Constructing and Deconstructing Evidence-Based Programs

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Evidence-Based Programs Framework

• **Evidence.** Methodologically credible research on the effects of programs/treatments on desired outcomes; e.g., randomized control trials (RCT), strong quasi-experiments.

• **Bridge to Practice.** Translation and dissemination of research findings in a form available to practitioners; e.g., research reports, treatment manuals, professional training registries of effective programs, marketing by purveyors.

• **Policy Push.** Policy context that promotes use of evidence-based practices; e.g., professional practice standards, state EBP legislation, FDA, Government Performance and Results Act, Foundations for Evidence-Based Policymaking Act.
Evidence Cornerstone: Treatment Condition vs. Counterfactual Condition

Aggregate sample

- Received the treatment being tested
- Did not receive the treatment being tested

Outcome of interest

Effect
Current EBP Paradigm: Describe and Disseminate via Program Manual

Aggregate sample

Program manual

Received the program being tested

Outcome of interest

Did not receive the program being tested

Outcome of interest

Effect
Current EBP Paradigm: Curated Registries of Manualized Programs

For example:

- National Registry of Effective Programs & Practices (NREPP) 1997; HHS Substance Abuse and Mental Health Services Administration
- What Works Clearinghouse (WWC) 2002; DOE Institute for Education Sciences
- Blueprints for Violence Prevention 1996; now Blueprints for Healthy Youth Development; University of Colorado
- Social Programs that Work 2015; Arnold Ventures’ Evidence-Based Policy team
- California Evidence-Based Clearinghouse for Child Welfare (CEBC) 2006; California Department of Social Services (CDSS)
Problems with the EBP Paradigm for Social-Psychological-Behavioral Programs

- Inherent variability/complexity
- Proliferation of programs and manuals, often variations on the same approach
- Obstacles to uptake: provider resistance, cost, fidelity-adaptation issues, doubts about applicability to local clients and needs
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Variability in Programs and in Their Effects

Low variability/complexity
- Interventions in physical systems; e.g., lead paint removal, weatherization of housing
- Medical interventions in physiological systems; e.g., pharmaceuticals, surgery
- Training distinct skills, variable pedagogy; e.g., middle school algebra curriculum, teaching welding skills
- Motivating defined behavior or behavior change; e.g., substance use, safe sex, delinquency
- Interpersonal interactive programs; e.g., psychotherapy, mentoring, home visitation, family therapy

High variability/complexity
Consequences of Complexity & Variability

• Practical challenges following the manual with high fidelity and no local adaptations.
• Erratic replication of program effects; difficult to establish a robust conclusion of effectiveness (e.g., recent tiered evidence initiatives).
• Multiplicity of program variants with revisions by developers, local adaptations, and generic versions similar to the manualized versions.
• The logic of the current EBP paradigm is that all these variants should be evaluated in randomized studies and added to the registries.
An Evolving Alternative: Unpacking Program Packages

- Families of similar programs have common features that can be summarized in a form that can guide practice without requiring emulation of any one specific program.
- Very active exploration is underway of various different approaches to defining, finding, and characterizing those “active ingredients.”
- No single best approach has emerged, or is likely to, but there are a number of promising formulations that are relatively well-developed.
Inside Program Packages: Illustrative Examples of Conceptualizations of Program Ingredients

- **Core components**: Essential principles or functions, and associated elements and activities for program implementation that are judged necessary to produce the desired outcomes (Blase & Fixsen, 2013).

- **Modules**: Freestanding procedures that address specific clinical issues and are sequenced into the full treatment regimen; e.g., for self-calming, modifying negative cognitions, increasing compliance with instructions (Weisz & Chorpita, 2012).
Inside Program Packages: More Examples of Conceptualizations of Program Ingredients

- **Kernels**: Fundamental indivisible behavior influence-procedures shown to affect one or more specific behaviors; e.g., time out, written praise notes, nasal breathing/”doing turtle” (Embrey & Biglan, 2008).

- **Practice elements**: Discrete treatment techniques or strategies found in the treatment protocols of programs that outperform comparison conditions in randomized trials; e.g., goal-setting, modeling, therapist praise/rewards (Chorpita & Daleiden, 2009).
Inside Program Packages: More Examples of Conceptualizations of Program Ingredients

- **Behavior change techniques**: Observable, replicable, and irreducible components of an intervention designed to alter or redirect causal processes that regulate behavior; an “active ingredient”; e.g., feedback, self-monitoring, reinforcement (Michie et al., 2013).

- **Quality indicators**: Program performance measures derived from research, observation, and expert consensus that are characteristic of effective programs (Smith et al., 2012).
• **Effective program components**: Program characteristics derived from meta-analysis of controlled intervention studies that are independently predictive of the effect sizes on target outcomes (Wilson, Lipsey, Aloe, & Sahni, 2020).

• **Change mechanisms**: Mediational pathways through which interventions have their effects on the target outcomes (Ng, DiVasto, Cootner, Gonzalez, & Weisz, 2020).
Bridges to Practice Based on Program Ingredient Approaches

• Standards of practice organized around principles of effective practice
• Program guidelines/best practice guidelines
• Decision trees for selecting program components to optimize effectiveness
• Quality assessment schemes
• Expected effectiveness assessment
Thanks!

Questions & comments welcomed

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References for Material Cited


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