We commend Tooth et al. (1) for their contribution to improving the quality of reporting of observational longitudinal research in epidemiology. We also appreciate their positive comments about the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) statement (2).

In terms of both content and format, there are strong similarities among the Consolidated Standards of Reporting Trials (CONSORT) statement (3), the TREND statement, and the Tooth et al. paper (1). The checklist and flowchart approach is clearly gaining recognition as a method for improving the quality of reporting research. While there are strong similarities, we would like to call attention to an important difference in emphasis between TREND and CONSORT and Tooth et al. The TREND statement asks authors to describe in detail the theory linking the intervention being reported and the expected outcomes. “Theory” refers to behavioral and/or social science constructs that link the elements of the intervention to behavioral/social change processes that would then produce the desired outcomes. Examples would include cognitive behavior theory (4) and diffusion of innovations theory (5). A good description of the underlying theory of the intervention being evaluated both helps specify process variables for possible measurement and can increase confidence that the intervention was the cause of the expected outcomes (should those occur). This can be a major advantage for decision makers considering implementation of the intervention on a larger scale.

Within a properly implemented, randomized, clinical trial design (as reported with CONSORT), there will still be a relatively strong inference for causation even if the theoretical mechanism is unspecified or unknown. In a purely observational longitudinal study, making causal inferences is likely to be problematic. However, we suggest adding to the Tooth et al. checklist (1, p. 283) a theoretical description of the “exposure” that would specify possible causal linkages between the exposure and the observed outcomes. Generating cumulative scientific knowledge requires not only transparent reporting of research studies but also having theoretical frameworks for integrating the (often voluminous) data. As we noted in the original TREND statement paper (2), however, a postanalysis slap-on of a theoretical framework simply for the sake of having some theory is not likely to be useful.

Finally, in the spirit of modern science, we also would like to suggest that Tooth et al. (1) generate a mnemonic abbreviation for their checklist and flowchart.

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REFERENCES