This book offers a strategy for assessing epidemiologic research findings, explicitly describing the goals and products of epidemiologic research in order to better evaluate its successes and limitations.

Evaluating the strength or persuasiveness of epidemiologic evidence is inherently challenging, both for those new to the field and for experienced researchers. There are myriad potential biases to consider, but little guidance about how to assess the likely impact on study results.

The focus throughout is on practical tools for making optimal use of available data to assess whether hypothesized biases are operative and to anticipate concerns at the point of study design in order to ensure that needed information is generated. Specific tools for assessing the presence and impact of selection bias in both cohort and case-control studies, bias from non-response, confounding, exposure measurement error, disease measurement error, and random error are identified and evaluated. The potential value of each approach as well as its limitations are discussed, using examples from the published literature. Such information should help those who generate and interpret epidemiologic research to apply methodological principles more effectively to substantive issues, leading to a more accurate appraisal of the current evidence and greater clarity about research needs.