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Crosswalks to convert U.S. Census Bureau industry and occupation codes, 1980–2018

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To the Editor:

Occupation is reflective of workers' socioeconomic status (SES) and occupational exposures and experiences.[1] Therefore, occupation has been used as a measure of SES, much like education and income, or to derive occupation-based indices of SES in many epidemiological studies.[1] Moreover, industry and occupation can be used to generate hypotheses regarding occupational exposures and experiences associated with particular health outcomes, identify groups of workers with high burdens of particular health outcomes, and target programs, interventions, and policies to workers in industries and occupations with high disease burdens to reduce occupational illness and injury.[1] Industry and occupation information can be used to link epidemiological studies and datasets to other datasets, such as job exposure matrices, to assign quantitative and/or semi-quantitative estimates of occupational exposures.[2] Industry and occupation (and occupation-based SES) can be considered a(n) exposure,[3] potential confounder,[4] effect measure modifier,[5] and/or mediator[6] depending on the research question of interest.

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Data access: The data used for this project are publicly available (please see the eAppendix, p. 12, for a detailed list of data sources). The crosswalks are publicly available on a GitHub repository (https://github.com/johndbeard/Crosswalks-for-industry-and-occupation-codes).

Industry and occupation information is often ascertained via free text fields for epidemiological studies or datasets used for epidemiological research (e.g., birth and death certificates),[3] which necessitates the assignment of industry and occupation codes to the data to enable epidemiological analyses. The United States of America (U.S.) Census Bureau has developed industry and occupation codes and made them publicly available for decades.[7] Furthermore, web-based tools developed and made publicly available by the National Institute for Occupational Safety and Health can be used to assign U.S. Census Bureau industry and occupation codes to free text fields.[8]

The U.S. Census Bureau frequently updates their codes for industry (every five years) and occupation (every 8–10 years), which are used for the decennial census and surveys including the American Community Survey, Current Population Survey, and Survey of Income and Program Participation.[7] Updates are necessary because industries and occupations emerge, change, and become more or less common over time.[7] Therefore, it is important to provide researchers and professionals with crosswalks that can be used to convert older (e.g., 1980) industry and occupation codes to newer (e.g., 2018) codes. A study of usual (i.e., longest held) occupation reported on death certificates in relation to mortality from amyotrophic lateral sclerosis and Parkinson's disease provides a recent example of the utility of such crosswalks.[3]

The U.S. Census Bureau makes publicly available their updated industry and occupation codes and instructions for using them (eAppendix, p. 6). However, they do not compile this information into files or formats that can be conveniently used for epidemiological analyses. Therefore, we have used U.S. Census Bureau information and followed U.S. Census Bureau instructions to create crosswalks to convert industry codes from 1980 to 1990, 1990 to 2000, 2000 to 2002, 2002 to 2007, 2007 to 2012, and 2012 to 2017 codes. We have also created crosswalks to convert occupation codes from 1980 to 1990, 1990 to 2000, 2000 to 2002, 2002 to 2010, and 2010 to 2018 codes. Our crosswalks include industry and occupation codes for the general population of workers, military personnel, and nonpaid workers. Our crosswalks can be used to convert older industry and occupation codes to newer codes (e.g., from 1980 to 1990), but they cannot be used to convert newer industry and occupation codes to older codes (e.g., from 1990 to 1980). We are making available our crosswalks, an explanation of conversion factors, instructions for using the crosswalks, our rationale for providing two versions of each crosswalk, and notes about and descriptions of our sources (eAppendix). We hope our crosswalks will enable updated analyses of industry and occupation data within the broad spectrum of epidemiological studies in which industry and occupation data are used.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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