



Center for Mental Health Services Research

GEORGE WARREN BROWN
SCHOOL OF SOCIAL WORK



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Implementation outcomes

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Key question in evaluating evidence-based practice implementation

- How to conceptualize and measure success of implementation processes and their impact on service delivery
- Implementation outcomes need to be identified and assessed, distinct from client clinical outcomes



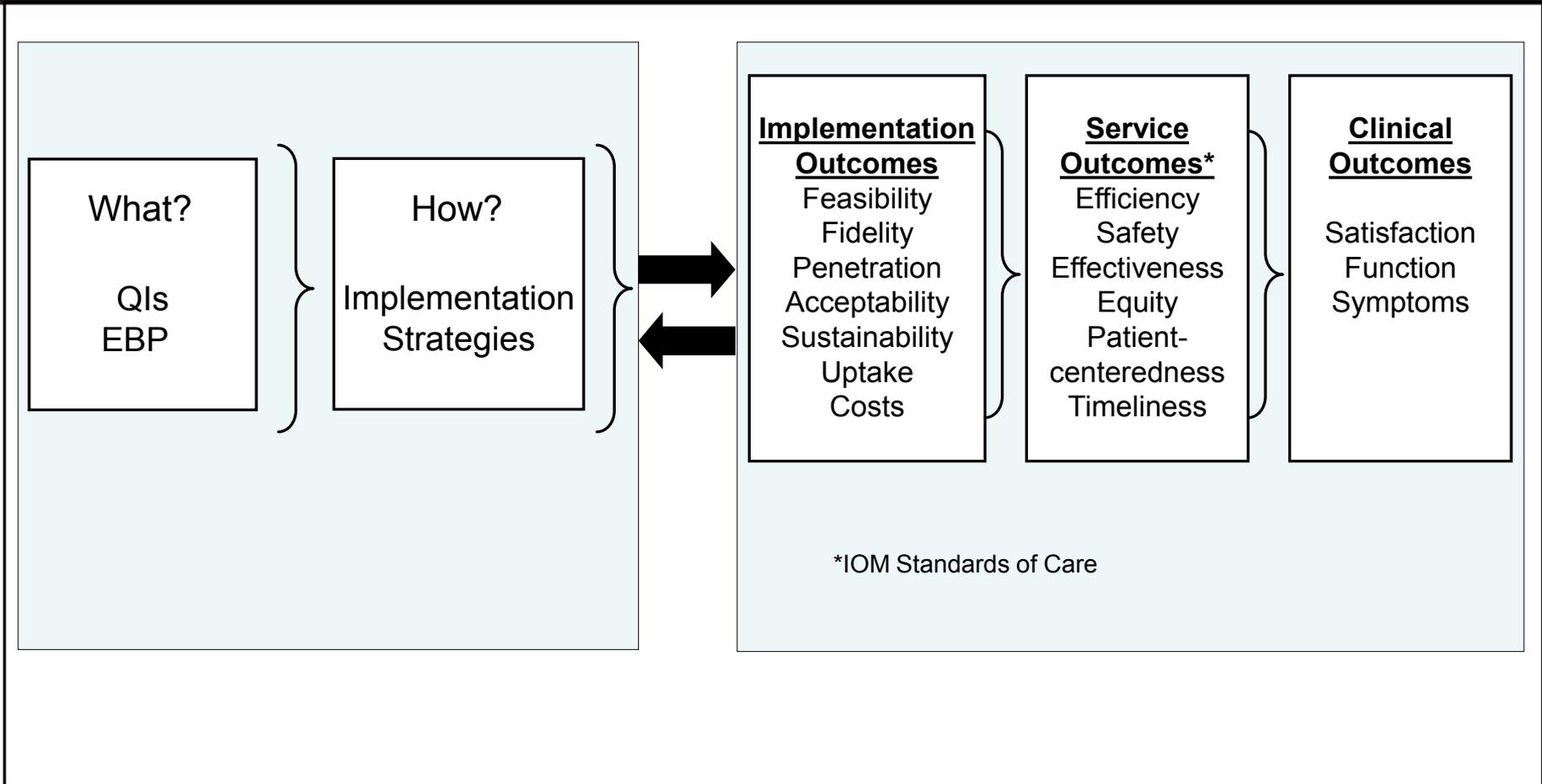
Why distinct implementation outcomes?

When services are unsuccessful, is failure due to:

- Services didn't work (service or treatment failure)?
- Services or treatments were not implemented well (implementation failure)?
- Could have an effective treatment, poorly implemented
- Could have an ineffective treatment, successfully implemented



Conceptual Model: three types of outcomes





Implementation Outcomes

State of field*:

Widely varying constructs used,
including clinical outcomes

Lack of detail regarding constructs

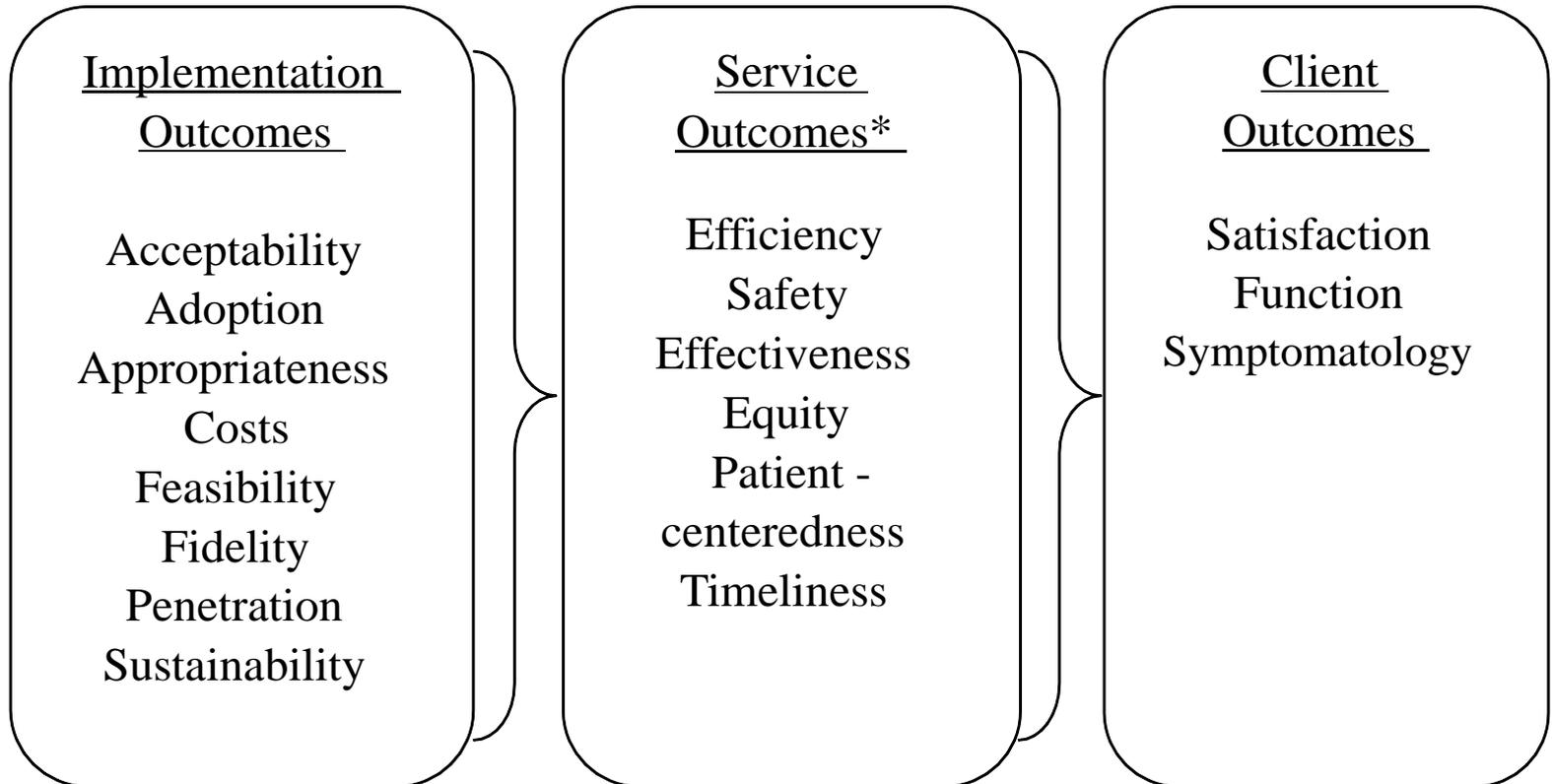
Unit of analysis errors

Poor measurement quality

*Grimshaw et al., 2006



Types of outcomes evaluated in IR



***IOM Standards of Car**



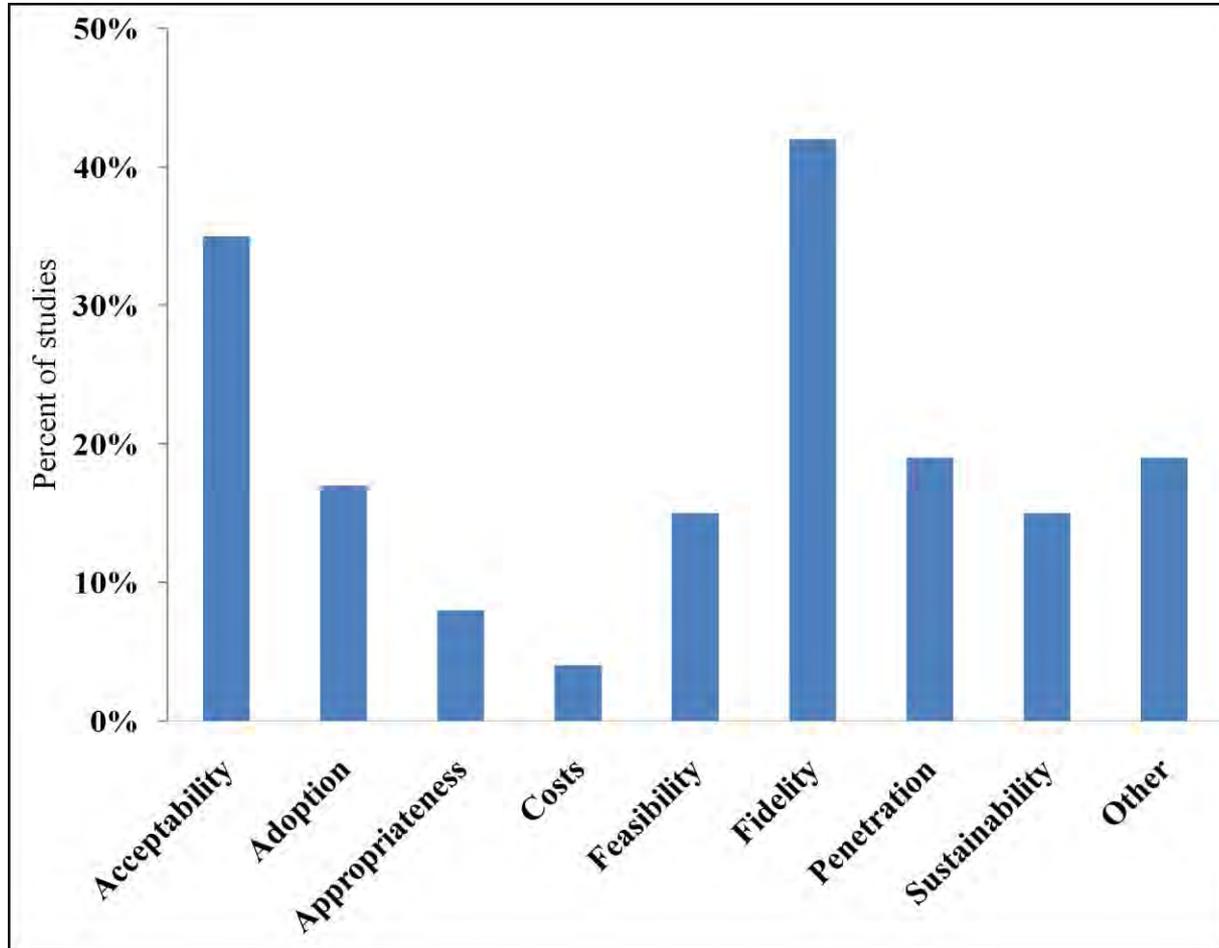
Our scan of implementation outcomes & their measurement

Outcomes	# Measurement Approaches or Tools
Acceptability	40
Adoption	27
Appropriateness	10
Feasibility	10
Fidelity	14
Penetration	4
Sustainability	8
Total	113



Studies in SUD measuring implementation outcomes

*Glass et al. 2010





Measurement: Fidelity

Typically multiple item, Likert measures
Summed up scale yields continuous measure
of fidelity, often dichotomized

Assessment via:

Self-report (e.g., of components delivered)

Face-to-face or telephone interviews

Observation by research teams

Psychometric validation of many, most scales



Fidelity Measurement: Dartmouth Assertive Community Tx Scale*

Excellent psychometric properties.

Licensed measure in the public domain and is included in SAMHSA's ACT toolkit.

<http://store.samhsa.gov/shin/content//SMA08-4345/EvaluatingYourProgram-ACT.pdf>

* Teague and colleagues' (1998) for scale

* McHugo (2007) for its use by SAMHSA in a national EBP project.



Measurement : Acceptability

Typically brief (10-20 item) Likert scales summarized and dichotomized (Karlsson and Bendtsen (2005)).

Administered via interview & questionnaires, trending toward on-line administration.



Acceptability: Evidence Based Practice Attitude Scale (EBPAS)*

15-items, 5-point Likert scale (Aarons, 2004)

One factor, four subscales:

- **Appeal (intuitive appeal of EBPs),**
- **Requirements (likelihood of adopting EBPs when required),**
- **Openness (to new practices),**
- **Divergence (between research-based/academically developed interventions and current practice).**

Properties: subscales ranging from .91 to .67; total scale coefficient of .74 (Aarons et al., 2010).



Measurement: Feasibility

- **Rarely directly measured**
- **Often inferred or judged by researchers**
 - Program may be deemed feasible if highly rated on other implementation outcomes (acceptability)
- **Often inferred retrospectively on basis of burden**
 - Program, screener, or treatment may require too much time



Measurement: Adoption

Dichotomous measure:

- is intervention being used? (Henggeler et al, 2008)

Continuous measures of adoption:

- adding number of program components adopted (Li, Simon, Bodenheimer, Gillies, Casalino, & Shortell, 2004).
- considering adoption intent.

Consistent with transtheoretical model of behavior change (stages of change).

Little psychometric evaluation



Adoption: McGovern et al readiness to adopt

- 1 – We are not interested and do not think this practice would be effective in our program.**
- 2 – We have considered this practice but see many pros and cons.**
- 3 – We are leaning in the direction of adopting this practice in our program.**
- 4 – We have just begun to implement this practice in our work.**
- 5 – We have been using this practice and efforts are in place to maintain it.**

* McGovern, M. P., Fox, T. S., Xie, H., & Drake, R. E. (2004). A survey of clinical practices and readiness to adopt evidence-based practices: Dissemination research in an addiction treatment system. *J Subst Abuse Treat*, 26(4), 305-312.



Key issue: spread

To what scale are we implementing evidence-based practices?

Early research stuck on:

Early adopters

One EBP at a time

Small numbers

Favorable contexts

Penetration and reach can reflect „spread”



Measurement: Penetration

- **Reflects “depth” of implementation in target sites**
- **Measured as a proportion**
 - **# sites within agency adopting an EBP / # agency sites exposed to EBP**
 - **# of providers delivering the EBP / # of providers trained**
 - **# of providers’ cases receiving the EBP / # eligible clients served by provider**



Measurement: Reach (RE-AIM)

Reflects “participation” in an EBP

Measured as a proportion

– # of persons receiving the EBP /
of persons in population who would
benefit from the EBP

*Individual characteristics important:

– Is numerator representative of the
population who needs it?



Key issue: how do we sustain service improvement ?

Return on investment in testing and implementing EBP^s requires some capacity to sustain.....

Groups with an “ROI” concern:

- Research funders**
- Administrators**
- Treatment developers**
- Communities who participate in research**

Yet little measurement of sustainability, once improvements are introduced in care



Questions around sustainability

What factors are associated with sustainability?

What does sustainability mean?

Continued use of an EBP?

Continued capacity to deliver evidence-based care (even if the EBP is changed)

How long should an EBP be implemented?

“life cycle” of an EBP

“expiration” dates

Sustainability “curves”

Crowd out, flame out, burn out, ramp up?



Implementation outcomes:

Multiple stakeholders, with multiple perspectives

- service consumers
- families
- providers
- administrators
- funders
- legislators



Implementation Outcomes: Moving the field forward

Consistent terminology needed

Clear referent of “what” is being evaluated

- one EBP, the implementation approach, several new Tx's at once

Specify level of analysis

Test and report measurement properties

Assess salience of outcomes to stakeholder groups

Model interrelationships among outcomes

- Among implementation outcomes

- Between IO's, service outcomes, client outcomes



Acknowledgments

Proctor, E., Silmere, H, Raghavan, R., Hovmand, P., Aarons, G., Bunker, A., Griffey, R., & Hensley, M. Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. *Admin Policy Mental Health* (2011), 38: 65-76.

Glass, J., Powell, B.A., Bunker, A.C., Santens, R., & Proctor, E.K. Implementation Outcomes in Specialty Substance Use Disorder Treatment Research



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THANKS!

Question?

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