

Epidemiology Under Pressure

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As the discipline of epidemiology comes of age, it has become the focus of increasing public attention, and along with it, some cynicism about the contribution of epidemiology, especially epidemiologic findings from nonexperimental studies. Although cynicism is counterproductive, hard skepticism should be welcome and is well-deserved.

Many of the thought processes embedded in modern epidemiologic work are flawed applications of statistical tenets that are unsupportable. The prime example is the impetus to classify study results as dichotomies (there or is not an effect, there is or is not a trend, there is or is not an interaction), and to use statistical significance testing as the carving knife to create the dichotomy.

Other examples of flawed approaches include the approach to multiple comparisons and to subgroup analysis, the infatuation with modeling, and the aversion to open data sources to other investigators for perusal and analysis. Until epidemiologists reconsider how they approach these problems, the criticism of epidemiology as a discipline should and likely will continue.