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Title: Graphical representation and comparison of attributable fractions across multiple disease risk factors

Abstract:

Population Attributable fractions (PAF) estimate the proportion of disease cases that might be avoided if a disease-risk factor could be removed at a population level; for instance, the reduction in the prevalence of lung cancer if nobody smoked. They are useful epidemiologic tools to compare disease burden across differing risk factors and help suggest possible targets for health-interventions. In this talk, I describe appropriate definitions and estimation approaches for PAF using the Neyman-Rubin causal model. Several novel visualizations are suggested, displaying various forms of PAF across multiple different risk factors (both discrete and continuous). It is hoped that these visualizations will help prevent mis-interpretation of PAF, and may assist practitioners in their search of good risk-factor targets for health interventions.