

Life Span Study Report 14. Cancer and Noncancer Disease Mortality Data, 1950–2003

This documentation describes the data for the 1950-through-2003 follow-up that was used in analyses of cancer and noncancer disease mortality in the Life Span Study (LSS) of atomic bomb survivors. Results of these analyses are described in LSS Report 14 (Ozasa K, Shimizu Y, Suyama A, Kasagi F, Soda M, Grant EJ, Sakata R, Sugiyama H, Kodama K: Studies of the mortality of atomic bomb survivors, Report 14, 1950–2003: An overview of cancer and noncancer diseases. *Radiat Res* 2012 [March]; 177[3]:229–43).

The files included with this data release are:

lss14.csv	Cancer and noncancer disease mortality data file, Comma delimited text file with a single header line that contains the variable names
lss14.scr	Epicure (AMFIT) command script to read the data file and fit the basic model used in the paper
lss14.log	Logfile produced by lss14.scr

The data set is a detailed tabulation of person years, deaths counts, and summary data constructed from data on individual survivors. The analysis cohort includes 86,611 survivors. Data on individual survivors are stratified by city, sex, ground distance, Adult Health Study (AHS) participation, age at exposure, attained age, calendar time, and colon dose. Although LSS Report 14 did not make use of ground distance and AHS participation, the present data are additionally stratified by these two variables. The first eight variables tabulated below index the cross-classification used in formulating the table. The next 4 variables include a count of subjects entering the study, cell-specific numbers of person years, and cell-specific mean values for age at exposure and attained age. The next 10 are mean organ doses. The next 29 variables indicate disease death counts for each cause of death.

If these data are used as the basis for analyses in any publication including working papers or technical reports, a statement of acknowledgment must be included in the manuscript. This statement should read:

This report makes use of data obtained from the Radiation Effects Research Foundation (RERF), Hiroshima and Nagasaki, Japan. RERF is a private, non-profit foundation funded by the Japanese Ministry of Health, Labour and Welfare (MHLW) and the U.S. Department of Energy (DOE), the latter in part through DOE Award DE-HS0000031 to the National Academy of Sciences. The conclusions in this report are those of the authors and do not necessarily reflect the scientific judgment of RERF or its funding agencies.

Please send a copy of any reprints that make use of these data to:

Archives Unit, Library and Archives Section
 Department of Information Technology
 Radiation Effects Research Foundation
 5-2 Hijiyama Koen
 Minami-ku
 Hiroshima 732-0815
 JAPAN

These data are available on the RERF homepage (<http://www.rerf.jp/>)

Detailed documentation follows:

Name	Description and codes
city	City 1: Hiroshima 2: Nagasaki
sex	Sex 1: Male 2: Female
gd3	Ground distance 1: <3 km 2: 3–10 km
ahs	AHS cohort 0: not AHS 1: AHS (original) 2: AHS (addition)
agexcat	Age at exposure categories 1: 0–5 years old 9: 40–45 2: 5–10 10: 45–50 3: 10–15 11: 50–55 4: 15–20 12: 55–60 5: 20–25 13: 60–65 6: 25–30 14: 65–70 7: 30–35 15: 70+ 8: 35–40
agecat	Attained age categories 1: 0–5 years old 12: 55–60 2: 5–10 13: 60–65 3: 10–15 14: 65–70 4: 15–20 15: 70–75 5: 20–25 16: 75–80 6: 25–30 17: 80–85 7: 30–35 18: 85–90 8: 35–40 19: 90–95 9: 40–45 20: 95–100 10: 45–50 21: 100+ 11: 50–55

ctime	Calendar time categories 1: 1950/10/1–1955/12/31 7: 1981/1/1–1985/12/31 2: 1956/1/1–1960/12/31 8: 1986/1/1–1990/12/31 3: 1961/1/1–1965/12/31 9: 1991/1/1–1995/12/31 4: 1966/1/1–1970/12/31 10: 1996/1/1–2000/12/31 5: 1971/1/1–1975/12/31 11: 2001/1/1–2003/12/31 6: 1976/1/1–1980/12/31
dosecat	DS02 weighted colon dose categories (i.e., gamma + 10*neutron) 1: 0–5 mGy 12: 250–300 2: 5–20 13: 300–500 3: 20–40 14: 500–750 4: 40–60 15: 750–1000 5: 60–80 16: 1000–1250 6: 80–100 17: 1250–1500 7: 100–125 18: 1500–1750 8: 125–150 19: 1750–2000 9: 150–175 20: 2000–2500 10: 175–200 21: 2500–3000 11: 200–250 22: 3000+
subjects	Number of subjects of first at risk
pyr	Person years at risk
agex	Person-year weighted mean age at exposure in years
age	Person-year weighted mean attained age in years
colon10	DS02 weighted colon dose (mGy)
stomach10	DS02 weighted stomach dose (mGy)
bladder10	DS02 weighted bladder dose (mGy)
liver10	DS02 weighted liver dose (mGy)
pancreas10	DS02 weighted pancreas dose (mGy)
lung10	DS02 weighted lung dose (mGy)
breast10	DS02 weighted breast dose (mGy)
uterus10	DS02 weighted uterus dose (mGy)
ovary10	DS02 weighted ovary dose (mGy)
marrow10	DS02 weighted bone marrow dose (mGy)

Death counts	Cause	9th revision ICD codes
death	All deaths	
solid	All solid cancers	140–199
esoph	Esophageal cancer	150
stomach	Stomach cancer	151
colon	Colon cancer	153
rectum	Rectum cancer	154
liver	Liver cancer	155(0,1,2)
gallbldr	Cancer of gallbladder	156
pancre	Pancreatic cancer	157
othdig	Other cancers of the digestive system	158, 159
lung	Lung cancer	162
breast	Breast cancer	174, 175
uterus	Uterine cancer	179–180, 182
ovary	Ovarian cancer	183
prostate	Prostate cancer	185
bladder	Bladder cancer	188
kidney	Kidney cancer	189.0
othuri	Cancer of renal pelvis, ureter, and other urinary tract	189(1,2,3,4,8,9)
othsolid	Other solid cancer	Others in 140–199
leukemia	Leukemia	204–208
lymphoma	Malignant lymphoma	200–202
myeloma	Multiple myeloma	203
blooddis	Noncancer blood disease	280–289
CVD	Circulatory disease	390–459
respiratory	Respiratory disease	460–519
digestive	Digestive disease	520–579
genitourinary	Genitourinary disease	580–608, 610–629
inf	Infectious disease	001–139
external	External causes	800–999

ICD 7th, 8th, and 10th codes are described in Appendix of LSS Report 14.