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Title: Open problems in testing for change points in Epidemiology when exposure is assessed with uncertainty

Abstract: In fields such as radiation epidemiology, occupational epidemiology and toxicological risk assessment, underlying biological models often specify a change point or a point of inflection. For example, in the Nevada Test Site Thyroid Disease Study, it has been hypothesized that there is essentially no effect of I131 up to a point of inflection, at which point the risk begins a rapid increase. In these problems, exposure assessment is uncertain, i.e., there is measurement error, typically thought to be of Berkson type. I will review the background, and then pose the question I would like to have answered: how can one test for a change point under minimal assumptions when the exposure is assessed with uncertainty. My hope is that someone can show me how to do this.