National Cancer Institute

The National Longitudinal Mortality Study (NLMS) and the Linked SEER-NLMS

http://www.seer.cancer.gov/about/activities.html

Accessing NLMS and Linked SEER-NLMS Data

Overview

Bridging the gap of cancer-related health disparities is a national priority. The ability to monitor cancer incidence and trends is essential to reducing the cancer burden for specific communities.[1] The National Longitudinal Mortality Study (NLMS) and the linked Surveillance, Epidemiology, and End Results (SEER)-NLMS databases are unique resources that provide data to investigate relationships between socioeconomic status (SES) and cancer burden.

The National Longitudinal Mortality Study (NLMS) Database

The NLMS is a database developed to examine the relationships between mortality and self-reported demographic and SES characteristics among a representative sample of the U.S. noninstitutionalized population. Sociodemographic data, collected by the U.S. Census Bureau via in-person and telephone interviews as a part of the annual Current Population Surveys (CPS), are combined with cause of death information from official state death certificates for study cohorts ranging from 1973–2002. The NLMS database includes records on approximately 3.0 million persons, with cause of death information on approximately 350,000 individuals. Additional data have been linked to the NLMS and are available for analysis, including Medicare claims data for the period 1991–2001 and the CPS Tobacco Use Supplements for the NLMS cohort years of 1985, 1992, 1993, 1995, 1996, 1999, and 2001.

Variables available for analysis in the NLMS database include:

- Race/ethnicity
- Income
- Marital status
- Employment status
- Industry
- Nativity/immigrant status
- Education
- Household Size
- Occupation
- Veteran Status
- Health insurance
- Smoking (for certain cohorts)
- Medicare reimbursement
- Personal Health Assessment (since 1994)

The Linked SEER-NLMS Database

The SEER Program cancer patient records for 1973–2003 have been linked with 1979–2002 NLMS cohorts to provide additional individual-level SES and demographic information on SEER cancer cases. The linked SEER-NLMS database is designed to expand opportunities for analyzing SES differentials in cancer incidence, survival, and tumor characteristics based on self-reported demographic and SES factors.[2,3] The SEER Program collects information including cancer site, stage, histology, and survival for persons newly diagnosed with cancer who reside in one of the SEER geographic areas. (See *http://seer.cancer.gov/data/documentation.html* for a listing of variables available in the SEER database.) In addition, the tobacco use and Medicare claims data that have been linked to the NLMS also are linked to the SEER-NLMS database and are available for analysis.

Potential Uses of the NLMS and Linked SEER-NLMS Databases

Data can be used to investigate the role of socioeconomic determinants in cancer burden based on high-quality measures, including:

- Incidence
- Histology
- Behavior
- Treatment
- Mortality
- Stage at diagnosis
- Site
- Grade
- Survival
- Cause of death

Investigator Access to the NLMS and Linked SEER-NLMS Databases

The National Cancer Institute encourages interested investigators to use the NLMS and Linked SEER-NLMS databases for cancer-related research projects.

Complete the NLMS and Linked SEER-NLMS Study Proposal Form (see http://surveillance.cancer.gov/disparities/nlms/form.html) to submit a maximum 2-page proposal outlining the study hypothesis, specification of analysis variables, timeline, and contact information electronically to nlms@imsweb.com. Any additional information can be obtained by contacting nlms@imsweb.com.

References

1. Singh GK, Miller BA, Hankey BF, Edwards BK. Area socioeconomic variations in U.S. cancer incidence, mortality, stage, treatment, and survival, 1975-1999. NCI Cancer Surveillance Monograph Series, Number 4. Bethesda, MD: National Cancer Institute, 2003. NIH Pub. No. 03-5417.

2. Clegg LX, Reichman ME, Miller BA, Hankey BF, Singh GK, Lin YD, Lynch CF, Schwartz SM, Chen VW, Bernstein L, Gomez SL, Lin CC, Johnson NJ, Edwards BK. Impact of socioeconomic status on cancer incidence and stage at diagnosis: selected findings from the Surveillance, Epidemiology, and End Results National Longitudinal Mortality Study. Cancer Causes Control 2009;20:417-435.

3. Clegg L, Reichman M, Hankey BF, Miller BA, Yi DL, Johnson NJ, Schwartz SM, Bernstein L, Chen VW, Goodman MT, Gomez SL, Graff JJ, Lynch CF, Lin CC, Edwards BK. Quality of race, Hispanic ethnicity, and immigrant status in population-based cancer registry data: implications for health disparity studies. Cancer Causes Control 2007;18:177-187.

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