Reviewer's report

Title: Time trends in socioeconomic inequalities in cancer mortality: results from a 35 year prospective study in British men

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Reviewer: Min Lian

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Authors analyzed a cohort data with nearly 7500 British men to examine the socioeconomic disparity in cancer mortality. The manuscript is lack of a strong justification in public health significance of the study. Insufficient literatures were reviewed in the introduction section.

Authors mentioned the data came from The British Regional Heart Study. More details are needed for this study. What was the original study purpose when this cohort was developed - for heart health, or for general health? Based on a long-term observation (35 years), there should be other important competing events happened, including cardiovascular diseases. Why are authors focusing on cancer? Ignoring competing risks of mortality, the findings might have been overestimated.

The definition of socioeconomic condition is questionable. Although authors applied the longest-held occupation of subjects at study entry, that occupation might not be long enough and might not be representative, especially for subjects with frequent job changes. Additionally, occupation is only an aspect of socioeconomic status. Why wasn’t the family income used?

The statistical analysis did not control for important confounders besides age. Many factors could significantly impact on mortality outcome, including individual health behaviors, lifestyle factors, chronic comorbid conditions, health care coverage, cancer or other chronic condition-relevant treatment and management, etc. This is major issue of this study; therefore, evidence is not enough to draw the conclusion.