

How to Successfully Implement Evidence-Based Social Programs: A Brief Overview for Policymakers and Program Providers

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Rigorous studies have identified several social interventions (i.e. programs, policies, and practices) that have meaningful effects on important life outcomes, including educational achievement, substance use, criminal activity, depression, employment, earnings, and health. These studies have also found, in many cases, that *how* these evidence-based interventions are implemented is extremely important, in that minor changes in implementation can often make a major difference in the size of the intervention's effects.^{1,2}

This paper advises policymakers and program providers on steps they can take to help ensure successful implementation of an evidence-based intervention, so as to achieve effects similar to those found in the research:

- Step 1: Select an appropriate evidence-based intervention;
- Step 2: Identify resources that can help with successful implementation;
- Step 3: Identify appropriate implementation sites;
- Step 4: Identify key features of the intervention that must be closely adhered to and monitored; and
- Step 5: Implement a system to ensure close adherence to these key features.

Step 1: Select an Appropriate Evidence-Based Intervention

This section describes (i) key things to look for when selecting an evidence-based intervention that will help meet your policy/program goals; and (ii) resources that can help you make your selection.

I. Key things to look for when selecting an evidence-based intervention:

- A. The intervention has been shown in rigorous evaluations to have sustained, meaningful effects on the life outcomes you wish to improve.** We strongly suggest that you look for interventions that have been found to produce such meaningful effects in 1) a high quality randomized controlled trial (considered to be the “gold standard” study for

¹ Olds, D. et al. (2003). Taking preventive intervention to scale: The Nurse-Family Partnership. *Cognitive and Behavioral Practice, 10*, 278-290.

² Domitrovich, C. & Greenberg, M.T. (2000). The study of implementation: Current findings from effective programs that prevent mental disorders in school-aged children. *Journal of Educational and Psychological Consultation, 11*, 193-221.

evaluating an intervention's effect)³, and 2) in more than one implementation site (i.e., in more than one randomized controlled trial or in a multi-site trial).

- B. The rigorous evaluation tested the intervention in a population and setting similar to the one you wish to serve.** The effectiveness of an intervention may vary greatly depending on the characteristics of the population (e.g. age, average income, educational attainment) and setting (e.g. neighborhood crime and unemployment rates) in which it is implemented. So, to be confident an intervention will work in the population/setting you wish to serve, you should make sure that the rigorous evaluation tested it in a population/setting reasonably comparable to yours.

For example, if you plan to implement an intervention in a large inner-city public school serving primarily minority students, you should look for randomized controlled trials demonstrating the intervention's effectiveness in a similar setting. Conversely, randomized controlled trials demonstrating the intervention's effectiveness in a white, suburban population would not constitute strong evidence that it will work in your school.

II. Resources to help you identify evidence-based interventions

- A. For clear, accessible guidance on what constitutes strong evidence of an intervention's effectiveness, see:**

- U.S. Education Department's Institute of Education Sciences, *Identifying and Implementing Educational Practices Supported by Rigorous Evidence: A User-Friendly Guide*, <http://www.ed.gov/rschstat/research/pubs/rigorousvid/rigorousvid.pdf>
- U.S. Office of Management and Budget, *What Constitutes Strong Evidence of Program Effectiveness*, http://www.whitehouse.gov/omb/part/2004_program_eval.pdf
- Criteria used to identify evidence-based programs on the *Social Programs that Work* website. <http://evidencebasedprograms.org/Default.aspx?tabid=138>
- Standards of Evidence as outlined by the Society for Prevention Research. <http://www.preventionresearch.org/StandardsofEvidencebook.pdf>

³ Randomized-controlled trials are studies that measure an intervention's effect by randomly assigning individuals (or groups of individuals) to an intervention group that participates in the intervention, or to a control group that does not. Well-designed trials are recognized as the gold standard for evaluating an intervention's effectiveness in many diverse fields --such as welfare and employment, medicine, psychology, and education -- based on persuasive evidence that (i) they are superior to other evaluation methods in estimating a program's true effect; and (ii) the most commonly-used nonrandomized methods often produce erroneous conclusions. This evidence is summarized, with relevant citations, in a separate Coalition working paper -- "Which Study Designs Can Produce Rigorous Evidence of Program Effectiveness? A Brief Overview" -- at http://www.evidencebasedpolicy.org/docs/RCTs_first_then_match_c-g_studies-FINAL.pdf.

B. For websites that list interventions found effective in rigorous evaluations – particularly well-designed randomized controlled trials – see especially:

- *Social Programs that Work* (<http://www.evidencebasedprograms.org/>), produced by the Coalition for Evidence-Based Policy, which summarizes the findings from well-designed randomized controlled trials that show a social intervention has a sizeable effect, or alternatively that a widely-used intervention has little or no effect.
- *Blueprints for Violence Prevention* (<http://www.colorado.edu/cspv/blueprints/index.html>) at the University of Colorado at Boulder is a national violence prevention initiative to identify interventions, evaluated through randomized controlled trials, that are effective in reducing adolescent violent crime, aggression, delinquency, and substance abuse.

C. Other helpful sites for identifying evidence-based interventions in a range of policy areas include:

- *The What Works Clearinghouse* (<http://www.whatworks.ed.gov>), established by the U.S. Department of Education's Institute of Education Sciences to provide educators, policymakers, and the public with a central, independent, and trusted source of scientific evidence of what works in education.
- *The Poverty Action Lab* (<http://www.povertyactionlab.com/>) at MIT, which works with non-governmental organizations, international organizations, and others to rigorously evaluate anti-poverty interventions in the developing world, and disseminate the results of these studies.
- *The International Campbell Collaboration* (<http://www.campbellcollaboration.org/frontend.asp>) offers a registry of systematic reviews of evidence on the effects of interventions in the social, behavioral, and educational arenas.

Step 2: Identify resources that can help with successful implementation

Careful implementation of an intervention's key features (e.g., the intervention's content, appropriate training for those delivering the intervention) is usually essential to its achieving the effects that the evidence predicts. Thus, prior to implementation, we suggest that you ask the intervention developer for the following types of resources that can help you identify and effectively implement these key features:

- **A manual or written description of the content of the intervention to be delivered.** For example, for a classroom-based substance-abuse prevention program, you would want a manual documenting the material to be covered during each classroom session, detailed descriptions of classroom activities, and copies of handouts or any other program material needed.

- **If necessary, resources to help train those who will carry out the intervention.** These resources might include written training manuals and/or workshops, discussing the philosophy behind the intervention and providing a clear, concrete description of the training curriculum and process.
- **If necessary, on-going technical assistance.** Some program developers provide on-going support during program implementation (e.g. on-site supervision, booster training sessions, consultation on implementation problems as they arise). If such services are available, you will want to find out how such on-going support is provided and accessed (e.g., via phone, email, or on-site technical support).

If the developer cannot provide these types of resources, you may want to see if they are available from other organizations with experience implementing the intervention.

Step 3: Identify appropriate implementation sites **(e.g. schools or communities)**

We suggest that you try to select a site or sites with the following characteristics, as they can be critically important to your intervention producing positive effects⁴:

- **A top-level official at the site who will be a capable, strong proponent of the intervention** (e.g., the superintendent of the school district that would implement the intervention). An effective, influential champion of the intervention such as this can be extremely helpful in gaining and maintaining the support of other key administrators and staff, in addressing challenges to implementation as they arise, and in providing ongoing support for the intervention throughout implementation.
- **Enthusiasm and support for the intervention among other administrators and program delivery staff.** Having the support and cooperation of administrators (e.g. school principals, site directors), and program delivery staff (e.g. teachers, nurses, social workers who deliver the intervention) is essential to successful implementation of an intervention. If such key staff do not “buy-in” to the intervention, they are unlikely to make the necessary changes to their normal activities (e.g. adjusting the school day schedule) to implement the intervention as it was designed and evaluated.
- **The ability to commit sufficient financial and other resources to the intervention,** such as the funds to pay for the necessary training and technical assistance for program delivery staff.

⁴ Fagan, A.A. & Mihalic, S. (2003). Strategies for enhancing the adoption of school-based programs: Lessons learned from the blueprints for violence prevention replication of the life skills training program. *Journal of Community Psychology*, 31, 235-253.

Step 4: Identify key features of the intervention that must be closely adhered to and monitored

Interventions are almost never implemented perfectly. Inevitably, some program delivery staff do not fully implement all aspects of the intervention (e.g. a teacher provides only three quarters of a classroom substance abuse prevention program's lessons); and/or some intervention participants do not complete all components of the intervention (e.g. they move to a different state halfway through the intervention).

The evidence-based intervention that you are seeking to implement was presumably found effective, when rigorously evaluated, despite the fact that not all of its key features were perfectly adhered to. Many rigorous evaluations document how closely key features of the intervention were adhered to in the study (e.g., 75% attendance at training sessions, 80% of participants completed the intervention). In order for you to achieve effects similar to those found in the study when you replicate the intervention, you should strive to reach at least the same level of adherence as was achieved in the study.

To do so, you need to identify key features of the intervention that need to be closely replicated. While these features vary from intervention to intervention, they tend to fall into the following four categories:

I. Staffing and training

A. Qualifications and experience of the program delivery staff

For many interventions, successful implementation requires that program delivery staff possess specific qualifications and experience. For example, a well-designed randomized controlled trial of the Nurse-Family Partnership -- a home visitation intervention for low-income, pregnant women -- found the intervention had much larger effects on key outcomes for the women and their children when the home visits were conducted by well-trained nurses, as opposed to paraprofessionals.⁵

To determine the necessary qualifications and experience that program delivery staff will need to implement your intervention as it was originally designed and evaluated, we suggest you ask the intervention's developer the following questions:

- How many program delivery staff are needed to successfully deliver the intervention (e.g. how many program recipients can one staff member serve effectively)?
- What degree or previous experience do program delivery staff need? For example, for a tutoring intervention to be successful, do the tutors need to be certified public school teachers or can they be undergraduate volunteers?

⁵ Olds, David L. et. al., "Effects of Home Visits by Paraprofessionals and by Nurses: Age 4 Follow-Up Results of a Randomized Trial." *Pediatrics*, vol. 114, no. 6, December 2004, pp 1560-1568.

B. Training of the program delivery staff

If the intervention requires that program delivery staff receive training (as most interventions do), you should ask the intervention's developer:

- How much training will program delivery staff need both prior to the intervention and on an ongoing basis (e.g. how many hours of training and over what period of time)?
- Who delivers the training, and what particular qualifications and experience do they need to carry out their responsibilities?
- In what setting and format is the initial and/or ongoing training delivered (e.g., weekly individual meetings between trainers and program delivery staff, or monthly small group meetings)?

You will often find, in asking these questions, that the intervention's developer or another organization provides the training either by:

- Directly training and supervising program delivery staff; or
- Training an individual or group of individuals on-site (e.g., lead teacher and/or site administrators), who then trains and supervises the program delivery staff (i.e., a "train the trainer" model).

II. Intervention Content

Evidence-based interventions typically provide very specific services and/or deliver specific information to participants. Policymakers and program providers seeking to replicate the intervention should understand the content to be covered, and will need to determine whether this content is compatible with the implementation site's existing programs or curricula. For example, an education official seeking to implement an evidence-based one-on-one reading tutoring intervention would need to have a solid grasp of the following:

- The content of each tutoring session (e.g., a 30-minute session, divided into ten-minute segments of phonics instruction, sound and word activities, and reading short practice books).
- The materials needed for each session (e.g. games or activities, early reader books).
- The intervention's compatibility with existing programs (e.g. would a phonics-based tutoring intervention create problems in a school that uses a different approach to reading instruction?).

III. Program Delivery

Those replicating an evidence-based intervention should also understand the major aspects of how the intervention is to be implemented, including:

- The location/setting (e.g. in a family's home vs. at a community agency, during class time vs. after school).
- The duration of the intervention (e.g., 30 weekly sessions over the course of the school year).
- The length of each session (e.g., 30 minutes).
- The number of people served per session (e.g., whole classrooms, individuals, or small groups).

IV. Intervention participants

As mentioned earlier, you should know the demographic make-up of the population for which the intervention was developed and evaluated (e.g., age, education, poverty status, etc), and make sure it is reasonably comparable to the population you intend to serve.

Step 5: Implement a system to ensure close adherence to the intervention's key features

To insure that you are implementing the intervention as it was designed and evaluated, you will need to implement a system to a) monitor the extent to which your site(s) closely adheres to the intervention's key features, and b) correct deviations from the key features when they may arise.

I. Methods for monitoring implementation of key intervention features

An effective monitoring system typically involves obtaining information on the implementation of the intervention's key features from program delivery and training staff, as well as participants, over time. This can be done in a number of ways, including through checklists, direct observation, and/or videotaped observation.

A. Monitoring of the staffing and training

To track whether program delivery staff are appropriately qualified, trained, and supervised to implement the intervention, you should collect and maintain the following information:

1. **Qualifications of staff delivering the intervention** (e.g., percent with masters degree in the relevant field).

2. **Training information**, including the percent of program delivery staff completing the necessary training and over what period of time (e.g., the percentage of staff who completed 50%, 75%, and 100% of a one-week training).
3. **Information regarding supervision and monitoring of program delivery staff**, including how often program delivery staff met with their supervisor (e.g., 50% of program staff met with a supervisor for one hour every week); whether they were supervised individually, in groups, or both; and how long they were supervised (e.g., over the course of the intervention, or during the first 5 sessions).

B. Monitoring adherence to the intervention's content

Monitoring and documenting whether the intervention's content is being delivered fully and as designed requires the most effort. Remaining faithful to the original intervention's structure and intent is extremely important, and it is therefore critical that you monitor and document adherence to (or deviation from) the original intervention. To do so, you might want to use one or more of the following four methods:

1. **Checklists completed by program delivery staff** – Program delivery staff complete a short checklist at the end of each intervention session (e.g. class period, lesson) or a certain percent of sessions. The checklist would ask them to list content areas and activities that were to be covered/completed during that particular session, and document the extent to which each content area was in fact covered. For example, you might develop a checklist that lists each content area and activity and asks program delivery staff to simply check off if the material was a) covered fully, b) covered partially or c) not covered at all. You might also want to include a space where they can document deviations from intervention content or activities. The checklist could either be administered on paper or via an email or web form.
2. **Checklists completed by intervention participants** – Participants complete a parallel checklist to the one completed by program delivery staff. Again, this might be as simple as checking off whether each content area or activity was a) covered fully, b) covered partially or c) not covered at all. You may also want to provide a space to document any additional material covered or activities completed.
3. **Direct observation of intervention sessions** – Supervisory staff or independent observers attend sessions (either scheduled or unannounced), and complete a checklist documenting the material and activities covered. They might also report on other aspects of the program delivery staff or session, such as the staff member's knowledge of the subject matter, their relationship with intervention participants, and their level of enthusiasm.
4. **Videotaped observation of intervention sessions** – If direct observation is not possible, sessions might be videotaped to be watched and coded at a later time (using the same checklist used for direct observation).

C. Monitoring program delivery

The following are key components of program delivery, which you should monitor to ensure adherence to the intervention as originally developed and evaluated:

1. **Number of individuals or percent of the eligible population who received the intervention.**
2. **Number of sessions delivered, how often, and over what period of time** (e.g., 30 sessions delivered weekly over a full school year).
3. **Setting in which the intervention was delivered** (e.g., during class time or after school at a community center).

II. Methods for correcting deviations from the intervention's key features as they may arise.

An effective monitoring system, using methods such as those described above, should enable you to identify significant deviations from the key intervention features as they arise. When such deviations occur, you and/or the intervention developer should have in place an effective system to correct them quickly. Such a system might include elements such as the following:

- A. **Designate program “coaches” at the site** (e.g., program delivery staff who are particularly capable or experienced), to provide ongoing mentoring and problem-solving assistance to program delivery staff – particular those staff whose implementation may be faltering. Such assistance might include a) group meetings between the coach and program delivery staff on a frequent basis, focused on the practical challenges in implementing the intervention and problem-solving strategies; and b) coaches working individually with staff who are having particular difficulty with implementation.
- B. **Establish a Help Desk**, to provide program delivery staff and/or coaches with (i) quick-turnaround phone assistance (e.g., from one of the intervention trainers, or another intervention expert) to address programs as they arise; and (ii) access to a log of problems that other program delivery staff have encountered, and how they were addressed.
- C. **Provide booster training to teachers and coaches at periodic intervals**, and possibly on a more frequent basis for sites and/or staff that are having particular difficulty.

Summary

Over the past 20 years, rigorous studies have identified several social interventions that are effective in addressing important social problems, such as educational failure, substance abuse, crime and violence, depression, and unemployment and welfare dependency. These studies' findings are beginning to influence programming and policy in substantial ways, as funding agencies and state and federal officials are calling for greater use of evidence-based interventions.

As the research agenda moves toward evaluating how to move these interventions out to “real-world” settings and implement them on a larger scale, it has become increasingly clear that evidence-based interventions must be carefully implemented for them to produce meaningful effects. This guide highlights the key steps policymakers and program providers should follow to successfully implement evidence-based interventions. If you are interested in obtaining more information about these issues please see the additional useful resources referenced at the end of this guide.

Additional Resources

- Domitrovich, C. E., & Greenberg, M. T. (2000). The study of implementation: Current findings from effective programs that prevent mental disorders in school-aged children. *Journal of Educational and Psychological Consultation, 11*, 193-221.
- Dusenbury, L., Brannigan, R., Hansen, W. B., Walsh, J., & Falco, M. (2005). Quality of implementation: Developing measures crucial to understanding the diffusion of preventive interventions. *Health Education Research, 20*, 308-313.
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