

Estimating Race and Ethnicity in Occupational Research

Overview

Race and ethnicity data are often absent from administrative and health insurance databases. Indirect estimation methods to assign probability scores for race and ethnicity to insurance records may help identify occupational health inequalities.

The purpose of this study was to test the race and ethnicity estimation method Bayesian Improved Surname Geocoding (BISG). This method uses a person's surname and residential address to provide a probability estimate for inclusion to one of six mutually exclusive racial and ethnic groups. The probability estimates can then be used at the population level.

We compared BISG-derived race and ethnicity probability estimates to self-reported race and ethnicity from 1132 workers. Gender stratified regression models adjusted for worker age and industry were used. The industry sectors included Construction, Health Care, Manufacturing, and Service.

Improving Occupational Health Disparity Research: Testing a method to estimate race and ethnicity in a working population

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Key Findings

The BISG is a promising initial approach to estimating population level occupational health disparities with a relatively high degree of probability for some, but not all, racial and ethnic groups.

- The BISG estimation method was good to excellent for White, Black, Latino, and Asian Pacific Islanders.
- The BISG estimation method was poor for American Indian/Alaskan Native and for those who indicated they were 'other race' or 'more than one race'.
- Controlling for industry was important in our comparison population, both to increase the accuracy of the BISG and to tailor culturally appropriate interventions.

Impact

In the absence of self-reported race and ethnicity data, the BISG method allows for the identification and enumeration of occupational health disparities by race and ethnicity. This is a critical first step in eliminating racial and ethnic disparities in occupational injuries and illnesses.

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