

SEER-MHOS Sample Data Use Agreement Application



SEER-MHOS is a publicly accessible data resource combining cancer registry and patient survey data on health outcomes in cancer. These data provide a rich opportunity to examine cancer health outcomes, such as health-related quality of life and activities of daily living, along with clinical and epidemiologic information.

A SEER-MHOS sample project description is provided to help investigators preparing a SEER-MHOS data use agreement (DUA). For any questions about the DUA submission process please email us at: SEER-MHOS@hsag.com

SAMPLE Project Description:

A. Title

Associations of Health-Related Quality of Life by Chronic Conditions and Time Since Diagnosis among Older Cancer Survivors

B. Brief overview of your project (one or two sentences)

The overall goal of the proposed study is to investigate the association of health-related quality of life (HRQOL) by chronic condition clusters and time since cancer diagnosis among older cancer survivors.

Research Question: What is the relationship between health-related quality of life (PCS, MCS) by the nine most prevalent cancers, type and number of four distinct chronic condition clusters (cardiovascular diseases, pulmonary diseases, diabetes, and musculoskeletal diseases), and time since cancer diagnosis among older cancer survivors?

C. Cancer sites being requested:

Breast, prostate, colon/rectal, melanoma, lung, bladder, kidney, endometrial, and non-Hodgkin's lymphoma

D. Description of the Project (no less than 1 page, no more than 5 pages).

D1. Statement of main hypothesis/research question

Using Surveillance, Epidemiology and End Results (SEER)-Medicare Health Outcomes Survey (MHOS) data, Smith et al (2008) previously highlighted important associations between several types of cancer, comorbidities, and physical and mental health. One key finding showed that across cancer types, Medicare cancer patients reported significantly more comorbid conditions and poorer physical and mental health compared with patients without cancer. The current effort will extend upon Smith et al.'s paper by increasing the sample size to ten SEER-MHOS linked cohorts (cohorts 9-16) and expanding the amount of cancer types, chronic condition clusters, and different year since cancer diagnosis groupings (0-2 years, 2-5 years, 5+ years). This will be accomplished through the following aims:

- Aim 1: Compare older cancer patients with or without other chronic condition clusters by sociodemographic characteristics and medical conditions

Hypothesis 1: Older cancer patients with other chronic condition clusters will have significantly different sociodemographic characteristics and conditions compared to older cancer patients with no other chronic condition clusters

- Aim 2: Compare HRQOL (PCS and MCS) by different types of cancers, **number of chronic condition clusters**, and time since cancer diagnosis (0-2 years, 2-5 years, 5+ years) among older cancer patients

Hypothesis 2: Certain cancer types with more chronic condition clusters and diagnosed within two years since the time of completing the questionnaire will have significantly lower PCS and MCS scores than other comparison groups.

- **Aim 3:** Compare HRQOL (PCS and MCS) by types of cancers, *types of chronic condition clusters*, and time since cancer diagnosis (0-2 years, 2-5 years, 5+ years) among older cancer patients

Hypothesis 3: Certain cancer types and with multiple chronic condition clusters for older cancer patients will have significantly lower PCS and MCS scores than other comparison groups.

D2. Statement about how the research has the potential to improve the quality of life of Medicare Advantage Organization cancer patients

Findings will help identify vulnerable subgroups of older Medicare Advantage Organization cancer patients with other chronic conditions that might benefit from comprehensive assessment, monitoring, and interventions targeted to improve their functional and mental health.

D3. Description of study subjects and cancer sites/phases to be included in the analysis

Requesting baseline data from cohorts 9-16 (2008-2015) of the SEER-MHOS linked database. Respondents (aged ≥ 65) diagnosed at time of completion of survey with (female) breast, prostate, colon/rectal, melanoma, lung, bladder, kidney, endometrial, and non-Hodgkin's lymphoma (first primary with no subsequent cancers). For participants who completed more than one survey (either because they completed both a baseline and a follow up survey or because they participated in more than one cohort), use the first survey.

Sample size estimation

[Please include a sample size estimation for your project using the SEER-MHOS Calculator: <https://healthcaredelivery.cancer.gov/seer-mhos/support/sample-size-estimator/#/>]

D4. Brief explanation of key variables and analytic methods to be used

[Please review the MHOS Data Dictionary for project variables: <https://healthcaredelivery.cancer.gov/seer-mhos/aboutdata/documentation.html>]

Demographic and health related variables

SAS variable	Description	Source (SEER or MHOS)
ANYCAN/CCANYCA (make this sample size inclusion criteria)	self-reported cancer diagnosis	MHOS
AGE_SRV	calculated age at time of survey	MHOS
TMFCA2SV	# months from first cancer to survey in SEER	SEER
SITE1-SITE10 (or SITERWHO1-SITERWHO10)	cancer site for first cancer diagnosis (primary site)	SEER

AGER1/AGEDX1	age at first cancer diagnosis	SEER
MBSF_SEX	Sex	MHOS
MBSF_RACE	Race	MHOS
MARITL/MARITAL	Marital status	MHOS
EDUC	Education	MHOS
BMICAT	BMI	MHOS
HHINC	Household income	MHOS
RUCCodeR	Rural-Urban Continuum Code from SEER*Stat based on State/county of residence at time of survey.	SEER (at time of diagnosis)
RAD1-RAD10	Radiation	SEER
SSSURG1-SSSURG10	Surgery	SEER

Independent Variables: Chronic Condition Cluster Variables

Chronic Condition Cluster	Chronic Condition	SEER-MHOS Variable (HOS 1.0 / HOS 2.0+)
Cardiovascular Disease (CD)	Hypertension Coronary artery disease Congestive heart failure Myocardial infarction Stroke Other heart conditions	HIGHBP/CCHBP ANGCAD/CC_CAD CHF/CC_CHF AMI/CCMI STROKE/CCSTROKE OTHHRT/CCHRTOTH
Pulmonary Disease (PD)	Emphysema Asthma Chronic obstructive pulmonary disease	COPD_E/CC_COPD (Q: Ever Had Emphysema, Asthma, or COPD Question)
Diabetes (DI)	Diabetes	DIABET (Q: Ever Had Diabetes, High Blood Sugar, or Sugar in Urine Question)
Musculoskeletal Disease (MD)	Arthritis of hip/knee Arthritis of hand/wrist Osteoporosis Sciatica	ATHHIP/CCARTHIP ATHHAN/CCARTHND --- /CCOSTEO SCIATC/CCSCIATI

Dependent Variables (outcomes)

SAS variable	Description	Source (SEER or MHOS)
PCS12	NORM90 PCS Adjusted by Survey Mode and Language	MHOS
MCS12	NORM90 MCS Adjusted by Survey Mode and Language	MHOS

[Include a 1-2 paragraph description of your analytic plan outlining methods]

D5. Description of the personnel involved

[Enter name, bio, relative expertise of study team]

D6. Timeline for completion

[Recommend at least a one year timeline]

Anticipated Timeline for Completion:

Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Proposal Review and Data Retrieval												
Data Management and Analysis												
Manuscript Writing and Submission												
Manuscript Resubmission and Approval												

E. Data Storage and Protection: **[REFER TO INSTITUTIONAL POLICIES]**

F. Funding Source: None

G. Restricted Variables: None

III. Data Files Requested:

A. SEER-MHOS data file will be created for each cancer site requested. Please list the cancer sites in your study. Also indicate if patients not linked to SEER (non-cancer) are requested.

Breast, prostate, colon/rectal, melanoma, lung, bladder, kidney, endometrial, and non-Hodgkin's lymphoma

B. Researcher will confirm the Cohorts and files needed for the study when he/she speaks with IMS.