prevention Tactics

A Paradigm Shift in Selecting Evidence-Based Approaches for Substance Abuse Prevention

By David Sherman, M.Ed.

The term "evidence-based" has become both popular and necessary in the field of prevention services. Popular, because it is used liberally to describe prevention interventions¹, and to prove their appropriateness. Necessary, because without this label, interventions have not been recognized (or funded) by government agencies, or adopted for use by prevention providers.

Defining Evidence-based

The nature of evidence is that it is both continuous and contextual. The quality of evidence can be judged along a continuum, from strong to weak. To determine the relative strength or weakness of a research study, for example, one must consider the rigor of its design and the appropriateness of the methods used to collect and analyze data.

Evidence is contextual because the quality of the evidence depends on the extent to which findings can be generalized to similar populations and settings. Strong evidence that an intervention program for rural Native Americans had positive outcomes may not be relevant when deciding if this program is appropriate for an urban Hispanic population. The evidence, and what it says about a given intervention, must be viewed in light of contextual factors such as place, population, and culture.

The terms evidence-based, research-based, research-informed, science-based, blueprint programs, model programs, promising programs, and effective programs are often used interchangeably. There is no single, universally accepted definition of 'evidence-based program.' The determination of whether a program, practice, or policy is evidence-based varies across government agencies, research institutions, and other

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Tactics (Tak'tiks) n. 1. a plan for promoting a desired end. 2. the art of the possible.

This Prevention Tactic will:

- review the recent history behind the designation of "evidence-based" to describe prevention approaches;
- examine the evolution of the use of evidencebased in the National Registry of Effective Programs & Practices (NREPP);
- explore how the recent changes to NREPP have impacted the process that providers use to select interventions to meet the needs of the community they serve; and
- describe, compare, and contrast the three categories of evidence-based interventions required by the Strategic Prevention Framework State Incentive Grant (SPF SIG) program.

organizations dedicated to promoting evidencebased policy and practice. Some definitions are more stringent than are others.

In 2001, for example, the Institute of Medicine offered this definition:

Evidence-based practice is the integration of best research evidence with clinical expertise and patient values.

In 2005 the American Psychological Association established this definition for its members:

Evidence-based practice in psychology (EBPP) is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences.



¹ The term "intervention" is used broadly in this document to reference the terms: programs, practices and policies, each of which have a more discreet definition.

In general, evidence-based interventions:

- are based on a clearly stated, scientifically supported theory;
- include a detailed description of the intervention and measurement design (i.e. What intervention was used with which populations to achieve what outcomes?);
- identify measurable outcomes that have been carefully assessed, including long-term follow-ups; and
- have been tested in a scientific manner, ideally through randomized, controlled studies.

At first reading, this list might seem highly technical and rigorous. However, evidence-based interventions may include some of these attributes without encompassing all of them. Put more simply, if an intervention is designated as 'evidence-based,' it is grounded in theory, evaluated by some commonly accepted method, and shown to have at least some positive outcome.

The Evolution of Evidence-based Prevention Approaches

Before the mid-1990s, selection of prevention interventions was based on popular belief or practitioner recommendations. The use of evidence-based practice first appears in federal policy in 1997, in the Substance Abuse and Mental Health Services Association's (SAMHSA) Center for Substance Abuse Prevention's (CSAP) NREPP list.

NREPP used a three-tiered hierarchy to rate program interventions:

- **Model** well implemented and evaluated according to rigorous standards of research.
- Promising have been implemented and are considered to be scientifically defensible, but were not shown to have sufficient rigor and/or consistent positive outcomes required for Model programs.
- Effective meet all the criteria of Model programs but are not currently available to be disseminated to the general public.

This hierarchy reinforced a government culture that favored accountability and the selection of "proven" programs. The 2001 Federal No Child Left Behind Act (NCLB) adopted this approach to evidence-based practice. By 2002, it was included in California's Safe and Drug-Free Schools and Communities (SDFSC) programming.



As the requirements to use evidence-based approaches increased, however, prevention professionals noticed that the term evidence was not applied consistently. Different agencies and groups adopted different criteria to determine what programs made it onto an "evidence-based" list. For example, CSAP rated the credibility of evidence for a program on a five-point scale. The U.S. Department of Education, however, used seven criteria for judging a program's adherence to evidence-based practice. These different scales created confusion for providers and reinforced the notion that they were "picking off a list," rather than selecting a program or intervention based on sound science that was appropriate to their context.

By the mid-2000s, criticism of a list-based approach began to creep into the literature. For example, a 2007 reviewⁱⁱ of the use of "evidence based" prevention programs by state recipients of SDFSC funding confirmed some weaknesses with this policy. The review found that many of the lists used were out of date, and limited funding prevented the inclusion of updated information from new scientific studies.

There were also concerns about the process of becoming a listed program. Some researchers, such as Gordon (2002)ⁱⁱⁱ and Petrosino (2003)^{iv}, concluded that the review processes were not transparent, that the judging criteria were ambiguous, and that the system was open to conflict of interest. Halfors et al concluded that:

...the greatest problem is that for most lists "evidence" about program effectiveness comes from a single small efficacy trial by program developers.



Prior to this criticism, in 2004, the Society for Prevention Research had proposed new, consistent standards of evidence for the prevention field that aimed to establish consistency and credibility in the program evaluation process. The Society hoped that "...the widespread use of these criteria will lead to consistent and high standards for determining whether programs have been scientifically shown to be efficacious, effective or ready for dissemination."

In 2007, after conducting focus groups and seeking input, SAMHSA/CSAP reconsidered the paradigm used for evidence-based practice. They revised the National Registry system, phasing out the "model" and "promising" program format.

The focus shifted towards looking at interventions on a continuum of evidence. Outcomes were viewed in terms of the program's context. Not only did the degree of evidence matter, but also whether that evidence supported a program's appropriateness in a given context. Adopting a program intervention that was effective in rural lowa made no sense if it would not be effective in urban Los Angeles.

The current NREPP system reports on interventions' descriptive characteristics, strength of evidence, and readiness for dissemination. It is designed to support service providers by:

- promoting informed decision making;
- disseminating timely and reliable information regarding interventions;
- allowing access to descriptive information about interventions; and
- providing peer-reviewed ratings of outcome-specific evidence across several dimensions.

The new system expanded opportunities for local organizations to have their intervention strategies added to the registry. Because intervention programs are no longer rated on the equivalent of an A–B–C scale, there is more emphasis paid to selecting an intervention that meets other criteria, such as the population being served and the capacity and resources available for implementation. In other words, the new NREPP listing encourages a more realistic and holistic approach to selecting prevention interventions.

Practical Considerations for Providers

What is the impact of these changes on providers? The immediate impact is that they are less restricted in their choice of interventions. They also have the freedom to make decisions locally and to select interventions that suit their context and population. With this freedom,

A Paradigm Shift

SAMHSA's new process for selecting evidence-based programs represents a paradigm shift and providers should consider how this shift is being managed within their organization.

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From:		То:				
•	Picking off lists Categorical labels Relying on strength of evidence alone Stand-alone intervention selections	 Thinking critically about needs Ratings along a continuum Assessing relative importance of strength of evidence in broader context Comprehensive community plans 				
L		1 Comprehensive community plans				

however, comes a responsibility to make more informed decisions. Within the Strategic Prevention Framework SIG Program, these decisions are based upon a three-stage process:

- 1. Match the intervention to the community's goals (Relevant)
- 2. Determine if the intervention is appropriate and feasible (Appropriate)
- 3. Ensure there is evidence that the intervention is effective (Effective)

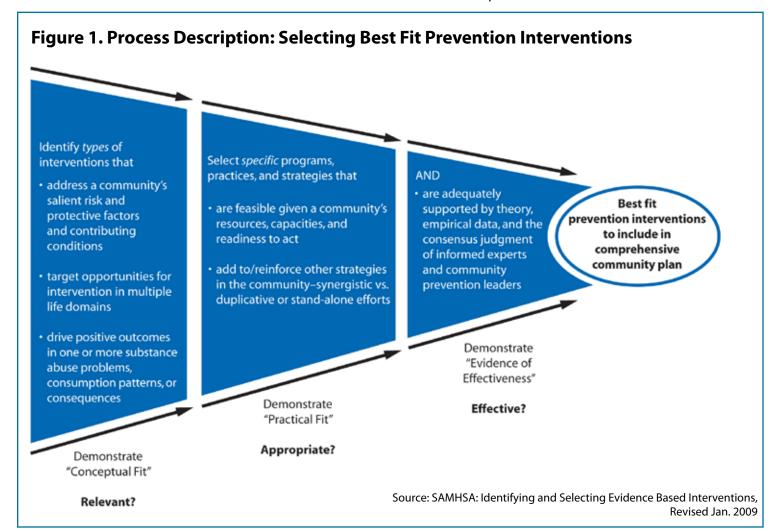
Figure 1 depicts the three-stage process of ensuring that interventions are relevant, appropriate and potentially effective. (For more details about selecting evidence-based interventions that align with your organization's community and goals, s ee the **Prevention Tactic**, Selecting and Implementing Evidence-Based Prevention Through the Strategic Prevention Framework (SPF) Planning, available at www.cars-rp.org/publications/preventiontactics.php)

SAMHSA's Guidelines for Selecting Evidence-Based Interventions

The Strategic Prevention Framework State Incentive Grant (SPF SIG) program specifically requires implementation of evidence-based interventions that fall within one or more of the following categories:^{vi}

- A. included in Federal registries of evidencebased interventions;
- B. reported (with positive effects on the primary targeted outcome) in peer-reviewed journals; and
- C. documented effectiveness supported by other sources of information and the consensus judgment of informed experts.

The question of whether an intervention strategy is relevant, appropriate, and effective is viewed within the framework of which category is used in the selection process.



A. Federal Registries

Federal registries are accessible public resources that identify evidence-based prevention interventions. NREPP is an example of a searchable database that features interventions and programs that have been tested in communities, schools, and social service organizations across the country. Federal registries like NREPP briefly describe interventions and provide descriptions and information about supporting evidence.



These registries, however, tend to restrict the number of interventions listed to those which are most easily evaluated using traditional, experimental methods. They often use predetermined criteria and a rating process to score the effectiveness of the listed interventions. People who are less experienced judging research may find it difficult to compare the strength of the evaluations and ratings of the various interventions. While the use of a registry may seem easier, service providers must still think critically.

Local circumstances and populations must be considered when judging the interventions rated on a national registry.

In its revised incarnation, NREPP is a searchable online database of mental health and substance abuse interventions. The NREPP website defines intervention as:

A strategy or approach intended to prevent an undesirable outcome (preventive intervention), promote a desirable outcome (promotion intervention) or alter the course of an existing condition (treatment intervention).

Prevention providers will find the website useful for identifying approaches to preventing and treating substance use disorders. As noted above, NREPP's criteria ensure that the interventions listed have been scientifically tested and can be readily disseminated.

One of the useful features of the website is the *Find Interventions* page, a search engine that enables providers to define search criteria. For example, the database includes both mental health and substance abuse interventions, but with the click of a checkbox, the intervention search can be limited to only substance abuse prevention. Examples of other search criteria include:

- Areas of Interest (e.g. alcohol, environmental strategies)
- Implementation History
- Study Population (e.g. age, race/ethnicity, gender)
- Settings (e.g. urban, suburban, rural, tribal)

By narrowing search criteria, providers can spend more time reviewing and assessing the programs' interventions. To make it easier for providers to assess whether an intervention is appropriate for their particular context, NREPP publishes an "intervention summary" for every intervention it reviews. Each of these reports includes:

- descriptive information about the intervention and its targeted outcomes;
- Quality of Research and Readiness for Dissemination ratings;
- a list of studies and materials submitted for review; and
- contact information for the intervention developer.



The new registry is designed to be a comprehensive and interactive source of information. It provides ratings for individual outcomes targeted by an intervention, rather than a single, overall rating. Users are encouraged to read the "Key Findings" sections in the intervention summary to better understand the research results for each outcome.

It is important to bear in mind that NREPP does not review all interventions that are submitted, and that some interventions are never submitted to NREPP. While the NREPP database may be a one-stop-shop for some purposes, prevention providers might also consider other suitable Federal registries. The following table represents a sampling of other Federal registries listed by SAMHSA:

A Sample of Other Federal Registries

OJJDP Model Programs Guide

http://www.dsgonline.com/mpg2.5/mpg_index.htm Provides descriptions of, and rates evidence for, youth-oriented interventions, many of which are relevant to the prevention of substance use and abuse.

- Exemplary and Promising Safe, Disciplined and Drug-Free Schools Programs
 Sponsored by the U.S. Department of Education
 http://www.ed.gov/admins/lead/safety/exemplary01/exemplary01.pdf
 Provides descriptions of, and rates evidence for, educational programs related to substance use.
- Guide to Clinical Preventive Services

Sponsored by the Agency for Healthcare Research and Quality [AHRQ] http://www.ahrq.gov/clinic/cps3dix.htm
Provides recommendations regarding screening and counseling in clinical settings to prevent the use of

Provides recommendations regarding screening and counseling in clinical settings to prevent the use of tobacco, alcohol, and other substances.

Guide to Community Preventive Services

Sponsored by the Centers for Disease Control and Prevention [CDC] http://www.thecommunityguide.org

Provides recommendations regarding generic programs and policies to prevent and reduce tobaccouse and alcohol-impaired driving.

Source: *Identifying and Selecting Evidence-Based Interventions*. *Revised Guidance Document for the Strategic Prevention Framework State Incentive Grant Program*. (2009) Substance Abuse and Mental Health Services Administration (SAMHSA).

B. Peer Reviewed Journals

Substance Abuse and Mental Health Services Administration (SAMHSA).

Using scholarly research articles is another way to locate evidence-based programs and practices. SAMHSA recommends a careful review of all literature published on a particular intervention; it is not enough to base a decision on a single document. When using this approach, conduct a thorough search of relevant information about the intervention. The goal is to ensure that the reported outcomes are consistent and that they are applicable to your selected population, community, and context.

Scholarly research requires a certain level of technical expertise to interpret results and judge the quality of the study being reported. Moreover, accessing articles can be challenging to those without ready access to university libraries or online journals.

The table below is a tool that can assist you to analyze journal articles. The first column lists key elements of evidence presented in most peer-reviewed journals. The second column suggests questions to help you review articles and interpret the results presented.

Elements of Evidence	Questions to Consider	
A defined conceptual model with outcomes that are defined and measured.	 Does the article describe the theory or provide a conceptual model of the intervention? Is the theory or model linked to expectations about the way the program should work? Does the article describe the connection of the theory or the conceptual model to the intervention approach, activities, and expected outcomes in sufficient detail to guide your decision? 	
Background on the intervention evaluated.	 Does the intervention match the identified needs of your community? Does the article describe the proposed mechanism of change of the intervention? Are the structure and content of the intervention described in enough detail? Is the context or setting of the intervention described well enough to make an informed decision concerning how well it might work in the communities targeted? 	
A well-described study population.	 Does the article describe the characteristics of the study population? Does the study population match your local target group? 	
A pre-intervention measurement of that population and the use of comparison/control groups to evaluate the outcomes.	 Does the article describe the comparison or control groups used? Do those groups resemble your target group? 	
Overall quality of study design and data collection methods.	Are competing explanations for the findings ruled out? Are issues related to missing data and attrition addressed and resolved? Did the study's methodology use a combination of strategies to measure the same outcome?	
Explanation of the analysis and presentation of the findings.	 Is there an explanation of how the analytical plan addresses the main questions posed in the study? Do the analyses take into account the key characteristics of the study's methodology? Does the article report and clearly describe findings and outcomes? Are the findings consistent with the theory or conceptual model and the study's hypotheses? Are findings reported for all outcomes specified? 	
A summary and discussion of the findings.	Does the discussion draw inferences and reach conclusions related to the data reported? ed Interventions. Revised Guidance Document for the Strategic Prevention Framework State Incentive Grant Program. (2009)	



- Guideline 3: The intervention is supported by documentation that it has been effectively implemented in the past, and multiple times, in a manner attentive to scientific standards of evidence and with results that show a consistent pattern of credible and positive effects; and
- **Guideline 4**: The intervention is reviewed and deemed appropriate by a panel of informed prevention experts that includes: well-qualified prevention researchers who are experienced in evaluating prevention interventions similar to those under review, local prevention practitioners, and key community leaders as appropriate (e.g., officials from law enforcement and education sectors or elders within indigenous cultures).

These guidelines expand the array of interventions available to prevention providers. As part of a comprehensive program, SAMHSA suggests that these types of interventions "should be considered supplements, not replacements, for traditional scientific standards used in Federal registry systems or peer-reviewed journals." ix

Other Information Sources that Document Effectiveness

This option enables you to use locally developed interventions that are most appropriate to the unique needs of your community and target population. Using this category of intervention, however, requires particular care. When selecting interventions based on other sources of information, all four of these guidelines must be met:^{viii}

- Guideline 1: The intervention is based on a theory of change that is documented in a clear logic or conceptual model;
- Guideline 2: The intervention is similar in content and structure to interventions that appear in registries and/or the peer-reviewed literature;



Advantages and Challenges of Evidence-Based Interventions

The following table compares the advantages and challenges of each of SAMHSA's three categories of evidence-based interventions.

	Advantages	Challenges
A. Federal registries	 Offer "one-stop" convenience for those seeking quick information on the interventions listed. Provide concise descriptions of the interventions. Rate the strength of evidence measured against defined and accepted standards for scientific research. Present a variety of practical information, formatted and categorized for easy access. 	 List predominantly school- and family-based interventions and relatively few community, environmental, or policy interventions. Include a limited number of interventions depending on how they are selected. Are based on evidence that may be outdated if the registry does not provide a process for incorporating new evidence. May be confusing to consumers seeking to compare the relative strength of evidence for similar programs included on different registries.
B. Peer-Reviewed Journals	 Typically present detailed findings and analyses about whether or not the program or practice has an adequate level of evidence that the intervention works. Provide authors' contact information that facilitates further collaboration and discussion. In some cases, articles report and summarize meta-analyses and other types of complex analyses that examine effectiveness across interventions or intervention components. These types of analyses are potentially very useful to prevention planners. 	 Leave it to the reader to interpret results and assess the strength of the evidence presented and its relevance and applicability to a particular population, culture, or community context. Describe in limited detail the activities and practical implementation issues pertinent to the use of the intervention.
C. Other Documented Information Sources	 Enable planners to consider interventions that do not currently appear on a Federal list or in the peer-reviewed literature but which have the potential to address the problem targeted. Provide opportunities to use locally developed or adapted interventions, provided they are supported by adequate documentation of effectiveness. Involves community members and prevention professionals in a systematic, evidence-based, decision-making process. 	 Place substantial responsibility on prevention providers for intervention selection decisions. Require providers to assemble additional documentation and assess a particular intervention as part of the larger comprehensive community prevention plan. Require extensive decision-making and documentation that create resource demands beyond those that are readily available to some communities.



Selecting Evidence-Based Programs and Practices

Regardless of which SAMHSA-designated selection process you follow, whether it be a review of research articles or a search of an online database, you will likely identify several suitable interventions. The following checklist may assist you in selecting an evidence-based intervention that is relevant, appropriate, and effective:^x

- ☐ The intervention or practice has been evaluated and has demonstrated effective outcomes in settings similar to yours.
- The intervention addresses risk factors that are relevant to your target population.
- ☐ The intervention has been successfully implemented with your intended target population, considering factors such as age, race and ethnicity, socio-economic status, and geographic location.

	The intervention	or practice alic	ins with identified	community	v needs
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- The intervention or practice fits with the capacity and support of your organization, including personnel, physical and financial resources.
- There is sufficient time for your organization to fully implement this strategy.
- The intervention or practice fits with the mission of your organization.
- ☐ The intervention reflects the values and practices of your community.
- The intervention or practice offers something different than what is currently being offered in the community.
- The intervention offers a manual or curriculum that will facilitate implementation. If such a guide does not exist, the principal investigator or program developer can be contacted for more information.
- The staffing and cost requirements of the intervention are explicit, and it is easy to apply that information to your organization's circumstances.

Conclusion

This Prevention Tactic is only one tool for understanding how to select, implement, and evaluate evidence-based interventions. How your organization applies the principles of evidence-based practice when making decisions about interventions will be determined by a number of factors. Among these are the capacity of your organization and the needs of the selected population and/or community. Whether your organization uses a Federal registry, peer reviewed journals, or other documented sources of information, an understanding of how to apply the principles of evidence-based practice will enable it to make appropriate choices that will enhance the intervention's effectiveness and meet your community's needs.





Further Reading...

SAMHSA's Revised Guidance Document will help providers to fully understand and apply the Strategic Planning Framework (SPF) as they identify and select evidence-based practices, programs, and policies. The document can be downloaded from the SAMHSA website at www.samhsa.gov.

Resources

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- vi Identifying and Selecting Evidence-Based Interventions. Revised Guidance Document for the Strategic Prevention Framework State Incentive Grant Program. (2009) Substance Abuse and Mental Health Services Administration (SAMHSA). www.samhsa.gov; accessed 11/10/09.
- vii SAMHSA's National Registry of Evidence-based Programs and Practices. Help Glossary. www.nrepp.samhsa.gov/help-glossary.asp#intervention. Accessed March 22, 2010.
- viii Ibid. p. 18-19.
- ix Ibid, p.19
- ^x Evidence-based Interventions and Practices. (2009).Wilder Research.



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