Emphasizing Methods in Outcomes Research

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Outcomes research focuses on the end results of health care, with emphasis on the patient experience. The field is not a singular discipline, but rather draws on a broad range of primary fields to produce knowledge that can inform decisions at the patient and health system level. Outcomes research uses a wide spectrum of methods that include experimental and nonexperimental designs. It is distinctive in its focus on questions that are relevant to optimizing efforts to promote the health of patients and populations, with an emphasis on aligning decisions to the preferences, values and goals of those individuals.

The richness of methodological approaches to outcomes research is apparent in the pages of Circulation: Cardiovascular Quality and Outcomes. Examples include articles that report on randomized trials, cross-sectional studies, observational cohort studies, economic analyses, meta-analyses, systematic reviews, prepost designs, simulations, and qualitative research. A glance at this content quickly dispels the myth that outcomes research is primarily associated with secondary data analyses and data mining. That type of work, for the appropriate questions and with the appropriate methodological approach, can make important contributions, but is hardly the only study design used by the field. Moreover, even studies using existing data bases often exhibit novelty in their methodological approach.

At Circulation: Cardiovascular Quality and Outcomes, our commitment to advancing clinical research methods is supported by our process of manuscript evaluation. The statistical review process is conducted, in collaboration with the editors, by a talented team that is directed by Dr Sharon-Lise Normand, our Senior Statistical Consultant, with the assistance of her Associate Statistical Consultants, Drs. Yulei He (Harvard), Armando Teixeira-Pinto (University of Porto), and M. Alan Brookhart (University of North Carolina, Chapel Hill). Each manuscript is independently assessed by an expert in statistics and methods. These individuals, who generously devote time to the journal, have particular skill in the methods of outcomes research and a sensitivity to the goals of the field; their reviews are among the most insightful and incisive that we see. Their perspective complements that of the main reviewers who are also often quite skilled in, and provide assessment of, a submission’s methodological qualities. Although involving a statistical reviewer represents an additional layer of evaluation that can increase review time, we consider it essential. The statistical review almost always elevates the quality of contributions to the high level expected for publication in Circulation: Cardiovascular Quality and Outcomes.

There are other ways that we seek to promote the importance of methods. We welcome opportunities to debate methodological approaches through respectful dialogue about the strengths and weakness of analyses and study designs. In some cases, published original articles have focused on methodological issues, such as perspective papers that examine cost-effectiveness analyses, critique the method of using cost at the end-of-life as an efficiency measure, examine the utility of data adjudication in a registry, and investigate patient selection in registries and survivor treatment selection bias.

In addition, we publish articles that provide in-depth examinations of specific methodological issues, some of which are submitted by the authors, such as the contribution from Peter Austin on propensity-score matching. We also have initiated a series of review articles, solicited by Dr Normand, which address current methodological topics in outcomes research. The first contribution was an important article by Dr He on multiple imputation for missing data analysis. Future publications will feature landmark analyses and Bayesian approaches. When possible, we will post SAS code with these reviews to provide assistance to readers.

We continually seek contributions on topics of broad interest to our readership that will illuminate the ways in which investigators are pursuing outcomes research. Toward this aim, we reserve space in the journal for articles that lay out the design of ongoing studies, with the intent of sharing information about methods and providing more detail about novel investigations than would ordinarily be possible within the context of a traditional submission. Submissions of this type undergo peer review, with particular consideration given to outcomes research studies that are highly innovative and likely to make distinctive contributions. We have thus far published 17 such articles. In addition, we have published methods articles that describe prominent registries and research networks, and we make study materials available on the Internet for others who may be interested in pursuing similar investigations.

Ultimately, creative and important research questions, in the absence of appropriate methods, cannot adequately support our effort to produce knowledge. At Circulation: Cardiovascular Quality and Outcomes, we acknowledge our responsibility to promote the use of the strongest methods in our research community.
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References


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