)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Inpt. Need / got</th>
<th>Outpt. Need / got</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjunctive Psychosis Meds</td>
<td>25 / 22.9</td>
<td>25 / 14.4</td>
</tr>
<tr>
<td>Adjunctive Depression Meds</td>
<td>48.3 / 33.8</td>
<td>42.8 / 45.7</td>
</tr>
<tr>
<td>Adjunctive Anxiety Meds</td>
<td>17.8 / 33.3</td>
<td>22.8 / 41.3</td>
</tr>
</tbody>
</table>

*Need for antipsychotics – those in upper quartile on SCL psychosis subscale; need for antidepressants and anti-anxiety meds informed through a combination of ratings*
## Use of other interventions (among those who should benefit)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Inpt.</th>
<th>Outpt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Therapy / Psycho-ed.</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 Case Management or Assertive Community Treatment</td>
<td>8.6</td>
<td>10.1</td>
</tr>
</tbody>
</table>
PORT - Conclusions

- Real world practice is inconsistent with practice as recommended by academics
- “Best practices” are markedly underutilized
- Other strategies necessary to enhance implementation
Which mental health practices have a solid evidence base?
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 agencies
  - New Hampshire
  - Maryland
  - Ohio
  - Texas
  - North Carolina
National Evidence-Based Practices

Project: Phases

- Identification of EBP’s (~ ‘98)
- Development of initial training and evaluation materials (‘98 – 99’)
- Piloting of EBP’s in 7 states (‘99 – 02’)
- Full development of implementation “toolkits” (‘01 – 02’)
- Broader implementation in an additional 7 states with toolkits (‘03 – 06’)

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
National EBP project: Current Goals

- Develop standardized guidelines and training materials in the form of toolkits (near completion)
- Demonstrate that toolkits can be used to facilitate the faithful implementation of EBP’s
- Demonstrate that this results in improved outcomes in routine mental health service settings
Implementation Resource Kits

- [http://www.mentalhealthpractices.org/](http://www.mentalhealthpractices.org/)
Most well studied EBP’s in mental health are targeted to adults with serious mental illnesses

Generalizability to other populations and needs remains largely untested

- ACT for other populations/needs, e.g. re-entry from prison for SMI offenders
- Limited data for children’s MH issues
- Limited data for elderly MH issues
Evidence-Based Practices vs. Evidence-Based Practice

- Concerns about a top-down model
- “Blessed” practices vs. a commitment to continually use outcome data to drive resource allocation, training, etc.
Other potential EBP’s for kids

- Multi-Systemic Therapy
- Therapeutic Foster Care
State Implementation Progress

Source: NASMHPD Research Institute, 2001
ACT nationally

SMHA Implementation of ACT: 2001

Preliminary 2001 SMHA Profiles Data

- Planning/Piloting: 5
- Some Parts of State: 24
- State-wide Implementation: 11
- No Act: 5
- No Response: 6
EBP’s in Iowa

- Several MH practices have a solid evidence base
- Most are targeted towards severely mentally ill adults
- These EBP’s are being under-utilized in Iowa.
- There are innovative practices going on throughout the state, which should be further studied re their evidence base
- Dissemination and consensus building is necessary
## EBP’s in Iowa

<table>
<thead>
<tr>
<th>Model</th>
<th>Evidence-Based</th>
<th>Use in US</th>
<th>Use in Iowa</th>
<th>Barriers in Iowa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assertive Community Treatment</td>
<td>++ + + +</td>
<td>++ +</td>
<td>+</td>
<td>Shortage and misdistribution of MH professionals, funding, training of staff, awareness, rurality</td>
</tr>
<tr>
<td>Supported Employment</td>
<td>++ + + +</td>
<td>++ +</td>
<td>+</td>
<td>Funding, oversight, family and patient concerns about loss of benefits</td>
</tr>
<tr>
<td>Family Psychoeducation</td>
<td>++ + + +</td>
<td>++</td>
<td>+</td>
<td>Labor intensive, attitudinal, reimbursement</td>
</tr>
<tr>
<td>Medication Treatment Algorithms</td>
<td>+ + +</td>
<td>++</td>
<td>+</td>
<td>Lack of centralized mental health authority, education, enforcement, funding</td>
</tr>
<tr>
<td>Integrated substance abuse &amp; MH services</td>
<td>+ + +</td>
<td>+ + +</td>
<td>+</td>
<td>Reimbursement, credentialing</td>
</tr>
</tbody>
</table>
### “Promising Practices” in Iowa

<table>
<thead>
<tr>
<th>Model</th>
<th>Evidence-Based</th>
<th>Use in US</th>
<th>Use in Iowa</th>
<th>Barriers in Iowa</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-based Clinical MH services</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
<td>Funding, decentralized distributed governance, community buy-in</td>
</tr>
<tr>
<td>Elder Outreach Programs</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>Funding, training issues, shortage and maldistribution of professionals</td>
</tr>
<tr>
<td>Early childhood Interventions</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Reimbursement, parental attitudes</td>
</tr>
<tr>
<td>Mental Health Courts</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Judicial resistance to specialty courts, lack of large population centers within jurisdictions</td>
</tr>
</tbody>
</table>
Factors that can enhance implementation of EBP’s

- Creating financial incentives and penalties
- Using administrative rules and regulations
- Providing clinicians with ongoing supervision and feedback
- Increasing consumer demand for service
Factors that promote change in the behavior of health care providers

- Disseminating strategies
  - Educational events, written materials

- Enabling methods
  - Practice guidelines, decision support

- Reinforcing strategies
  - Practice feedback mechanisms
The steps toward full implementation

- Consensus Building
- Development of implementation plan
- Enacting the implementation
- Monitoring and evaluation
Consensus building

- Build support for change
  - Identify key stakeholders
  - Provide information to all stakeholders
  - Develop consensus regarding a vision for the practice at your agency
  - Convey a vision and commitment to stakeholders
Material in Resource Kits
Developed for Stakeholders

- Consumers of mental health services
- Family members and other supporters
- Practitioners and clinical supervisors
- Program leaders of mental health programs
- Public mental health authorities
Dangers of EBP’s

- Dogma – top down approach
- “Cookbook” approach
- Over-reliance on diagnostic categories
The Commission shall...

- “...review the quality and effectiveness of ... services to individuals with SMI/SED and identify unmet needs and barriers”

- “...Identify innovative treatments, services and technologies that are demonstrably effective and can be widely replicated in different settings”

- “...Formulate policy options that could be implemented to integrate effective treatments, improve coordination and improve community integration”
New Freedom Commission
Sub-Committees

- Acute Care
- Children and Families
- Consumer Issues
- Co-Occurring Disorders
- Criminal Justice
- Cultural Competence
- Employment and Income
- Evidence Based Practices
- Housing and Homelessness
- Interface with General Medicine
- Medicaid and Medicare
- Medications
- Older Adults
- Rights and Engagement
- Rural Issues
- Suicide Prevention
CMHS (SAMHSA) and NIMH (NIH) should strengthen their collaboration in planning, fielding, and evaluating mental health service programs in evidence-based practices.

They are encouraged to collaborate with other federal agencies, state and local gov’ts, as well as private organizations.

The process must involve all stakeholders, including consumers and families, in an effort to improve the relevance and generalizability of the research and other efforts to advance knowledge.
The failure of most mental health service financing mechanisms to pay adequately for evidence-based practices is one of the most important reasons for problems with implementation.

It is essential to reduce financial barriers to providing evidence-based practices.

The sub-committee suggests a range of strategies and tactics to assure financing:

Source: Draft Report of the Subcommittee on Evidence-Based Practices
November 26, 2002
Recommended Strategies to Finance EBP’s in MH

- **Modify Medicaid and Medicare**
  - Assure EBP’s are covered
  - Rates should be set to provide incentives to providers

- **Using the Mental Health Services Block Grant to Initiate Evidence-Based Practices**
EBP Subcommittee Report*

Using the Mental Health Block Grant to Support Evidence-Based Practices

- “Even though it represents a small portion of state mental health resources, the block grant is a flexible source of financing for initiating and supporting evidence-based practices.”

*Source: Draft Report of the Subcommittee on Evidence-Based Practices
November 26, 2002
“The sub-committee recommends that state mental health directors be encouraged to continue to use these federal resources to implement evidence-based practices but that they be required to use the block grant to create an infrastructure, such as a center for implementing evidence-based practices in each state.”

*Source: Draft Report of the Subcommittee on Evidence-Based Practices
November 26, 2002*
The MHA and MHPC recognize that Iowa’s community-based mental health service system is fragmented, under-resourced, and not as comprehensive as is necessary if the state is to fully achieve the overarching goal of reducing institutional bias.

The MHA and MHPC recognize the limitation in the capacity to dramatically expand services in light of ongoing budgetary restrictions.

*Iowa Mental Health Block Grant, 2003*
EBP’s in Iowa’s Block Grant

- The MHA and the MHPC are committed to furthering evidence-based practices.
- The intent is to use increasing proportions of block grant funds over the next several years as incentives for providers to enhance their capacity to provide these services.
- This will be a gradual process, involving staff training and development, methods to evaluate model fidelity, methods to evaluate appropriateness for these services and methods to evaluate outcomes.

*Iowa Mental Health Block Grant, 2003*
Technical Assistance Center for EBP’s in Iowa

- Established April ‘03
- Funded (1 year) by Magellan
  - “Community reinvestment” funds
- Initial Focus: ACT, Recovery
TAC Goals - ACT

- Establishment of statewide advisory committee for ACT
- Develop Iowa standards for ACT and get them into state code
- Common set of outcome measures across programs
- Review and fidelity assessment methodology
- Identify and support training needs
- Expand ACT – 2 new programs over 1 year, including at least one in a rural site
TAC goals - Recovery

- Establishment of statewide advisory committee for Recovery
- Develop standard set of outcome measures
- Fidelity assessment and review methodology
- Develop training methodology
- Train on WRAP in at least 3 CMHC’s
  - 100 consumers
Readiness for EBP’s?

- Research
  - Clinical
  - Services
- Administrative
  - Data infrastructure
  - Financing
  - Credentialing
- Clinical
- Educational
  - CME’s
  - Trainees
Training Implications

- Tough to teach old dogs new tricks
- Get them while they are puppies
- EBP’s should be prioritized at all levels of training