

About the SEER-Medicare Health Outcomes Survey (SEER-MHOS) Linked Database

Applied Research Program

Overview

The Surveillance, Epidemiology, and End Results-Medicare Health Outcomes Survey (SEER-MHOS) linked database is a research resource designed to improve our understanding of the health-related quality of life (HRQOL) of cancer patients and survivors enrolled in Medicare Advantage health plans. SEER-MHOS is sponsored by the National Cancer Institute (NCI) and the Centers for Medicare & Medicaid Services (CMS).

NCI and CMS's partnership in this initiative is modeled on the SEER-Medicare linked database. In both cases, CMS provides the Medicare beneficiary data and NCI provides the SEER data.

NCI manages the SEER-MHOS database, and both agencies work together to update and improve the database over time. Both agencies also collaborate in creating and carrying out the research plan that guides the initiative.

The database contains clinical, quality of life, socioeconomic, demographic, and other information that will enable investigators to systematically investigate HRQOL issues in this Medicare population.

The SEER-MHOS linkage was completed in 2007 and the database has data from 14 SEER registries and more than 300 Medicare Advantage managed care plans that annually participate in data collection. The data set includes six cohorts of MHOS data (baseline and follow-up) covering the data collection years of 1998–2005. Two additional cohorts of MHOS data covering the data collection years of 2004–2007 are undergoing linkage with SEER data.

The Two Components

NCI's **SEER** program collects information including cancer site, stage, histology, and initial treatment for persons newly diagnosed with cancer who reside in one of the SEER geographic areas.

The **MHOS** was developed by the National Committee for Quality Assurance (NCQA) under contract to CMS. It measures the outcomes of care provided by Medicare Advantage health plans to their members.

The MHOS includes a 95-item core questionnaire administered to 1,000 randomly selected members of each participating managed care organization. In plans with fewer than 1,000 enrollees, all eligible members are surveyed. The survey was administered in May 1998 and again to the same group in the spring of 2000. A new cohort is selected each year for baseline measurement and a 2-year follow-up assessment.

The Catalysts for SEER-MHOS

- The Institute of Medicine has urged a stronger focus on “outputs” than “inputs” of care in measuring health care quality and called HRQOL a key outcome for older Americans.
- NCI has called for more quality of life measurement in clinical trials and cancer survivorship research.
- HRQOL is a major reason for offering cancer treatment, yet the current national surveys that collect HRQOL data are not tailored to cancer patients. NCI recognized that other approaches were necessary to capture large samples of cancer patients and survivors.

What do the two data resources tell us about older adults enrolled in Medicare Advantage Organizations?

A major advantage of this data set is its ability to examine HRQOL as reported by Medicare Advantage Organization beneficiaries with and without cancer. The MHOS collects considerable information about HRQOL through the Medical Outcomes Study Short Form-36 (SF-36), a 36-item, reliable self-report tool that is widely used, well tested, and that has been validated in numerous studies, including many pertaining to cancer care. The MHOS also gathers data on demographics, socioeconomic status, functional status, smoking status, and chronic conditions.

The SEER program provides complementary cancer registry data on a number of variables that are likely to influence HRQOL among cancer patients and survivors. These variables include the clinical information noted on page 1 (e.g., the cancer diagnosis, nature of initial treatment) as well as the timing of the MHOS administration in relation to cancer diagnosis. In addition, the SEER program collects cause of death information for people with cancer.

SEER-MHOS is a unique research resource. It can be used to...

- Explore variations in HRQOL by tumor site, race and/or ethnicity
- Assess healthcare preferences of elderly cancer patients and survivors enrolled in managed care
- Study the impact of a cancer diagnosis and initial treatment on HRQOL in patients enrolled in HMOs

SEER-MHOS data files became publicly available to external investigators in December 2010. Researchers who wish to obtain the data are encouraged to read the support resources at <http://outcomes.cancer.gov/surveys/seer-mhos>.

SEER-MHOS is a valuable quality improvement resource. It can be used by...

- Health plans who want information that is more “actionable” and linked to disease processes they understand and manage
- Health plans who want to monitor plan performance, facilitate plan quality improvement, and assist consumers with plan selection
- Policymakers who want outcomes reports tailored to Medicare beneficiaries subgroups

What are NCI's future plans for SEER-MHOS?

- Expand SEER-MHOS linkage to include 2004–2007 data (in process)
- Building on the *Health Care Financing Review* special issue (see below), produce additional studies of the relationship between cancer and HRQOL
- Create a Fee-for-Service HRQOL sample and link to Medicare claims data

For More Information

- SEER-MHOS Linked Database: <http://outcomes.cancer.gov/surveys/seer-mhos>
- SEER: <http://seer.cancer.gov>
- *Health Care Financing Review* special Summer 2008 issue on quality of life of cancer patients

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