

## COMMENTARY ON BORRELLI

**Maximizing treatment fidelity in public health clinical trials**

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In relatively few pages (1), Professor Borelli provides a cogent overview of one of the vexing issues in assessing whether public health interventions “work.” The comprehensiveness of the presentation, covering issues ranging from treatment development through outcome evaluation, makes the article a valuable resource for practitioners and students in a variety of disciplines. Of particular value is the detailed template listing fidelity assessment strategies at the Treatment Design, Provider Training, Treatment Delivery, Treatment Receipt, and Treatment Enactment Stages.

The importance of treatment fidelity in the evaluation of public health interventions cannot be understated. While the relative value of “efficacy” studies (conducted under controlled conditions to establish causal connections between intervention and outcomes) and “effectiveness” studies (conducted to assess whether interventions can produce desired outcomes under real-life conditions) has been debated (2,3), the issue of fidelity is critical with regard to both. The reality is that “interventions” represent a black box. We know (hopefully) the theory underlying the program and anticipated outcomes, but we often do not know what actually happens within the black box – i.e., whether the treatment was delivered as planned.

Beyond such useful specifics, I especially appreciate the author’s emphasis upon “theory” and the importance of “mapping” treatment components onto the theory. The importance of theory cannot be overstated as it should both drive what is done in the program as well as specifying immediate, intermediate, longer-term outcomes that need to be assessed. My only suggestion would have been to tie the discussion of theory to the growing literature on “logic models” (4), which emphasizes exactly what Professor Borelli suggests

– specifying the theory underlying the program in relation to program elements and hypothesized outcomes.

To provide a case study of the relevance of treatment fidelity to behavioral interventions in dental practice, our own ongoing study of “Adoption, Fidelity, and Effectiveness of Alcohol Screening and Brief Interventions for Dental Practice” (RC1-DE 020563) is relevant. The project goal is to implement and evaluate the effectiveness of well-established (5) screening and brief motivational interviewing-based interventions for at-risk drinkers, to be delivered by dental hygienists. While grant reviewers questioned whether we could train hygienists to deliver the intervention, the present paper clearly demonstrates that training is only one small part of the fidelity issue. If our goal were simply to establish the efficacy of brief interventions, we should conduct the study in a controlled clinic setting with highly trained and monitored hygienists. In contrast, however, ours is an effectiveness study. We examine practitioner and practice-level variables that influence fidelity (as an intervening or mediating variable) and ultimately, alcohol outcomes. As we can not assure fidelity, the present paper emphasizes the importance of assessing: skill levels reached through training, delivery of intervention components, receipt of intervention components by subjects, and ultimately, alcohol outcomes. Hopefully, by using the paper’s template to study fidelity and its role with regard to program outcomes, we will be better able in the future to successfully implement brief alcohol interventions in busy community dental practices.

**Conflict of interest**

The author declares no conflict of interest.

**References**

1. Borelli B. The assessment, monitoring, and enhancement of treatment fidelity in public health clinical trials. *J Public Health Dent.* 71:S57-S68.
2. Summerfelt WT, Meltzer HY. Efficacy vs. effectiveness in psychiatric research. *Psychiatr Serv.* 1998;49(6):834.
3. Hogarty GE. Reply to Summerfelt & Meltzer. *Psychiatr Serv.* 1998;49(6):834-5.
4. Wholey J, Harty H, Newcomer K, editors. *Handbook of practical program evaluation.* San Francisco, CA: Jossey-Bass; 2004.
5. National Institute on Alcohol Abuse and Alcoholism. 2005 Brief Interventions. Alcohol Alert; No. 66 (July).

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