

## Understanding and defining implementation fidelity to facilitate better understanding of intervention implementation outcomes

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### Background

Implementation fidelity is an important component of implementation aiming to ensure that measured outcomes are correctly ascribed to the intervention implemented. There has been limited discussion by researchers about its definition, and limited focus on a robust, structured approach to implementation fidelity in evaluating outcomes.

### Objectives

To identify how implementation fidelity has been defined, what comprises implementation fidelity evaluation, and how these elements of fidelity were measured in the context of implementing healthcare interventions.

### Method

We searched papers including fidelity evaluations of healthcare interventions in databases of peer-reviewed journal articles (Ovid MEDLINE and Ovid EMBASE), using a systematic approach. Papers from 1998, in the English language and of all research designs were included. Data were extracted and narratively summarised. To develop a more comprehensive definition of implementation fidelity, we then reviewed implementation fidelity conceptual papers and included key concepts. Measures of implementation fidelity were tabulated.

### Results

Forty-two papers met the inclusion criteria, of which nineteen defined fidelity, focusing on the degree of implementation compliance to that which was intended. Further, the review revealed that implementation fidelity had four elements that we propose will promote more effective implementation evaluation, and increase the robustness of research designs: 1. The intervention is being implemented as intended (operational fidelity) 2. Deciding the permissible level of innovation adaptability at the outset (theoretical fidelity); 3. The degree to which an intervention reaches end users in its intended form (end user fidelity); and 4. The intervention being implemented is sustainable in its intended form (sustained fidelity).