

**Title: Implementation of Evidence-Based Practices
in State Mental Health Systems: Implications
for Research and Effectiveness Studies**

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Introduction

State mental health commissioners have identified the need for the next generation of activity within the public mental health system to focus on quality and accountability. Building on the community-based infrastructure that has been developed in states over the last two or three decades, and to the emergence of proven technologies and interventions, this new emphasis is shifting from the *context* of care to the *content* of care with a key consideration being that both need to be considered simultaneously. A significant lesson learned is that attention to structural aspects without consideration of factors that influence the quality of clinical care and service provision or of attention to clinical aspects without consideration of system level or infrastructural issues results in inadequate implementation.

This new emphasis is consistent with trends in the general health sector and reflects concerns identified in the Surgeon General's Report on Mental Health (U.S. Department of Health and Human Services, 1999). For example, the Institute of Medicine's recent report Crossing the Quality Chasm (2001) identifies effectiveness as a major theme for health care organizations, where effectiveness is related to systematically acquired evidence. The report recognizes that the identification of priorities, building organizational supports, aligning payment policies with quality improvement, and preparing the workforce are critical elements for achieving the vision of the future quality-focused health-care system. Similarly, while the Surgeon General's Report provides an overview of evidence-based, state-of-the-art services in mental health, it also points out that there is a huge gap between knowledge and practice, between what is

known through research and what is actually implemented in many public mental health systems across the country.

Although this gap between knowledge and practice is not peculiar to the mental health field, the challenge for public mental health systems is to ensure that evidence-based practices become more broadly available and more seamlessly integrated into existing systems of care. This agenda to narrow the gap from knowledge to practice is critically predicated on a broad range of effectiveness trials that continually inform the existing knowledge base. For example, states have a keen interest in shaping prescribing practices so as to make the most cost-effective use of their psychotropic formularies. Existing medication guidelines in use in several states represent major advances in guiding rational pharmacotherapies, but are not, as yet, supported by an evidence base that compares the relative effectiveness of frontline pharmacotherapies. The NIMH-supported “Clinical Antipsychotic Trials of Intervention Effectiveness” (CATIE) program is a prime example of a key effectiveness trial that will inform emerging evidence-based medication guidelines. CATIE has the ambitious goal of examining the cost effectiveness of atypical antipsychotics in schizophrenia and Alzheimer's Disease through a national multi-site study and results from CATIE will be key to promulgating a neutral, evidence-based approach to successive generations of medication algorithms

This challenge is what confronts state mental health commissioners. Besides political and budgetary constraints, a major obstacle to broad-based to implementation is a knowledge gap related to the active ingredients of successful programs, to the implementation of innovative programs in mental health systems, and to mechanisms that

facilitate and catalyze such implementation. Also, while there are emerging models related to implementation of evidence-based practices in site-specific or organization-specific settings, models -- especially evidence-based models --for broad-based, systemwide implementation are lacking.

Within this context, this article provides an overview of the status of implementation of evidence-based practices in state mental health agency systems, the concerns and challenges arising with such implementation, priorities identified by commissioners to move the quality agenda forward, and the implications for research and effectiveness studies to help them in this effort.

Implementation of Evidence-Based Practices in State Mental Health Systems

A recent survey of state mental health agency conducted as part off the NASMHPD research Institute's profile systems (and mash bed research Institute, 200 to) to assess the implementation of a subset of evidence-based practices indicated to that all 47 states that responded to this survey reported to be implementing at least one evidence-based practice. As the chart below indicates the most commonly reported evidence-based practice was supported employment, followed by assertive community treatment and integrated to treatment for persons with co-occurring mental health and substance abuse disorders. At least 20 states are focused on implementing medication algorithms in schizophrenia. CATIE will likely play a key role in progressive refinements of these algorithms. (Insert Table 1 here)

However, as the chart on the next page indicates, even evidence-based practices that were developed and “proven” more than two decades ago, such as assertive community treatment, are not broadly available throughout the state in a majority of states. In fact, except for supported employment, less than 25 percent of the states reported implementing any evidence-based practice on a statewide basis. While the number of evidence-based services for children was limited in this survey, the number of states reporting implementation of such services was relatively lower. The conclusion that one can draw is that states are moving forward -- or are attempting to move forward -- with the implementation of evidence-based practices but, given the pace of implementation, are confronting obstacles in their initiatives.

Problems related to implementation are compounded by the fact that, of states implementing any specific evidence-based practice a moiety actually monitors “fidelity.” (Fidelity is the degree to which a program adheres to elements of the model for which there is evidence.) Of states implementing assertive community treatment, 50 percent monitor fidelity; of states implementing supported employment, 30 percent monitor fidelity; and, of states implementing integrated treatment for persons with co-occurring mental health and substance abuse disorders, 30 percent monitor fidelity. (For states implementing medications algorithms, almost 70 percent monitor adherence to the algorithm but, at the time of this survey, only 7 states were implementing medications algorithms on a statewide basis.) As the knowledge base for these medication algorithms are enhanced by real-world effectiveness trials such as CATIE, states are likely to implement these medication guidelines more assertively. (Insert Table 2 here)

Several factors appear to constrain implementation. First, reimbursement and payment mechanisms are not always aligned with EBP implementation. For example, in some cases, evidence-based practices are not eligible for reimbursement through Medicaid or private insurers. Second, clinicians and service providers may not have received training related to evidence-based practices. Third, consumers and family members may not be educated about the relative advantages of evidence-based practices. Fourth, innovative services are often perceived as a threat to the existing organizational structure and hierarchy by staff. Fifth, regulations and policies sometimes are not supportive of EBP implementation. Sixth, short-lived leadership and staff turnover

prevent sustained implementation. Seventh, the infrastructural components such as information systems, clinical records systems and administrative procedures may not provide adequate support. Eighth, additional funding for transition (in a budget neutral scenario) or for training are not easily garnered. Ninth, the public mental health system has limited mechanisms to provide incentives or sanctions to help the system move in the desired direction. And tenth, gaps in evidence constrain advocacy for EBP. Stakeholders will continue to need solid evidence to undergird the science of EBP. CATIE, as an example, will play a key role in enhancing the evidence-base for EBP in schizophrenia.

States are adopted in a variety of approaches to address these issues and move forward with systemwide implementation of evidence-based practices (Ganju, 2001). In some states, through a process of consensus-building and advocacy, stakeholder coalitions consisting of consumers, family members, advocates, mental health professionals and policymakers have succeeded in getting funding increases for the implementation of evidence-based practices on a statewide basis. In Texas, for example, legislative appropriations were directed to the implementation of new generation antipsychotic medications, assertive community treatment, supported employment and supported housing for statewide implementation. In Ohio, a major focus has been the establishment of “coordinating centers of excellence” (which incorporate the concept of a champion, a mentor and a training infrastructure) to promulgate statewide implementation of a specific EBP. In New York, a major consensus-building initiative is underway which will serve as a platform for the implementation of several evidence-based practices throughout the state.

A major initiative coordinated by the New Hampshire- Dartmouth Psychiatric Research Center (Drake et al., 2001;Torrey et al., 2001) and supported by SAMHSA's Center for Mental Health Services has resulted in "toolkits" (implementation intervention packages consisting of manuals, videotapes and other implementation support materials) for six evidence-based practices (supported employment, illness self-management, family psychoeducation, medications, assertive community treatment and integrated treatment for persons with co-occurring mental health and substance abuse disorders) that are currently being tested them in eight states (New Hampshire, Vermont, Maryland, Ohio, Indiana, Kansas, New York and Oregon). For each evidence-based practice, there are "toolkit" components directed to the state mental health authority, the provider organization, the clinician or service provider, the consumer, and the family member. These packages are being tested and refined in the multistate initiative so that the final versions can be used to address implementation issues at each of the levels at which the different audiences are involved.

Several states have also formed an EBP consortium so that they can move forward in tandem with the "toolkit" states. Twenty states have been participating in consortium activities which have been coordinated by the newly establishes Center for Mental Health Quality and Accountability at the NASMHPD Research Institute. (In October 2002, this consortium was expanded to a national, 50-state initiative related to evidence-based practices.) A primary objective of this consortium is to address the individual needs of states through collaboration with states with similar priorities and concerns.

The commonality in these approaches is that broad based implementation has a systematic nature and underpinnings, and that facilitators and barriers at each level have to be addressed for successful implementation. This is consistent with the emergent literature which recognizes that facilitators and barriers exist at the level of policy and regulations, the level of the provider organization, the level at which service provision or treatment occurs, and at the levels of the consumer and family member (Corrigan, Steiner, McCracken, Blaser, & Barr, 2001; Rosenheck, 2001; Goldman et al., 2001; Torrey et al., 2001). This literature recognizes that evidence-based practices have not been widely implemented for several reasons: existing state laws; administrative policies; funding priorities and advocates' concerns; organizational culture and climate, including the lack of leadership and teamwork; clinicians' lack of necessary knowledge and skills; and consumers and family members who may not have been active team members and, therefore, are not committed to the new regimen.

This new approach is a fundamental shift from previous models of implementing innovative practices in mental health systems. This new approach recognizes that the individual clinician's or service provider's willingness, knowledge, and skills alone will not result in broad-based implementation of evidence-based practices. It also recognizes that structural that structural arrangements and changes in policies, regulations, administrative procedures, and financing are also insufficient.

The challenge is to develop a science of effectiveness within this new paradigm. This science of effectiveness needs to integrate core cost-effectiveness clinical trial methodology, such as the CATIE model in schizophrenia, with new models of research that test different approaches to dissemination and implementation. At the same time, state mental health commissioners must address stakeholder concerns about the emerging movement related to evidence-based practices.

Stakeholder Concerns Related to Evidence-Based Practices

Stakeholders -- this includes consumers, family members, providers and advocates -- are concerned that activities related to the broad based implementation of evidence-based services could constitute a step backward for mental health system. These concerns are grounded in fears that evidence-based practices will displace -- or contaminate -- services that, from their perspectives, produce outcomes they desire, even though they may not have the strong, evidentiary foundation that EBPs, by definition, have. Also -- but less stated -- is a concomitant concern that the advances that have been made in the last decade in the consumer movement and in the broad participation, involvement, and partnerships that have included stakeholders in policymaking and decision-making could be compromised. More specifically the concerns that stakeholders have are:

- Evidence connotes salience. Here the concern is that services will be promoted because of the level of evidence associated with them rather than the salience or

importance of a program or intervention based on a prioritization of need. For example, the fear is that ACT, which has a strong evidence base, may get priority even though the priority need may be for services for children in school settings where the evidence is still emerging.

This is a concern that policymakers and commissioners are addressing by promoting EBPs in the context of priority needs, recognizing that EBPs constitute a small sliver of the array of services that are needed. A good example is the Ohio approach which has developed “centers of excellence” around priority needs, some which are addressed by EBPs and others by services and interventions where the evidence is emergent. The approach to EBP implementation is to ensure that EBPs -- which are inherently proven to produce good outcomes -- are part of the array of services that are available. The driving principle is that it is bad policy and poor economics not to provide services that are known to provide services that are known to work.

- EBPs are too expensive. Some administrators and providers balk at implementing EBPs because, as they say “We cannot afford EBPs”. As they deal with tight budgets, if not budget deficits, the introduction of new services does not appear feasible. Others are taking the approach that, as they face decisions related to reducing services, they need to implement or retain the services that are known to work and eliminate services that do not.

As the IOM's Quality Chasm report emphasizes, the cost of not doing the right things or not doing things right is expensive, resulting in underuse, misuse or overuse -- basically as a result of providing ineffective care or services. Within the mental health system, many of the EBPs have been shown to be very effective in reducing costly hospitalizations. In mental health however, the cost of ineffective care is often borne by other social systems such as the criminal justice, juvenile justice or welfare systems. The point is that not doing EBPs is ultimately perhaps a more costly proposition than investing in their implementation.

At the same time, there is some validity to the idea that additional costs will be incurred. For example, there are transitional costs, including training, which are not easily covered through existing reimbursement and payment systems.

- EBPs do not promote recovery. Recovery is emerging as a driving concept within most public mental health systems and refers to a complex dynamic involving a sense of control, hope, and self-esteem through which a consumer manages and directs ("recovers") his or her own life. The concept is still emergent and several researchers are currently in the process of operationalizing and measuring recovery (Onken et al., 2002). Nevertheless, that is increasingly a goal for consumers as they receive services. The concern here is that the focus on EBPs may hinder recovery, and that services that are considered helpful to recovery could fall by the wayside.

As “evidence” (or outcomes) for the services or programs that are currently identified as EBPs was obtained, recovery was not the conceptual criterion that “proved” the practice. So there is validity to the notion that the “evidence”, is not directly related to recovery.

However it could be argued that the outcomes that were used -- employment, reduced hospitalization, and independence in community settings, improved quality of life -- are indicators of recovery and are consistent with a person moving positively over time on a recovery axis.

- EBPs will be considered to be the only services that have a positive impact. Clearly, EBPs are a small segment of the service array -- but they are, if implemented correctly, proven. While other services may be even more effective, they do not have the same evidentiary base. Related to this concern is the concern that EBPs will suck up all the new resources, if any are available.

This concern is directly related to the concern that EBPs will be equated to salience. There is a danger that this concern is realistic: the implication is that administrators and planners must distinguish between the priority needs they are attempting to address and evidence, and then must incorporate EBPs and other services, based on the best available information, to address those needs.

Priorities Identified by State Mental Health Commissioners for Implementation of EBPs

State mental health commissioners have identified some key areas that they have indicated would be useful to them as they move forward with the implementation of EBPs. These key areas are:

- Information/Communication Networks – Commissioners identified a need to have a central location where they could get the latest research related to EBPs and lessons learned from states’ experiences with the EBP implementation. This included implementation experiences with specific EBPs.

- Consensus–Building – The need here was to develop models and materials to develop consensus related to EBP implementation and address stakeholder concerns. Consensus-building also included developing common understanding related to EBP implementation with legislators, funders, other state agencies, and provider organizations.

- Infrastructure Readiness – A major concern was defining the readiness of the system to implement EBPs including the training, information systems, staffing and resource base.

- Ongoing state training and turnover – Most state and local mental health systems are experiencing high levels of staff turnover so the issue is how to develop an ongoing, training capacity (rather than as is often the case, a one-time training initiative when a service is first implemented with inadequate follow-up).
- Planning/budgeting models – Commissioners identified the need to have models for developing budgets for EBPs which would include appropriate target populations, start-up and transition costs, services that may be replaced, and how these would fit within the broader array of available services.
- Fidelity measurement/monitoring – Models and examples of how states are measuring and monitoring fidelity, and how these could incorporate into quality improvement mechanisms, were also identified as a need.

These key priority areas rest on assumption that real-world clinical trials will continue to inform emerging EBP. To address these needs, state mental health commissioners have created a Center for Mental Health Quality and Accountability at the NASMHPD Research Institute. The major functions of this Center are: knowledge management (collation of information on research on EBPs and states' experiences with EBP implementation), knowledge development (facilitating the development of new evidence-based practices) and knowledge transfer (facilitating networking and technical assistance). As part of its function, the Center coordinates activities of the states' EBP consortium to address the needs identified by SMHA commissioners' and staff. Besides

the key areas identified by commissioner, other topics that have been identified as important include:

- Definition of “evidence”
- EBPs for children/adolescents
- Consumer-run services as EBPs
- EBP implementation in rural areas
- Workforce development and training
- Relationship of EBPs to recovery
- EBPs and Medicaid

Implications for Effectiveness Studies

The previous sections of this article are intended to provide the context within which public mental health systems are attempting to implement evidence-based services and the problems they are facing. Clearly effectiveness trials, such as CATIE are needed to inform, refine and test the credibility of EBP. A critical lacuna is the science related to the implementation of evidence-based practices. Multidisciplinary approaches – involving the understanding of processes related to the diffusion of innovations, organizational development, knowledge management, and economics – will be needed to address the issues identified systematically. But, in many ways, there are issues related to better understanding of existing evidence-based practices that also need to be addressed.

Based on the issues and priorities identified by commissioners, some of the broad areas that need to be addressed by effectiveness studies are presented below.

- Identifying the Active Ingredients of EBPs. Many of the EBPs are programmatic interventions involving multidisciplinary teams involved in a range of activities. The approach to replication and transportability of the positive findings of efficacy and effectiveness studies is to reproduce or closely approximate the structural components of the program model that produced successful outcomes. (Fidelity measures mostly focus on such structural aspects.) It is not always clear as to which components of the program were responsible for the result achieved. This reduces the possibility for adaptation in different settings or the possibility for modifications of structural components to reflect the needs and resources in different settings. More work is needed in this area so that the critical, active components are retained while the structural aspects can be modified.
- Models for Broadbased, Statewide Implementation. Based on both theory related to the adoption of innovations, organizational development and change, quality improvement, and knowledge management, there is a nascent science emerging related to the implementation of evidence-based services in mental health settings. The EBP toolkit project is based on such science and is refining the toolkits through direct implementation experiences in a multistate project. However, the challenge for public mental health systems remains how such evidence-based

practices and innovations will be integrated into the ongoing, available array of services throughout the state.

Typically a state's experience with innovation begins with the introduction of innovation through a voluntary or demonstration project, which generally is the response of "enthusiasts" or early adopters. Often, if state funding is not developed for expansion, such innovations become difficult to sustain over time. Often, as leadership changes occur, there is attrition in either fidelity or erosion of the innovation itself. To bring other entities on board, states have used a combination of regulations, contractual requirements and mandates. Models of mechanisms that state mental health agencies may find helpful at different stages of the innovation cycle could be extremely useful to states as they attempt to go forward with statewide implementation.

- The "Fit" of EBPs with Other Services. Both in terms of effectiveness studies – and the implementation of effectiveness studies – the focus is usually a single evidence-based practice. How these fit with other services to produce desired outcomes, whether they are duplicative or redundant, and how a specific EBP needs to be modified to address additional outcomes, are some of the areas that could help state-level implementation efforts.
- The Appropriateness of Evidence-Based Practices. An issue raised by states is the identification of sub-populations that may be the most appropriate for a specific

EBPs. Various states are using different criteria: more information in this area could inform planning and budgeting models and in developing models of appropriate care. The more guidance that states can receive from effectiveness studies, the more useful it could be for implementation strategies.

- Evidence-Based Practices and Recovery. While recovery is an emergent concept, more research is needed in this area to 1) operationalize the concept 2) to relate recovery to other outcomes and 3) to understand the relationship of evidence-based practices to recovery.
- More evidence-based practices are needed. Currently, the number of evidence-based practices in mental health are limited. Effectiveness studies to expand this base are needed. Some specific areas that have been identified include: children's services, consumer-run services, and recovery education programs.

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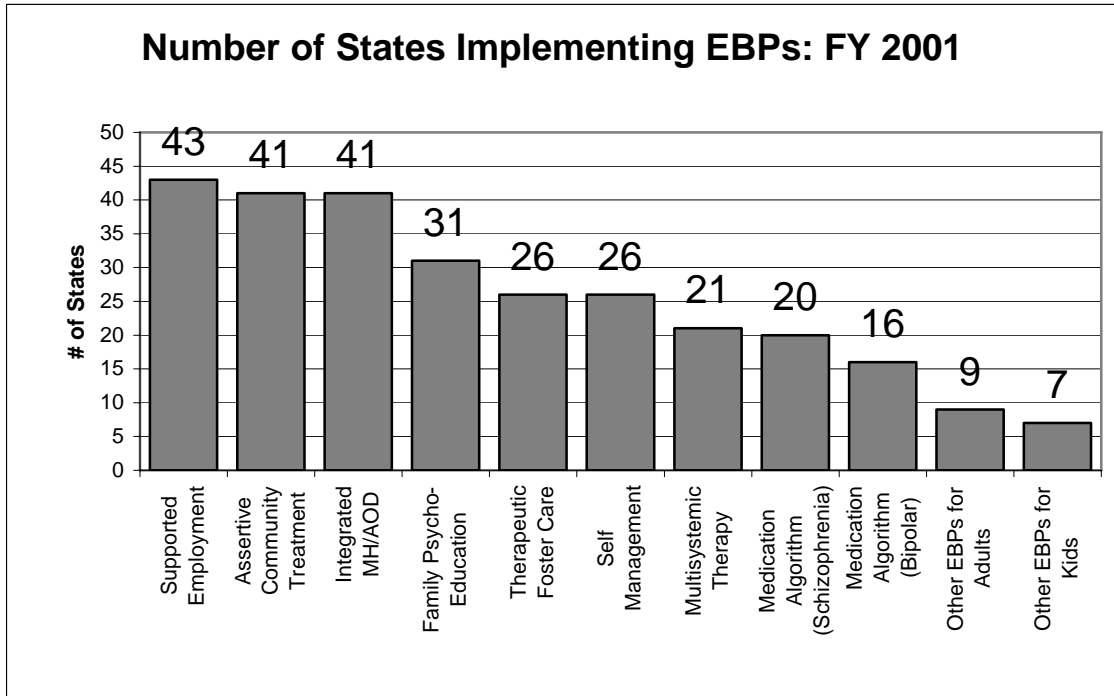


Table 1

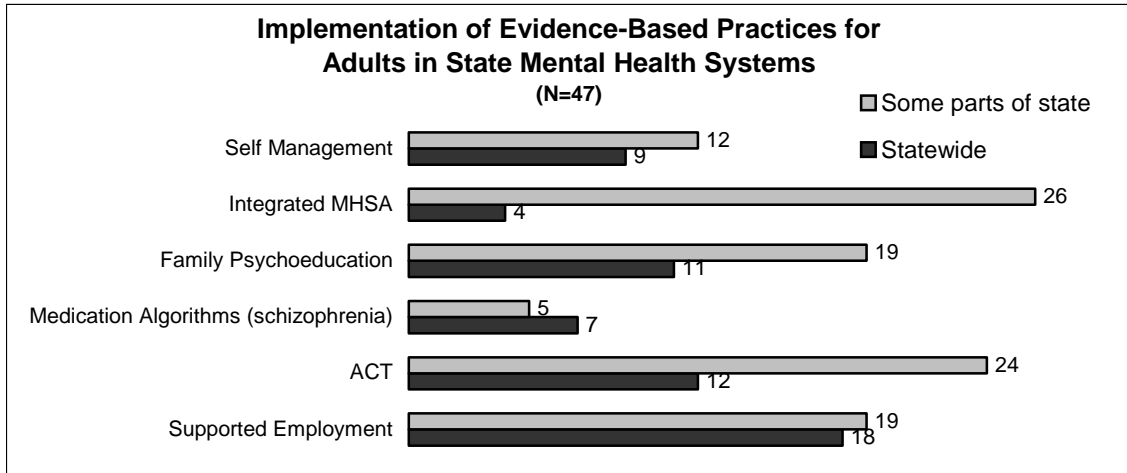


Table 2